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Contributors

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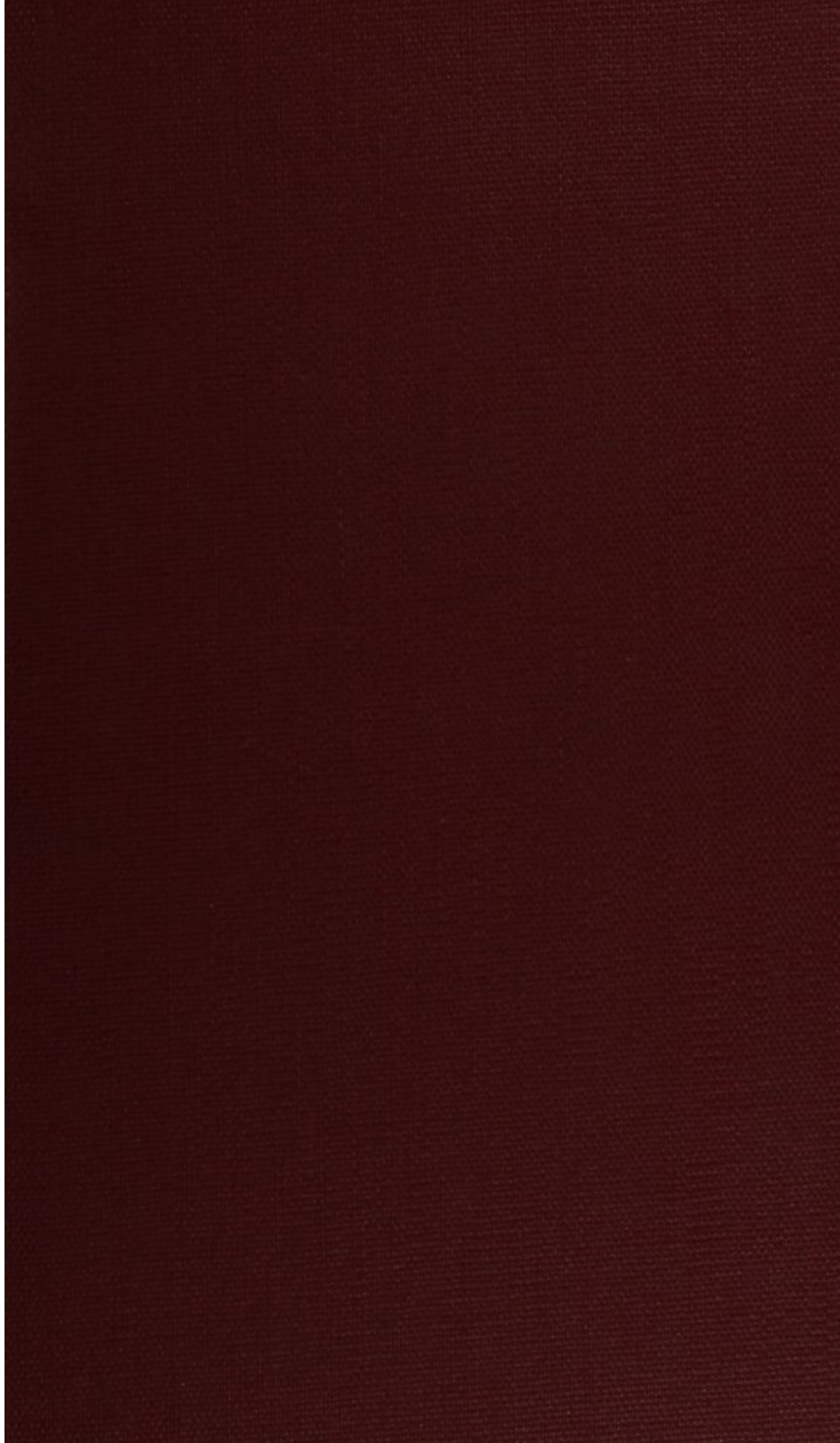
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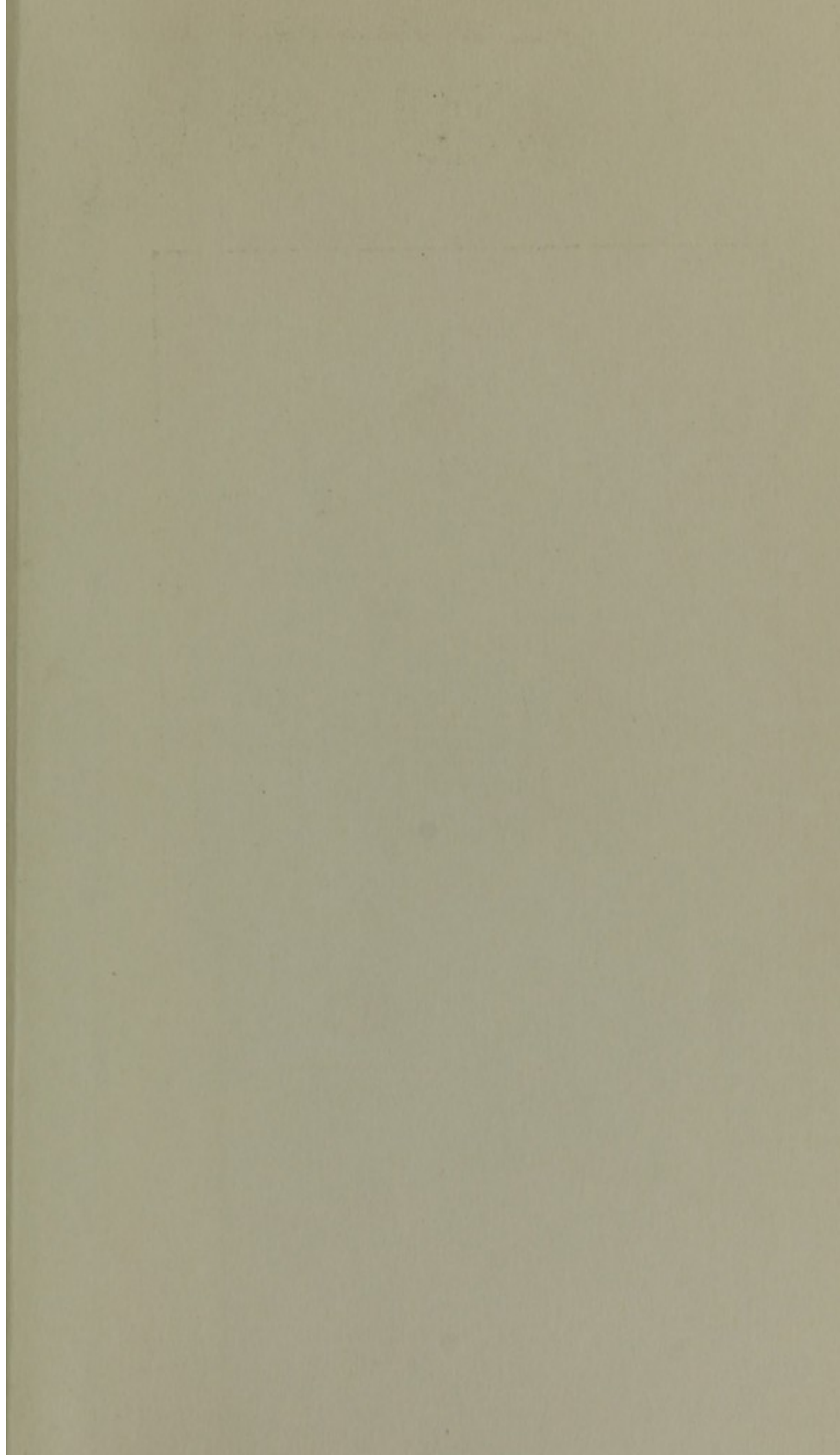


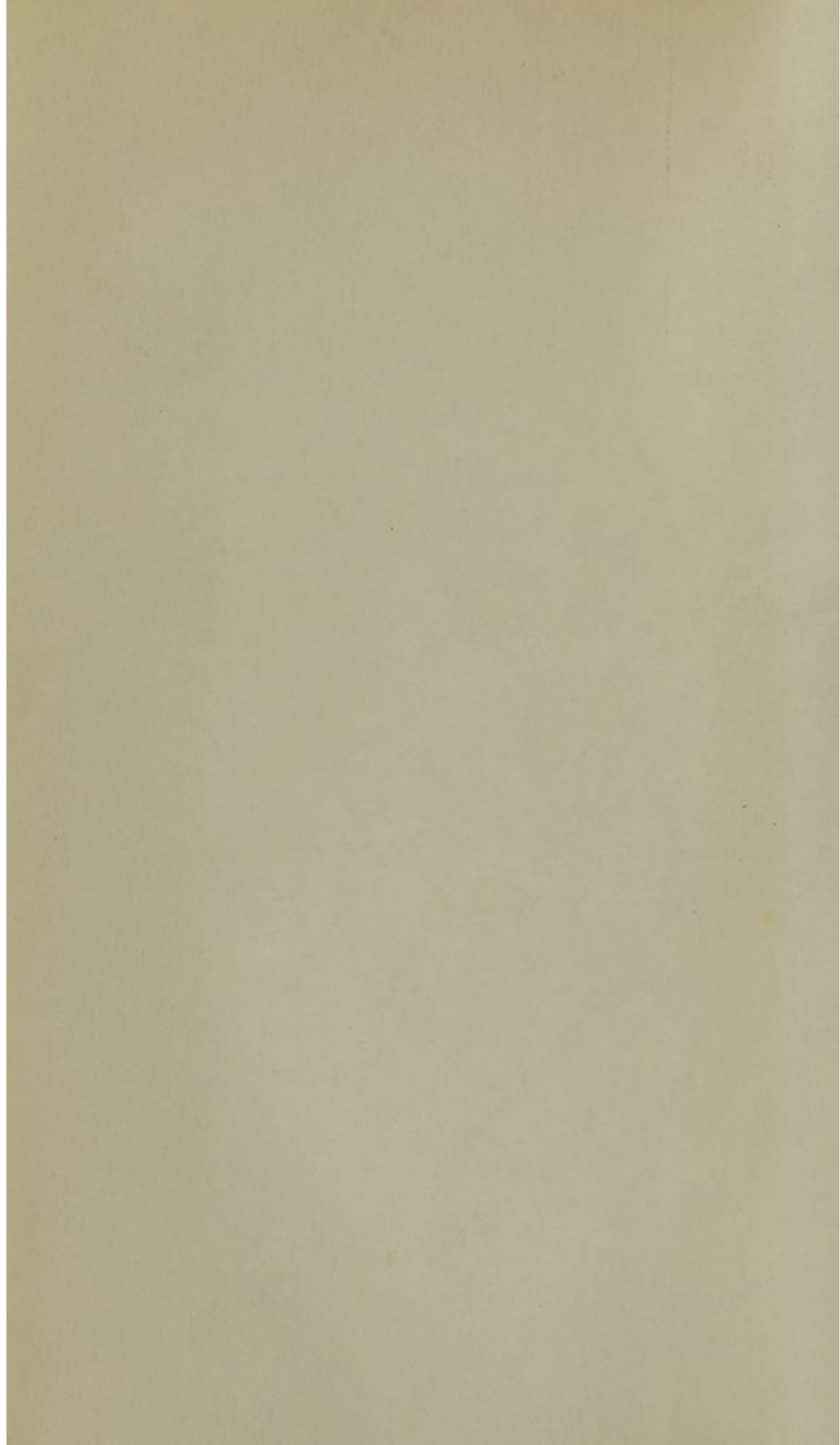
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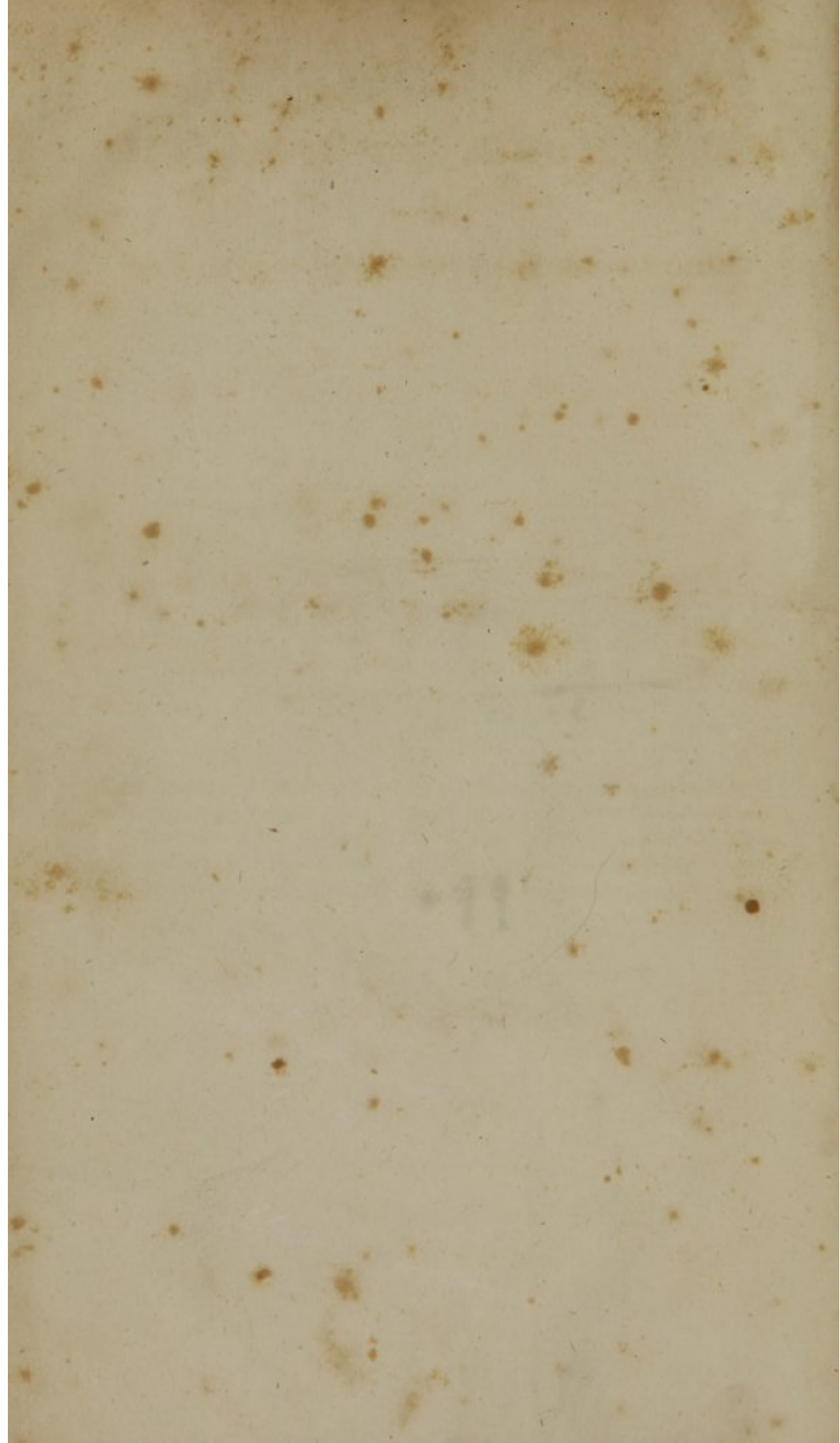
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A
PRACTICE OF PHYSIC,
COMPRISING
MOST OF THE DISEASES NOT TREATED OF
IN
“DISEASES OF FEMALES,”
AND
“DISEASES OF CHILDREN.”

BY WILLIAM P. DEWEES, M. D.

ADJUNCT PROFESSOR OF MIDWIFERY IN THE UNIVERSITY OF PENNSYLVANIA;
MEMBER OF THE AMERICAN PHILOSOPHICAL SOCIETY; MEMBER
OF THE PHILADELPHIA MEDICAL SOCIETY, &c.

“We live in an age in which the fear of *debility*, causes a prodigal use of *stimulants*; and this too often, at the expense of the health, and the life of the patient.”—*Broussais, Phleg. Chron. Vol. II. p. 82.*

“Had I *dared* to bleed freely, and especially by means of leeches, the patient might have been saved; but I was afraid of *debility*. But, who is to blame!”
—*Ib. p. 178.*

IN TWO VOLUMES.

VOL. II.

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CHAPTER XIX.

OF THE DISEASES OF THE CHEST.

1262. THE variety of affections of the chest, to which inflammation gives rise, renders their history highly important to the practitioner. Until lately, too little interest has been felt upon this subject by medical men; not because they were ignorant of its importance to their patients, or indifferent to the interests of their profession, but because, there was but one mode of ascertaining the condition of the contents and lining of the thorax; namely, by post mortem examinations; and because, they could profit but little even by these, as the several diseases, or rather, the consequences of inflammation of these parts, had no clear and decided diagnostic symptoms, by which they could discriminate one affection from the other during the lifetime of the patient. Nor could they ascertain the various terminations, or consequences of inflammation, as it may attach one or several of the tissues composing the internal surface of the thorax, together with its contents.

1263. This indifference to the investigation of the affections of the chest, can no longer have the same excuses; as now, a certain and accurate method is discovered, whereby, every deviation of healthy structure can be ascertained with an exactness that can scarcely be credited by those, who have not witnessed the results of stethoscopic examinations. The number of pathological changes produced by inflammation, and which the stethoscope reveals to the experienced ear, with absolute certainty far exceeds what is generally imagined, or could well be believed. Almost all the diseases of the chest, and especially such as were attended by cough and expectoration, (and they nearly all had these,) were called phthisis, or consumption; but late pathological researches have discovered a great variety of changes in the structure, and condition, of the tissues of the thorax, after they have been subjected to inflammation, or during its actual existence and progress. It is scarcely necessary to say, how import-

ant these discoveries are to the practical physician. These considerations have led us, to a more extensive investigation of this subject, than we had originally contemplated—its importance we are certain will justify our plan.

1264. It may be useful to state, that the objections we have heard urged against the study of the diseases of the chest, by percussion, and mediate, and immediate auscultation, have been, 1st, the difficulty of acquiring such a degree of knowledge of it as shall be practically useful. This we are aware, has prevented many from pursuing this important enquiry; but that this objection is not well grounded, may we think be safely inferred from the observations of Dr. Williams and Dr. Townsend; the former has written a short, but valuable work entitled, "A Rational Exposition of the Physical Signs of the Diseases of the Lungs and Pleura." And perhaps few are better qualified to judge, or to teach, upon this subject, as he informs us with as much modesty, as candour, that his "acquaintance with the physical signs" (of the diseases of the chest,) "is the result of some extent of study and observation, prosecuted in the wards of La Charité, where Laennec taught, and Andral prosecuted his labours;" thus tacitly acknowledging his obligations to these experienced practitioners, for the information he possessed upon the subjects on which he has written; but in no part of his works, does he acknowledge the difficulty above stated.

1265. In his preface he makes some important and judicious observations on the nature and value of auscultation and percussion, some of which we feel it will be proper to give in his own words; and we shall emphatically mark such, as we deem most useful.

1266. He tells us, p. viii. that, "*the local study of diseases must not remove our attention from their general phenomena; our examination of their physical nature must not exclude the consideration of many constitutional effects, that by reaction may be converted into causes; and still less should physical signs of doubtful import make us neglect obvious disorder of the system.*" This distinctly proves the necessity and propriety of attending to the constitutional phenomena of diseases.

1267. "Thus limited, *the local study of diseases*, is more

advantageous than the knowledge of their general forms; an examination of their *physical signs*, when possible, more useful than the perplexing consideration of a host of uncertain and fallacious constitutional symptoms; and *when physical signs are wanting, or beyond the sphere of our observation, these constitutional ones are our best guides*, which most nearly depend on the physical and unchangeable character of the disease. For the local study of a disease acquaints us with *its proximate and essential cause*, and this knowledge suggests means for its removal; and by a study of its physical signs, and of those general ones most allied to them, we obtain the most certain method of discovering its existence, and of distinguishing its character.”*

1268. The second objection urged against this study is, “that it is impossible to convey, by description, an accurate idea of sounds.” To remove this objection, we shall only quote the words of Dr. Townsend upon this point.†

1269. “I know that it has been often urged as an objection to the use of the stethoscope, that it is impossible to convey by description, an accurate idea of sounds; and that for this reason, none but those persons who have studied under the author of mediate auscultation, can be sure that they refer each sound to its proper denomination. I can only reply to this objection by stating, that although, during my attendance on the wards of Mr.

* Dr. Forbes, with a view to prevent an exclusive reliance upon the physical signs presented by percussion and auscultation, says, “I think it highly necessary, in this place, to caution the student against yielding too implicit confidence to auscultation and percussion, as means of diagnosis, to the neglect or exclusion of the more usual methods. It is no doubt true, that these measures are of the very first importance in the diagnosis of this, as of almost every other disease of the chest; that in many cases they alone suffice to fix the diagnosis; and that in others this cannot be established without them: at the same time, it is equally certain, that if we attempt, as our general practice, to draw our conclusions, from these *signs* alone, without reference to the general and local *symptoms*, we shall frequently not merely fail to attain our object at all, but we shall run into the risk of falling into errors of the most serious nature. It is only by combining the practice of auscultation with the faithful observation of symptoms, and by studying the results obtained from both sources, with a reference to the pathology of the disease, that we can hope to attain to such a certainty of diagnosis as can satisfy a philosophical mind.”

† See his excellent cases in the Transactions of the King and Queen’s College of Physicians in Ireland.

Laennec, I never had an opportunity of study these sounds, (*the tintement metallique and bourdonnement amphorique,*) yet so precisely did they answer his description, that I felt not the least difficulty in recognising them; and so perfectly was I convinced of their identity, that I hesitated not, on the sounds I had never heard before, to pronounce on the existence of a morbid lesion I had never previously seen, and I appeal to the result, if my confidence was not justified." And as perhaps no case can better illustrate the accuracy of diagnosis by the stethoscope than one of those related in the work above named, we shall take the liberty of giving it as an instance of valuable illustration of what we wish to enforce by these observations—namely, the accuracy and importance of stethoscopic examinations in all the affections of the chest; and at the same time to recommend the study of auscultation to every practical physician, be his experience and tact, what they may, in the general phenomena and constitutional effects of disease. Indeed, to him who is best acquainted with these latter phenomena, the study of auscultation will be increased in value, besides being of more easy attainment.

1270. "A tall, well-proportioned dragoon, was attacked in Oct. 1826, with cough, pain in the chest, and diarrhœa, for which he was bled, blistered, &c. A recurrence of the same symptoms called for a repetition of these measures, which, as well as several others afterwards employed, failed to produce any permanent advantage." Dr. Townsend saw him March 25th, 1827, at which time he was up and dressed; "walked about the room, but was soon out of breath, and easily fatigued. He was considerably emaciated, had much dyspnœa, not sufficient, however, to materially affect his speaking, profuse night sweats, diarrhœa, thirst, anorexia; pulse 120, small and vibratory; number of respiration 30; cough most troublesome on waking in the morning; sputa apparently mucus; are stated to have diminished considerably in quantity within the last three weeks, from which period is also dated the aggravation of his dyspnœa. On viewing the thorax, the right side appeared considerably more dilated than the left, especially anteriorly and laterally at its lower half. Percussion employed over the dilated surface elicited a clear hollow sound. In this space too, the respiratory murmur was perfectly inaudible; but immediately after coughing, a peculiar sound, resem-

bling the vibrations of a porcelain jar, when gently struck, (*tintement metallique*,) was distinctly heard in a space corresponding to the posterior convexities of the sixth, seventh, and eighth ribs. The sound was not produced either by respiration or speaking. Succussion did not produce the sound of fluctuation, although the patient said he felt water dashing against his side. In the superior part of the same side of the chest, (the right,) the dilatation was scarcely, if at all perceptible. The sound on percussion not particularly sonorous, and the respiratory murmur audible posteriorly."

1271. "At the left side, the sound on percussion was natural, though considerably duller than at the right. Respiration was distinctly audible all over the lung's surface, except in the space corresponding to the superior lobe, where cavernous respiration with perfect pectoriloquy were heard distinctly."

1272. "*Diagnosis.* A tubercular cavity occupies the upper lobe of the left lung. The dilatation of the right side of the chest is produced by pneumothorax, and the coexistence of the *tintement metallique*, proves that the air of the pleura proceeds from a communication between the bronchia and the pleura. The medium of communication in this case, I conceive to be a tubercular cavity in the opposite lung, converts the probability of this species of abscess into a moral certainty, of which no doubt could have existed, if the patient had been examined by the stethoscope, and pectoriloquy found under the right clavicle, before the accession of pneumothorax. I attribute the comparatively dull sound on percussion, on the superior part of the thorax, and its less degree of dilatation to the existence of ancient adhesions, which prevented the air accumulating in that region, between the pleura costalis and pulmonalis."

1273. "To recapitulate.—The lesions I expect to find are, a tubercular cavity in the upper lobe of the left lung; the right side of the thorax distended with air and fluid, (the latter at present exists in small quantity, but its proportion will no doubt go on increasing;) in the right lung a tubercular cavity communicating with the sac of the pleura on the one hand, and with the bronchia on the other, allowing the air inspired to pass freely into the pleura; and finally, the superior lobe united by old ad-

hesions to its corresponding costal pleura. This detailed diagnosis was written and handed over to Dr. Cheyne on the evening of my first visit."

1274. "*March 26th.*—Had no sleep last night; face expressive of considerable suffering; a bluish tint of lips and nails is perceptible. Says he feels no pain whatever. Cough peculiarly deep and hollow; slight mucous expectoration. At the right side, sound on percussion continues hollow inferiorly, even over the region usually occupied by the liver, where a full inspiration sounds precisely like blowing into an empty bottle, (*bourdonnement amphoric.*) Speaking as well as coughing, is now followed by the *tintement métallique*. In the superior part of the thorax, the sound on percussion is clear and hollow anteriorly, where all the respiratory murmur is extinct. *Quantity of gaseous effusion increases.*"

1275. *28th.* Does not recollect any sudden aggravation of his symptoms about the period when his breathing became materially affected. Never suffered much pain of right side; thinks on the whole that the other side now gives him, and has, for the last three months, the greater uneasiness of the two. Sits up, and walks about. Pulse 120; respiration 36. No change in the stethoscopic sounds."

1276. "*April 1st.*—Pain of left side removed by the application of a blister; dyspnœa increased; number of respirations 38; diarrhœa; profuse night sweats. At the right side, sound on percussion is become dull posteriorly in the space corresponding to the inferior portion of the thoracic cavity, where no sound whatever can be heard. *Fluid accumulates.* Above the eighth rib, the sound on percussion is hollow; the ordinary inspirations sound like blowing into a bottle. Expiration is followed by a musical sound, resembling the vibrations of a fine wire chord. Coughing produces a peculiar sound, exactly similar to the ringing of a porcelain jar; the voice much more obscurely so. On making the patient sit up in bed, and shaking him gently by the shoulder, (the stethoscope being applied posteriorly about the convexity of the seventh rib,) a fluid is clearly heard dashing against the sides of the thorax. The patient is sensible of this fluctuation, says *he* hears it, though *I* could not without apply-

ing my ear. When he suddenly rises from the recumbent posture, three or four drops are heard to fall successively from above on the surface of a fluid. This sound is most distinctly heard over the seventh rib posteriorly. In the left lung, pectoriloquy, &c. as before. Feels no pain whatever in right side. I, in consequence, added to my former diagnosis, that the constant absence of pain proceeded probably from a thick coating of albuminous exudation, the product of previous inflammation, which lines the pleura, and defends it from the contact of air."

1277. The symptoms gradually became aggravated, and on the 14th there were "profuse night sweats, colliquative diarrhœa, stools consisting of a black matter resembling coffee grounds, great prostration of strength, increase of dyspnœa, though it never became extreme up to the time of his death, which occurred on the afternoon of this day."

1278. "*Dissection, forty hours after death.*—External appearances. Body well proportioned, considerable emaciation, legs and feet slightly œdematous; the right side appeared considerably more dilated than the left, but on measuring with a tape, the greatest difference did not exceed an inch and an half. On employing succussion, fluctuation was heard by applying the ear to the chest, but was not audible to the bystanders."

1279. "*Thorax.*—The right side. A trocar was introduced between the fifth and sixth ribs, near their junction with their cartilages—an immediate rush of air followed." "On removing the sternum, a vast unoccupied space was observed in the anterior part of the thorax, capable fully of holding two quarts of fluid. This space had been occupied by air, which by consequence we estimated at that quantity. The lung just appeared above the fluid which occupied the posterior region of the thorax; it was closely compressed against the spine, and seemed reduced to one-third its natural size. The fluid effused, might be in quantity about two quarts, was of a yellowish-green colour, tolerably clear at its surface, but rendered turbid at bottom by numerous fragments of opaque, puriform flocculi of albumen."

1280. "Before touching the lung, to guard against an accidental formation of the opening which I expected to find, an incision was made into the trachea, and the pipe of a pair of bel-

lows introduced. The air passed freely through the lung, and appeared in bubbles at the surface of the fluid, in which it was immersed. The fluid being removed, the upper lobe of the lung was found in close contact with, and firmly attached to the costal pleura. The whole surface of the lung, except what was attached, was covered with an albuminous exudation of a dirty white colour, of several lines thickness, its surface wrinkled not unlike the rind of a shrivelled apple. The costal, mediastinal, and diaphragmatic pleuræ were still more thickly coated with this exudation, which, though strongly attached to the subjacent pleuræ, and apparently incorporated with it, might by careful dissection, be separated from it, leaving the membrane underneath, in a state of perfect integrity. The lung was now detached, on its anterior surface, about two inches from the summit of the upper lobe, was discovered a fistulous orifice, capable of receiving my little finger, its margin well-defined, rounded, and nearly cartilaginous. A probe introduced passed readily through a series of tubercular cavities into one of the principal bronchia. At intervals of half an inch below this fistulous orifice existed three small, oval, superficial ulcers, which, on close examination, did not appear to communicate with the bronchia. They were evidently formed by softened tubercles, developed immediately under the pleura; for on different parts of the lung's surface there were several similar oval nests of tubercles, some not yet softened, others quite soft, and elevating the pleura, through which they had not as yet formed a passage. Posteriorly near the root of the lung, and about the base of the superior lobe, immediately underneath its adhesion to the pleura, was another fistulous passage with a large tubercular abscess occupying nearly the whole upper lobe. This passage was lined all through with a highly vascular membrane, exactly similar to that which lined the tubercular abscess, having its surface coated with a layer of lymph. Into this vast abscess was also traced one of the principal bronchial divisions; its entry into the cavity was within a few lines of that of the sinous passage above described. The middle and lower lobes contained several tubercles. The bronchial glands also were much enlarged, and studded with tubercles."

1281. "The left side of the chest.—This lung was studded

throughout with granular tubercles of the size of duck-shot. In the superior lobe was found one cavity, capable of containing a large filbert, and communicating with two or three smaller ones. In the middle lobe, (the left lung had three lobes,) the tubercles were all opaque and whitish. In the inferior, many of them were in the first, or grayish, semitransparent stage."

1282. "This case of pleurisy, with pneumothorax, differs from any other that I have seen recorded, in the total absence of pain in the side affected; in not having its commencement marked by any sudden or violent symptoms of dyspnœa or pain; and also in this, that the patient was able, almost to the time of his death, to dress himself, and sit up; whereas M. Laennec expressly states, in all the cases which he had seen, the patients were excessively oppressed, and unable to quit their beds. Indeed he lays down these circumstances, as adjuvant diagnostic marks, whereby to distinguish this disease from emphysema. But in this instance such minor distinguishing features were not necessary. The great distention of the right side of the chest; its remarkable sonoriety; the total absence of respiration, unless where the lung was attached; the extraordinary development of the pathognomonic signs, all established beyond the possibility of doubt, the precise nature of the disease. I shall only add, that the dull sound sepervening inferiorly, and gradually ascending, the increasing capacity and sonoriety of the superior part of the thorax, together with the increased extent of surface over which the pathognomonic sounds were heard, did all, and each of them, mark exactly the progress of the disease from day to day, up to the period of its fatal termination."

1283. We trust we have, in what we have just said, excited a curiosity, if we have not fixed a determination, in the mind of the reader, to investigate the claims of auscultation to his serious attention; and also, that we have introduced a case, every way illustrative, of the accuracy of the diagnosis made by stethoscopic examinations. The several terms employed in illustrating auscultation, will be found explained in the Glossary, at the end of the volume.

SECT. I. PNEUMONIA, OR PERIPNEUMONIA.

1284. WE shall under this head confine our considerations to an inflammation of the substance of the lungs. The older writers, indeed almost all, from Hippocrates downwards, comprehend under the term pneumonia every inflammatory affection of the chest. Hence, pneumonia has been divided into a variety of species, as the seat, kind, and degree of pain may exist—and thus we have peripneumony, pleurisy, pericarditis, paraphrenitis, &c.

1285. When the substance of the lungs was the seat of the inflammation, the disease was called peripneumonia;* when it occupied the pleura, it was called pleuritis; when the heart was the besieged organ, it was called carditis; when the diaphragm was the suffering part, it was called paraphrenitis; and even inflammations of the mediastinum, and pericardium, were looked upon as entitled to separate appellations. Hence, arose names for the combinations of the different parts that might be labouring under inflammation, and looked upon as complications of disease—such was the origin of the terms pleuro-peripneumonia, or peripneumo-pleuritis, &c. and which combinations unquestionably occasionally exist.

1286. Doubtless the inventors of these divisions thought much was gained, by this attempt at locating the seat of the affection; though modern experience does not confirm any great practical utility in this attempt at accurate location. We say this “attempt at accurate location;” for it is nothing more than an attempt; since we are not in possession of such diagnostics as

* Both Laennec and Andral look upon peripneumonia to be an inflammation of the air cells of the lungs, the internal surface of which first secretes a mucosanguineous, and then a purulent fluid. Dr. Williams defines peripneumony to be “an inflammation of the parenchyma of the lungs.” We very much prefer the accounts of the late French pathologists of this disease, to any of the older writers on this subject; indeed we might say of the modern writers; for, until Dr. Forbes and Dr. Williams’ works made their appearance, very little advantage has been taken of the discoveries in pathology by the French school, by the British physicians. In Wilson Philip’s work on “Sympathetic Fever,” the names of Laennec or Broussais, if we recollect rightly, are not even mentioned; we are altogether at a loss to account for this.

shall free us from all uncertainty, as regards the various seats of inflammation within the cavity of the thorax. Nor is this perhaps any great practical loss, as far as we yet understand the nature of inflammation, or the modes of subduing it, in the various tissues it may affect within the thoracic cavity—for, with very few exceptions, if any, they are treated upon the same general principles. And when deviations in treatment are found necessary, they are founded upon the nature of certain epidemic causes, the force of the disease, or some constitutional peculiarity, rather than upon any peculiarity in the inflammation arising from the particular seat, or the peculiar nature, of the involved tissue. We shall, for these reasons, confine our considerations more particularly to the history, nature, and mode of cure of pneumonia, or peripneumonia; comprehending under this term, as observed above, inflammations of the parenchyma of the lungs; though the several thoracic viscera, and their appendages, will also be duly considered. We shall not do this, because we expect to gain much, in a practical point of view, during the active stages of the disease, but because inflammation of the separate tissues give rise to several peculiar pathological phenomena, which are revealed during life by the stethoscope, and confirmed by the knife after death.

Causes of Pneumonia.

1287. This complaint, like almost all the other phlegmasiæ, may be occasioned by the sudden, or long-continued application of cold, and especially to the lower extremities. It is also frequently induced by breathing for a long time in an atmosphere of low temperature, and suddenly exchanging it for one of high temperature. This cause operates with particular force upon delicate females, young, and very aged persons, and all such as are predisposed to pulmonic affections.

1288. Exposure to cold and damp, when not exercising; or immediately after, exercise or other causes, have produced perspiration. Wearing of damp clothes; wearing garments too thin for the season, or sleeping in a damp bed.

1289. Running, very fast walking, or any other exercise that

will very much increase the circulation through the lungs, especially in a cold, sharp air. Epidemic influence may also contribute to the production of pneumonia, by inducing a strong predisposition; and thus rendering slight, occasional causes availing—hence, the frequency of this complaint as an epidemic. The operation of this last cause is sometimes sufficiently whimsical—selecting its victims, at one time from among children, or very young persons; at others, those more advanced in life; and again, only from the aged and infirm.

1290. As a general rule however, the sanguine and plethoric are most frequently selected; and those at about the middle period of life. Dr. Cullen makes the time later; that is, from forty-five to sixty.

1291. Other causes than those enumerated have been assigned for pneumonia, but of their agency much doubt may be entertained; such as acrid vapours, dust, violent coughing, adhesions of the pleura, &c. &c.

Symptoms of Pneumonia, or Peripneumonia.

1292. This affection as well as several others, that some have comprehended under this term, are announced by the same general suite of symptoms; indeed, it is no less a matter of uncertainty, than it may be of indifference, in a practical light, on what part of the pulmonary system, the disease fixes upon. For wherever the inflammation attaches itself, whether it be the substance of the lungs, or to any one portion of the membrane which covers them, or any other of the thoracic viscera, we find, it announces itself, by the usual signs of phlegmasiæ.

1293. A sense of cold, sometimes a well-marked chill, followed by heat, together with pain in some one portion of the thorax, are the initiatory symptoms of pneumonia. Cough, hurried, or difficult breathing, thirst, and anxiety soon follow. The pulse is more than usually frequent, or more than usually slow, and the temperature of the skin is almost always increased. The pain and cough, may be more or less severe, as the attack may be more or less violent; and the pulse will be influenced in proportion; the difficulty of breathing will augment, as the disease

progresses. The inspirations are imperfectly performed, in consequence of the increase of pain which attempts to fill the lungs creates, and hence the breathing becomes short and frequent. Or, if there be no pain, or it be obtuse, the oppression is increased, and the breathing becomes laborious, with a feeling of heaviness about the præcordia. But Laennec insists, that "the crepitous rattle is the pathognomonic sign of the first stage of peripneumony." He says, "it is perceptible, (by the stethoscope,) from the very invasion of the inflammation; at this time it conveys the idea of very small equal-sized bubbles, and seems hardly to possess the character of humidity. These characters are most marked as the inflamed spot is near the surface of the lungs," &c.* p. 207. Andral says it is caused by the intermixture of air and liquid secretion in the air cells.

1294. Position affects the degree of pain; sometimes it is augmented by lying on the side affected, but this is not constant, for the contrary sometimes obtains; but a full inspiration is almost always attended by an increase of pain. Sometimes the patient suffers less when he lies upon his back, or on his breast; at others he is obliged to observe an erect position.

1295. The seat of pain is not constantly the same—sometimes it may occupy either side; at others the sternum; or it may dart backwards towards the scapulæ, or be confined under one. It is more usual however about the sixth or seventh rib, and nearly midway between the spine and sternum. Nor is it always stationary; we have seen it wander occasionally to almost every portion of the chest.

1296. The character of the pain, either in degree or in kind, is by no means constant or uniform; it is exquisitely acute and severe sometimes; especially during inspiration, and coughing. At other times, it is obtuse, obscure, or even wanting; we have seen cases, especially children, manifest not the least suffering during either the act of coughing, or of drawing a full breath; nor was there in two cases we witnessed lately, the slightest dyspnœa,

* We have inserted this much of the stethoscopic observations of Laennec, (the whole being too long,) merely to direct the attention to this new and highly important mode of ascertaining the condition of the lungs, to the whole class of medical practitioners.

though the post mortem examinations proved the existence of great previous inflammation; for there was not only extensive adhesions, but considerable hepatization, in both instances. In one, the lungs were frequently and severely exercised to the last moment, by hooping cough; and the other by an obstinate one, the consequence of recent measles. Pain therefore is not a constant attendant on pneumonia, nor does its location by any means decide the precise tissue in which the inflammation may exist.

1297. This absence of pain, has not unfrequently led the practitioner into error as regards the real nature of the disease he was about to treat; for he sometimes finds his diagnostic of pneumonia upon its presence. Indeed, with many, a pain in the side is essential to the existence of this complaint—and the left side is the chosen spot; and if pain be not there, the disease is not pneumonia. But this opinion, however extensive and popular, must be looked upon as a vulgar error, for writers of the best information declare the right side to be more frequently involved than the left.

1298. Thus Laennec informs us, (p. 200,) that “the right lung is more frequently affected than the left, not only in cases of pneumonia, but in almost all the other morbid affections to which these organs are subject.” Morgagni declares the same thing. And Andral* says, “that out of two hundred and four cases of well-marked pneumonia, the right lung was affected in one hundred and twenty-one, the left in fifty-eight, and both in twenty-five.”

1299. Cough, to a greater or less extent, is an almost constant attendant in pneumonia. In the commencement however, when the attack is both sudden and severe, we have sometimes known this symptom absent, and suppressed, and sometimes would not appear, until the patient had been amply bled. It will then declare itself with both pertinacity and severity. In the early stage of pneumonia, the cough is rarely attended by expectoration if the inflammation be severe, and the febrile symptoms run high. And the force of the disease may in some instances be

* Cl. Med. Tom. II. p. 317.

almost determined by the extent, and period at which spitting may commence. In mild cases it begins as a general rule earlier than in the severer; in the latter we have known this discharge to keep away even for several days, or until the force of the disease had been weakened by several blood-lettings and other evacuations; while in the former, it has become abundant in twenty-four or thirty-six hours.

1300. More or less relief is almost constantly experienced, when cough is accompanied by spitting; but much depends upon the nature of this discharge. It is usually thin in the beginning; but acquires consistence as the disease proceeds.* When the sputa are pretty thick, copious, easily discharged from the lungs, mild, white or slightly yellow, they may be looked upon as favourable. On the other hand, a tenacious, gluey expectoration is unfavourable; but decidedly bad, when the matter discharged is thin, acrid, excoriating, of a brown or greenish colour; and especially if sanious and fetid. Mucus tinged with blood, is by some considered a favourable sign—we are inclined ourselves to this belief; it certainly cannot of itself be looked upon as unfavourable, while the other portions of the sputa are favourable in their appearance; and especially, if they be delivered into the mouth without much rattling noise in the lungs. The sputa must be considered as representing the condition of the secreting portions of the bronchia, and the general state of the pulmonary circulation; therefore the prognosis will very much depend upon the appearance of the expectoration, and the nature and degree of the cough.

1301. The degree of relief that expectoration affords, will aid us in our prognosis; this is even a more certain sign than the ap-

* Laennec says, "the expectoration in a great many instances has an appearance quite characteristic, and which, in my opinion, may in itself enable us to recognise the disease; as I have never met with it in any other. These sputa, which I shall term glutinous or pneumonic, when received into a flat and open vessel, unite in so viscid and tenacious a mass, that we may turn it upside down, even when full, without the sputa being detached, although they may hang from the vessel's mouth. If we shake the vessel its contents vibrate like jelly, but less so. The colour of this expectoration is frequently some shade of red, particularly that of rust; or it is sea-green, tawny, orange, saffron, yellowish, or a dull green." "If sputa of this kind existed constantly in peripneumony, we should require no other sign to indicate its presence." p. 215.

pearance of a sputum individually considered; for if it afford freedom and ease to the chest, it is a favourable sign, be the sputa of what colour they may. While on the other hand, if the lungs find no comfort from the expectoration, its colour or consistence signifies but little. If the expectoration should become very sparing, or has been absent from the beginning; or it if it be altogether arrested after it has been established, it is sure to proclaim a continuance, or an increase of mischief, if not a state of imminent danger. But on the other hand if it should return, and be of favourable appearance, it marks a diminution of disease, if it does not declare a freedom from danger.

1302. But the state of the disease, or the degree of its danger, are not portended by the sputa alone; other marks must be taken into consideration; and first, the state of the circulating system. We have already remarked, that fever was present as an initial symptom; that is, it became evident as soon as the local condition of the lungs was established, and even perhaps before the affection of these organs betrayed itself, by other symptoms.*

1303. Much therefore must depend upon the degree and character of the accompanying fever. If this be high, and of difficult reduction by the proper means, it increases the risk from the disease; because it always declares the extent and force of the local affection. On the other hand, when fever becomes obedient to the influence of remedies, it declares that the original affection is abating, and giving promise of future improvement.

1304. The pulse therefore must be no inconsiderable guide during the whole progress of the disease. For the most part, the pulse is frequent, tense and strong in the beginning of pneumonia. But, if the disease has been sudden and violent in its attack, the pulse may not possess these characters; it may be corded, creeping, slow, contracted, and very resisting: this is the oppressed pulse of authors; and it always changes its character by a bleeding of sufficient extent, into a softer, fuller, and more distinct pulse.

* "The fever in peripneumony is truly symptomatic; that is to say, is the effect of the inflammation. It rises and falls with the inflammatory orgasm. It very frequently happens that as soon as this latter is checked by the lancet or otherwise, the fever ceases entirely, although the perfect resolution of the pulmonary engorgement will not be accomplished in less than a fortnight, three weeks, or even a month."—*Laennec*, p. 218.

(See note to par. 351.) The young practitioner is warned not to mistake this pulse for a really "depressed, or exhausted pulse." The latter has none of the characters of the oppressed pulse, if we except size. It is frequent, small, and unresisting.

1305. On this head, Laennec furnishes us with several valuable practical remarks; remarks which should be well remembered by every practitioner. "In every case" (of pneumonia, whether simple or complicated,) "whatsoever, the more feeble the pulse is, the less indication is there for venesection. At the same time, it is well known to every practitioner that this feebleness is sometimes only apparent, and that bleeding will render the pulse both stronger and fuller. To discriminate the false from the real feebleness of pulse, requires the tact of an experienced practitioner; and unfortunately the most expert are in this often deceived. In cases of this kind, the use of the stethoscope will tend greatly to remove our doubts." "I shall observe, that whenever the pulsations of the heart are (proportionally) much stronger than those of the arteries, we may bleed without fear, and with the certainty of finding the pulse rise; but if the heart and pulse are both weak, the detraction of blood will almost always occasion complete prostration of strength." p. 243.

1306. We have never witnessed the peculiarity in the pulse of the two arms in pneumonia, as mentioned by Cleghorn and others; namely, that it is more obscure on the side affected, or that it differs. We have sought for it in a number of instances, but have never been satisfied of its existence, though the cases in which we tried to detect it, were strongly marked. We are disposed to believe, that some accidental circumstance may have produced the differences spoken of, without their being imposed by the disease itself. There is almost always a difference in the force and size of the artery in the two wrists of every body, depending almost altogether upon the different degrees of use to which the arms are subjected—thus, the right, in all right-handed people, is fuller and stronger than the left, and vice versa; and this may account for the observation of Zimmerman and others.

1307. The skin is almost always hot and dry, but it is not uniformly so—the contrary of this was lately observed in a very strongly marked case, and which terminated fatally on the seventh day. The whole surface of the body was moist from the

very commencement of the disease to its final termination, though a severe diarrhœa attended for the last thirty-six hours before death. The face is hectically flushed, and sometimes covered with a dripping sweat, especially the upper lip and forehead.

1308. The urine for the most part is sparing and high-coloured in the beginning; altering, if the disease proceed favourably, to a more copious, and to a less intense tone; or if the disease augment in danger, it may be discharged in large quantities, and this quite limpid.

1309. The absolute state of the bowels, is rather difficult to determine, as cathartic medicines are constantly had recourse to in the very commencement of the disease—it may however be observed, that they are either very difficult, or unnaturally easy to move. In the first case, we are under the necessity of almost constantly urging them by laxatives, while in the other a diarrhœa may supervene on the first dose of medicine. For the most part, the discharges have nothing peculiar in them, unless they are influenced by an epidemic cause, or some peculiarity of constitution.

1310. The thirst for the most part is craving, and especially for very cold drinks and light acids. The tongue is moist and furred with a white, pretty dense coat in the beginning, but changes to yellowish-brown, and becomes sometimes dry, especially if the expectoration is very limited, and not of a good character. In this case, a tenacious, ropy saliva is secreted, which is not easily detached, and extends itself into threads or filaments, when the mouth is opened, or when the tongue is protruded. The brain is not generally affected by delirium,* though there is

* "When the determination of the blood to the head is very great, and marked by coma in the beginning of the disease, as often is the case in old people of a plethoric habit, the symptom is extremely unfavourable, as the patients in whom it occurs usually die before hepatization is completely established; or the inflammation reaches the stage of purulent infiltration in the space of a few hours. A furious delirium is a much less dangerous symptom."—*Laennec*, p. 217.

"The general opinion of writers is, that delirium is an extremely dangerous symptom. It is stated by Cullen, Frank, &c. Lommius says, (*Obs. Med. Lib. secund*, p. 186,) 'Potissimum lethalis est cum insaniam movit.' I remember the late Dr. Gregory to have stated in his lectures, that he had only known one patient recover who had delirium."—*Note by Dr. Forbes*, p. 217.

a more than usual disposition to sleep, if the disease assumes a menacing character. This sometimes is so considerable, and the cough is so long suspended, that the rattling in the throat becomes very audible, in consequence of the augmented accumulation of phlegm, which at length becomes so excessive, as to rouse the patient by a severe coughing fit to discharge it.

1311. When pneumonia terminates favourably, it is by resolution;* this disposition is announced, by the pulse becoming less frequent, or irritated, softer, and more expanded and compressible. By the skin sending a free, warm perspiration on every part of the body; by the flush disappearing from the cheek; by the urine becoming more abundant and depositing a lateritious sediment.† By the cough abating both in severity and frequency; and by its being followed by a copious, purulent-looking mucus. By the tongue beginning to clean; by the abatement of the thirst, and the drowsy disposition being exchanged, for one of greater watchfulness. By the breathing being free and unattended by pain; and when a moderate spontaneous diarrhœa takes place.

1312. On the other hand, the prognosis will be unfavourable, when the pulse becomes both weaker and more frequent, and not resisting the slightest pressure of the finger. When the skin pours out sweat, that is not quickly followed by relief; when the hands and feet are dripping with moisture, and are at the same time deathly cold. When the flush on the cheek assumes a livid, or mahogany colour; and the lips become blue. When the urine is pale and very abundant; very sparing and intense in colour; or is entirely suppressed. When the cough is nearly, or entirely suspended, as well as the expectoration; or when the former becomes almost incessant, and is accompanied with a gluey or sanious sputa, or by blood itself in considerable quan-

* "When resolution takes place, the crepitous rattle becomes daily less perceptible, while the natural sound of respiration becomes gradually more distinct, and at last is heard alone."—*Laennec*, p. 211.

† "Peripneumonia frequently terminates favourably by a distinct crisis, not only in the cases where the mildness of the attack or ignorance of its character, have occasioned the disease to be left to the unassisted efforts of nature, but even when repeated venesections had been employed without any benefit. The most common of the critical evacuations is a lateritious or white sediment in the urine; and we should distrust any other unless this also occurs at the same time."—*Laennec*, p. 219.

tity. When the tongue becomes rough, dry, and dark-coloured, and the breath fetid. When coma supervenes, and a constant gurgling noise is made by both inspiration and expiration, within the trachea and bronchia.

1313. Pneumonia may terminate in other ways than resolution; namely, by hepatization,* suppuration,† or gangrene.‡

Anatomical Characters of Pneumonia.

1314. The appearances after death of the lungs and its appendages, vary in phenomena, as the disease may have been of longer or shorter duration. Laennec, whose researches into the nature of the affections of the chest, have been no less extensive than successful, makes three degrees or stages, which he assures us are very distinctly marked, and easily recognised. As we have every reliance on his fidelity and accuracy, we shall follow his account closely, though very briefly; as it would not comport with the plan of the present work, to be more diffuse.

* "In this degree the lung has entirely lost its crepitous feel under the finger, and has acquired a consistency and weight altogether resembling those of liver." *Ib.* p. 197. "This change," (hepatization, of Laennec, and the ramollissement rouge of Andral,) "consists in the effusion of a semi-solid albumen in the interstitial tissues, and which pressing on, and obliterating the cavities of the air cells and smaller bronchi, destroys the spongy structure of the lung, and converts it into a solid mass. A hepatized lung presents the following character after death—externally it is of a deep red colour, which internally is mottled with a number of small, light yellowish granular spots, with patches of whiter colour, marking the vessels, membranous septa, &c. not affected by the inflammation. It sinks in water, and is no longer crepitant, but breaks readily under the fingers, and may by a slight pressure, be reduced to a reddish pulp." —*Williams*, p. 82.

† "Notwithstanding the opinion of the ancients, and the common notions of the mere practical physicians of the present day, respecting pulmonary abscesses, which are generally termed vomicae, it is certain, there is no organic lesion more uncommon, than a real collection of pus in the substance of the lungs." *Ib.* p. 200.

‡ "This is a rare disease. It can scarcely be ranged among the terminations of the pulmonary inflammation, and still less can it be considered as a consequence of its intensity; since we find, in cases of this kind, the inflammatory character very slightly marked, as well in regard of the symptoms, as of the engorgement of the pulmonary substance." *Ib.* p. 221.

First Degree. (Obstruction.)

1315. This stage is marked by its external livid or violet hue; and its increase of density. It is however crepitous, in a degree; and if the lung be pressed between the fingers, a fluid is perceived. It retains the pressure of the finger like an œdematous limb. When cut into, it is of a livid blood colour; injected by a frothy, serous fluid, more or less bloody, which flows from it abundantly. The spongy texture is however to be still observed, unless in some more impacted points.*

Second Degree, (Hepaticization.)

1316. No crepitus to be observed; the lung has acquired the weight and consistence of liver. The lungs are frequently less livid externally than in the first degree; internally the redness is more or less deep; and differs from a violet gray to blood-red. When the lung is cut, hardly any fluid escapes; but a small quantity of bloody serum may be forced out by scraping the cut surface with a scalpel, which is thicker than that of the first degree. When the cut surface is exposed between the eye and the light, no cellular appearance presents itself; a granular aspect shows itself instead. This account is confirmed by Dr. Williams, see note, p. 18.

Third Degree, (Purulent Infiltration.)

1317. In this degree the lung has some hardness, and the above granular appearance shows itself, but is of a yellowish-pale or straw colour. The pus at first as it begins to form, appears in small detached yellow points. These gradually combine, and the whole lung finally assumes a uniform straw or lemon colour, and when

* "Our knowledge of minute anatomy does not permit us to specify with certainty the exact and essential seat of this inflammation; but I am disposed, from a consideration of the signs, and the effects upon the tissue, to refer it principally to the plexus of vessels and sub-mucous tissue surrounding and uniting the minute extremities of the bronchi."—*Williams*, p. 80.

incised yields a viscid purulent matter, which sometimes, especially in children, or young persons, is of a fine whitish-yellow colour. The lungs may show evidences of the three degrees of inflammation at one and the same time. The lower parts of the lungs are those most commonly occupied by peripneumony; and when the disease involves the whole viscus, it is almost always in the inferior part that it commences. When the three degrees exist in different parts of the same lung, the site of the more advanced stage is usually in the same inferior portion.*

1318. The whole of both lungs is never found inflamed in the third or even in the second degree; and this for obvious reasons; since an obstruction of this kind could not take place instantaneously, and must render respiration impossible. But it is by no means uncommon to meet with cases in which one whole lung and more than half the other is quite impervious to air. It is in the resolution, or in the retrogression of these several conditions of the lungs, that the stethoscope becomes so highly useful. By it the various grades of the degrees of increase, or diminution, can be detected, it would seem, with positive certainty; but perhaps more especially in the first, agreeably to Dr. Williams, p. 85. He says,

1319. "It is in the first stage of inflammatory injection that auscultation proves pre-eminently useful, in assuring us of the existence of a disease that *no other symptom could discover*. The presence of the ronchus crepitans may be taken as a warning to resort to energetic antiphlogistic measures, which in this stage will seldom fail in arresting its course. The disappearance of this sign, and sometimes the presence of the bronchial respiration and ronchus, announce the increasing danger and progress of the disease, as they indicate its advance to the second stage. The diseased structure however is still susceptible of a return to the healthy state, and the view we have taken of the morbid

* "This changes the colour of the diseased lung from the red hepatization to discoloured yellow or brownish, which is frequently mottled with red portions in the second stage, and with the black pulmonary matter. This is called by Andral ramollissement gris. The tissue is quite impermeable to air, and of extreme friability, being reducible by slight pressure into a kind of purilage."
—Williams, p. 84.

anatomy of this stage,* suggests, in addition to means directed against the inflammatory orgasm, the important advantage with which rubefacients may be used."

Treatment of Pneumonia.

1320. The essential character of pneumonia, as declared by its symptoms, and revealed by post mortem examinations, is a high and rapidly disorganizing inflammation of the substance of the lungs. Upon this subject, the opinions of all practical writers appear to be concurrent, if we admit the occasional exceptions, produced by epidemic influence. And perhaps there is no one disease that attacks the human body, in the treatment of which there is so much coincidence. This we look upon as a most fortunate agreement, both for the patient and the physician; for, to the former, it secures the advice and experience of a vast number of men of great professional character; while it relieves the latter from all that perplexing embarrassment consequent upon

* His observations upon the physical changes of the diseased parts, while undergoing resolution, are no less interesting than instructive. He says, p. 86, "the resolution or retrogression of peripneumonic inflammation, is attended by a succession of the same physical signs that marked its progress, but in an inverted order. Thus in a spot where no sound of the ingress or egress of air has been heard, or perhaps only a bronchial respiration, a slight crepitant ronchus begins to be distinguished at the end of each inspiration, apparently occasioned by the air again gaining a straightened admission through a few of the bronchial tubes, whose calibres have been partially restored by the re-absorption of matter round their parietes. This sign increases in intensity as the resolution proceeds; the bronchophony and bronchial respiration are diminished as the lung re-acquires its spongy structure, and becomes a worse conductor of sound. After a while the natural respiratory murmur is heard mixed with the crepitant ronchus; and as the texture becomes more permeable to the air, this increases, as that diminishes, and the healthy function of the lung is thus gradually restored. And here again the signs obtained by auscultation are invaluable, as they alone indicate the absence of the disease. The dyspnœa may have been removed, the cough may have ceased, the expectoration may have become simply catarrhal, the pulse natural, and all febrile symptoms disappeared; and yet the auscultator detects the lurking disease in the persistence of the crepitant ronchus; and as long as this continues, a slight exposure to cold, or a trivial departure from antiphlogistic regimen, may cause a relapse, which in a subject already reduced by depletion, may be more difficult to cure than the original disease."

conflicting opinions. We shall on this account proceed with the details of practice with the more confidence; as what we shall say upon the subject of others' opinions in the treatment of pneumonia, so entirely, in most instances, comports with our own experience.

1321. The principal remedies employed for the cure of pneumonia are, 1. Blood-letting, both general and local. 2. General evacuants. 3. Blistering. 4. Alteratives. 5. Tonics. 6. Large doses of emetic tartar.

1. *Of Blood-letting, &c.*

1322. This remedy in pneumonia, must be looked upon as one of indispensable necessity; and though this be admitted by every body, yet the quantity to be drawn, and the frequency of its repetition, is by no means so unanimously settled. We are averse to directions upon this point, when the quantity is to be expressed by the number of ounces; as this must always be of uncertain application, as no two cases, perhaps, will require the same quantity, precisely. Constitution, force of the disease, age, period of the disease, habit with respect to bleeding, and epidemic agency, have an influence upon the necessity and extent of this operation.

1323. On this account, we very much prefer, that the quantity to be drawn should be regulated by the state of the pulse in particular, and on the immediate condition of the disease. For if we do not regulate the operation by these rules, much uncertainty must exist; if absolute mischief be not incurred. Besides, if we make the pulse, and the condition of the part, as they may be affected by this operation, the rule, we shall avoid much embarrassment in the abstraction of blood, either as regards the quantity to be drawn, the necessity of its repetition, and the propriety of drawing it at any period of the disease.

1324. As regards the pulse, too much attention cannot well be paid to its varying state, both as respects the consequences of disease, and the influence of remedies, in all affections of high excitement, and of rapid course. For in employing the only remedy capable of controlling their force, or of abridging their career, namely, blood-letting, we do nothing, unless we abstract a sufficient quantity to give immediate relief to the af-

fect part—and this cannot be determined by prescribing the loss of any given number of ounces of blood, as the quantity that may afford relief in one instance, may be altogether insufficient in another, or in a third, it may be even excessive and injurious. On this account, we are in the habit of taking as much blood as will relieve the pain, oppression, or sensation of congestion in the chest. This is to be determined by requesting the patient to make as full an inspiration as he can from time to time during the flow of blood, and comparing his sensation at such periods, with those he had previously experienced; and if upon trial he can fill his lungs without pain or any considerable inconvenience, we stop the flow of blood, though the pulse may still be vigorous; while on the other hand, if little or no advantage has been gained, we continue to abstract until this end be obtained; or until the pulse flutter under the finger, or syncope supervene.

1325. It must therefore be evident, that no quantity expressed by weight or measure can be satisfactory; since, it cannot be determined, *à priori*, what the quantity shall be. If we are regulated by the first mentioned condition, namely, relief, though the pulse be still active, we are very certain that similar benefit will be effected by a repetition of the bleeding, should a new necessity be created; since, it shows so vigorous a condition of the heart, as to give assurance, that the system can still bear with advantage a farther loss of blood. When bleeding is repeated, we are regulated by the same rule, and so on, until the disease is subdued; or until we are assured, that we cannot profitably abstract more blood by the lancet. But even in this case, we do not abandon the depletion from the circulating system, for we now have recourse, either to scarifications or leeching, for by either of these means, we can unload the blood-vessels oftentimes with as much certainty as success.

1326. Either of the means just named may be had recourse to; and the quantity drawn must be regulated by the existing exigency. In all pneumonic inflammations, whether of the bronchia, the pleura, or the substance of the lungs, we have for some years past persuaded ourselves that the part selected for the operation should be high between the shoulders, unless the seat of the affection is distinctly indicated by local pain; in this case,

scarifying immediately over the part seems to be more advantageous than between the shoulders; but this does not appear to be the case when leeching is resorted to, as this does not afford equal relief when applied over the pained part.

1327. In the second case, or where we persevere in abstracting blood because relief is not afforded, and where we are obliged to stop because the pulse is now much reduced, or syncope has supervened, we are almost constantly under the necessity of repeating the operation sooner than in the first case, because a reaction of considerable force is sure to follow pretty quickly, if the bleeding has been performed in the early part of the disease, and in a generally hale constitution. In this case, indeed, we may venture to say in every case where this occurs, the drawing of blood should be immediately resorted to; and we must not lose valuable time, by waiting a certain given number of hours, as is sometimes directed. For the only proper time for drawing blood, is when there is a mischievous degree of excitement; and if this occur when two, or not until twelve hours have elapsed, it is absolutely necessary to draw more blood at the instant of its recurrence; and in this instance, the one period is just as proper as the other. We therefore never gain any thing by permitting hours to govern us; the existing state of the system is the only valuable, or even safe rule. The pulse must here, as before, be our guide, together with the state of the affection of the chest, as regards pain, cough, breathing, &c.

1328. In referring so frequently to the state of the pulse, we wish to be understood to refer, to its tension, or what is usually called its hardness, rather than its activity or volume. For a hard pulse may continue even longer than we can profit by drawing blood; for, however certainly it may declare inflammation, we nevertheless do little towards the reduction of the inflammation, if we cannot reduce its hardness by blood-letting; yet it is the only means, either generally, and locally employed, that we can use to obtain the end in view. Yet so indomitable is this condition at times, that though bleeding is the only resource we have left, it is very far from being always successful. Therefore we must constantly look upon a persevering hard pulse, without an abatement of the threatening symptoms, always to be a bad

sign; so true is this, that we have, in more instances than one, known it to preserve this condition while life was at its lowest ebb.

1329. We have already stated, that directing the quantity of blood to be drawn, by fixing the number of ounces, was not only vague, but unsafe; but an equal risk is not run when the loss shall be regulated by the impression it makes upon the pulse, and the force of the disease. For, if these be the guides, allowance is constantly and certainly made for all the contingencies that may present themselves in consequence of age, sex, constitution, force, and period of the disease, &c. A certain amount of blood must be lost under either of these circumstances, in every case of pneumony that remains susceptible of cure; but this amount can never be determined with any kind of certainty by any combination of round numbers; therefore, such directions should be discarded from the history of the medical treatment of any disease. The other method can hardly deceive us, if we resolve, as we should do in every case of great exigency, to watch the effect of the operation upon the pulse, and the force of the disease; whenever, therefore, any nicety is required in the quantity of blood to be drawn, the physician should perform the operation himself, or witness it when performed by another. We are certain that we have derived the most unequivocal, and prompt advantage from this plan—sometimes, causing much more to be drawn than we at first had supposed would be necessary; and at other, arresting the operation, before the prescribed quantity had been taken. Now, had either of these cases been submitted to a fixed quantity, mischief must necessarily have followed.

1330. To the inexperienced practitioner certainly, and occasionally perhaps to the experienced physician, the method just spoken of holds out decided advantages in those oftentimes equivocal states of the pulse, called the depressed, or the oppressed pulse, (see note to par. 351,) and the pulse of real debility. So much difficulty is generally experienced in distinguishing these opposite states, and this with men of large experience, that it becomes a matter of equal chance, whether bleeding or stimulation would be the proper remedy. But the mischief which might arise from a mistake of the indication is prevented with cer-

tainty, if the physician remain with his patient while the bleeding is performed, as the pulse will either rise or fall in an instant. (See par. 1305.)

1331. As a general rule in pneumonia, more is to be feared, that an inadequate quantity of blood shall be drawn, than that the proper quantity will be exceeded. This apprehension arises from almost all practitioners being sorely afraid of "debility"—this fear paralyzes like an incubus, nor can they shake off this dread, until they have passed through a severe ordeal of experimental uncertainty, and find at last, that *debility in itself, is not disease.*

1332. Pneumonia very often runs its course with so much rapidity, that it cannot be arrested, but by the most decisive measures, and these especially employed in its commencement. Of this all practitioners seem to be aware, yet they do not all agree in the extent to which the only remedy should be carried; this timidity is both unnecessary, and ill-timed; unnecessary, because there is nothing to be apprehended from an extensive blood-letting, if it had been properly proportioned to the force of the disease; and this can always be ascertained, if its abstraction be regulated by its effects, and not by an arbitrary number of ounces. The dread that a large and proper bleeding is excessive, and will reduce the patient to an irrecoverable state of debility, induces measures which do not even mitigate the severity of the symptoms, much less arrest the march of this disorganizing inflammation.

1333. It is ill-timed, because, while half-way measures are performing, the disease is hastening on, with such wide and rapid strides, that it cannot be overtaken, should the practitioner change his mind, and determine upon the pursuit. We would here say with Dr. Gregory, as quoted by Dr. Robertson, (Edin. Journ. Vol. X. p. 192,) "the danger of a large bleeding is less than the danger of the disease;" intimating, that its force cannot be diminished, nor its fatal progress arrested, but by decisive measures.

1334. Laennec observes, "that many physicians of that country, (England,) in the commencement of pneumonia, direct the detraction of twenty-four, thirty, or thirty-six ounces of blood. The practice is not to be found fault with, since it is certain that

a copious bleeding in the beginning of the disease, reduces the inflammatory orgasm much more speedily, than repeated small venesections will do at a later period, and moreover leaves less chance of a renewal of the inflammation." p. 239. These remarks of this very accurate observer, distinctly show, that it was his opinion, that a strong impression must be made upon this disease at its very commencement, and that this object could only be fulfilled by the abstraction of a considerable quantity of blood at one time. In this it will be perceived, he only coincides with the best writers on this subject, of both ancient and modern times, and in which we most heartily agree; with the exception, however, that we have already made, that the quantity about to be drawn, must be determined by the effects, and not by the number of ounces; for this never can be made a certain, nay perhaps not even a safe guide. For the same constitutional effects will be produced by the loss of very different quantities of blood; thus, we have seen fifteen or twenty ounces achieve, in one constitution, what would require in another forty or even fifty. Therefore we must protest against the *ounce* rule of drawing blood, though such high authority as Laennec, declares "it is not to be found fault with;" for if this direction were literally obeyed, we should sometimes stop this side of the proper effect, and at others it would go beyond its usefulness; either of which would create its dangers.

1335. Laennec farther observes, that "the ancients considered bleeding as a questionable remedy after the first days of the disease, fearing thereby to check the expectoration; and the best practitioners of the two last centuries forbad this operation after the fifth day, if the discharge was mucous and abundant." Here is another popular rule; a rule founded on the number of days that the disease has run; which is as vague, to say the best of it, as the one we have just been considering; for if it be a fact that bleeding will arrest expectoration at any one period of the disease, no matter which, it can only do so, from some peculiar condition of the system at large, or of the thoracic viscera in particular. Now this condition takes place as a law of the system, but after the expiration of the fifth day, agreeably to the rule thus laid down; yet the condition required to render blood-letting injurious, if it ever take place, must necessarily be con-

tingent upon the force of the disease; the age, constitution, and peculiarities of the patient; epidemic influence; location, and modes of treatment; consequently, cannot be dependant upon the number of days, that the disease has existed. Therefore, if it be true, that bleeding will ever stop the spitting in pneumonia, the peculiar condition of the system in which this takes place, should have been carefully pointed out, that the error may not be committed—but this we believe has never been done; nor have we ever witnessed the effect alleged to be produced by bleeding, at any period in pneumonia.

1336. If this stoppage of expectoration takes place soon after bleeding, there is more reason to believe it to be coincidence, rather than cause and effect. For it is every way certain, that mucous expectoration only takes place from either severe irritation, or a moderate degree of inflammation, and if the former be excessive, the latter will be produced; and if this be beyond a certain degree, the vessels become unable to relieve themselves by the formation of mucus, and its excretion will be stopped. But is it not absurd to suppose that blood-letting will increase the inflammation of the bronchial membrane? Yet this must happen if expectoration be interrupted.

1337. It is true, that Laennec seems to admit that this apprehension may be well founded under certain circumstances; for he says, “apprehensions of this kind are not perhaps unreasonable, if the loss of blood be carried to syncope.” In this assertion, he evidently has chosen an extreme case, to found his assent upon; and it savours strongly of an hypothesis, to which however he is very little given in common, rather than the result of personal experience. For he adds immediately after, “but we know from experience that in a lesser degree, though still pretty copious, blood-letting may be had recourse to with much advantage, in a very advanced period of pneumonia, even when this has reached the suppurative stage, and is attended with great expectoration.”

1338. We may therefore reduce the treatment of pneumonia, as far as regards the abstraction of blood, to the few simple rules laid down by Diemerbroek. He says, “a vein of the arm should be opened immediately, and the blood be permitted to flow freely; should this bleeding fail to mitigate the disease, it should be re-

peated, even a third time, if necessary; and although this may diminish the patient's strength, yet nothing is to be feared from this; for it is far better the weakened sick should be cured, than that the strong die."

1339. Laennec however declares, "there are some cases in which blood-letting is clearly contraindicated, or at least in which it can only be used very sparingly, and once or twice at most. Of this kind is the peripneumony which attacks old people of a cachectic habit, and that which supervenes to diseases which exhibit obvious signs of a sceptic state of the fluids, such as violent continued fevers, called putrid or adynamic, and scurvy." Of this kind, was said to be, the peripneumony that extended along many of our great waters in this state a few years ago. In this epidemic, a practitioner residing at Millers' town, Cumberland county, informed me that he had seen much of the disease, and that in every instance in which he employed blood-letting, the patient died. Of the peculiarities of this epidemic we can say very little from our own experience, having seen but two cases in the neighbourhood in which we then resided; but both these patients were from the east side of the Alleghany Mountains, and from a district in which the disease in question was very rife. In both instances we employed the lancet liberally; one we bled seven times, and the other three—both recovered rapidly. These cases were similar, as far as could be determined from a history of the symptoms, to the majority of cases that occurred along the Juniata river, and in which venesection was said to be uniformly injurious.

1340. We do not however wish to be considered as denying the modifying powers of epidemic, or other accidental influences—on the contrary, we sincerely believe in them; we would only wish to be considered as cautioning against too much facility of credence upon this head; because we know the point has been yielded in many instances, with too much ease, and much to the injury of the sick. Laennec furnishes us with instances of the controlling effects of epidemic, and other causes, which are every way in point, and to which he himself was witness. He says, "In certain epidemics, which have happened among persons previously subjected to the influence of depressing causes, bleeding has been found uniformly injurious. I was myself witness

to an instance of this kind among the conscripts of the French army in the year 1814. In the pneumonia then prevalent I very seldom found bleeding indicated, and the small number who were bled, bore the operation so ill that I did not venture to repeat it." p. 242. Regard should therefore always be paid to the character of the modifying causes, if our prescriptions are to be successful in their proper proportion.

2. *General Evacuants.*

1341. We may divide these into emetics, cathartics, and expectorants. Of the first of these little need be said, as they are resorted to in general to fulfil but a single, and perhaps only a temporary indication; and even that is very much confined to the cases of children. This case is where the bronchia and trachea appear to be oppressed by accumulated phlegm, and respiration much oppressed in consequence—here an emetic of ipecacuanha or the compound syrup of squills, have been found of occasional use.

1342. Cathartics are much less objectionable than emetics; because they are decidedly less injurious in their operation; they however are very far from being constantly useful, or even always safe. For the most part it may be said, that they weaken by their effects upon the bowels, very much beyond their usefulness as evacuants, in subduing the disease. This will not surprise us, when we consider how little control cathartics can exert over the pulmonic circulation; as the blood-vessels of the abdominal cavity have very little connection with those of the lungs, and consequently have but little agency in diminishing the quantity of blood within them. But it must not be forgotten, that it is every way important to keep the bowels freely open, though we would wish to avoid active purging; we would therefore have recourse to laxative medicines when necessary during the whole course of the disease. For this purpose castor oil, magnesia, rhubarb, small doses of the neutral salts, or Seidlitz powders, should be made use of.

1343. Should gastric, or intestinal irritation, accompany pneumonia, as sometimes happens, purging must not be thought of; the mildest laxatives, and these only when clearly indicated by a too confined condition of the bowels, should be resorted to.

1344. As regards expectorants, they can never be usefully employed until the inflammatory action is so far reduced, that the vessels of themselves throw out a mucous fluid; and when this period arrives, they seem to be unnecessary, as this effect will take place for the most part without their aid. We have ever found the lancet, and very mild diluents, to be the best expectorants; though we have certainly found advantage, in the decline of the disease, from small, but repeated doses of the hive syrup, or the compound syrup of squills. We are of opinion, that this compound is the best of the expectorants, as the stimulating qualities of the squill, and the seneka, are controlled by the tartrate of antimony, which enters into its composition.* Inhaling the vapour from hot water, and a free use of thin flax-seed, or bran tea, barley water, the infusion of the bark of the slippery-elm, (*Ulmus fulva*,) or a thin solution of gum Arabic, are among the most efficacious expectorants. Expectorants, professedly so considered to be, should never be administered before the air cells are so far relieved of their inflammatory action, that the exhalents can really assume, or at least in part, their healthy actions; one of which certainly is, to pour out mucus; and of which they are to be relieved by hawking, or coughing; for the whole class of expectorants possess considerable stimulating powers; especially the gums or balsams, the squills, &c. The tartrate of antimony and ipecacuanha are the only exceptions perhaps to the rule; and they probably owe their expectorant virtues to a semi-emetic action, or some influence upon the mucous tissue of the stomach; and thus indirectly produce the end in view; for it is much to be doubted, if we have a class of medicines that specifically act upon the bronchial surface, and induce it to an increase of secretion, though some of them, (as the alliaceæ,) are immediately applied to the whole of it. The carbonate of ammonia in pretty large doses has been highly extolled as an expectorant; and we once witnessed very decided benefit from its employment; this was a case, where the system was much prostrated, the spitting much diminished, and the sputa very tenacious. In this instance certainly, and

* For its composition see Chap. on Croup.

we presume it to be the case in all, where ammonia has restored the expectoration, it acted but as a general stimulant, thereby imparted vigour to the superficial vessels of the lungs, and thus enabled them to carry on the process of secretion.

3. *Blisters.*

1345. We have already spoken of these remedies, when treating of fever; (p. 84,) what we have said there will sufficiently direct their use in pneumonia, as regards the state of the pulse or system; that is, they are never to be applied, so long as the disease will require general bleeding. The part to which they are to be applied, is a matter of some consequence—if local pain in the chest exist, the blister should be applied over the pained part; if there be none, as sometimes is the case, and only a general soreness of the chest, between the shoulders appears to be the place, that gives the most certain relief.

4. *Alteratives.*

1346. We cannot imagine, that the medicines which are commonly given as alteratives, can possibly have any beneficial effect in pneumonia, unless it run on to a chronic state.

5. *Tonics.*

1347. Of this class of remedies we know nothing from our own experience, unless it be their occasional employment at the decline of the disease. Of the epidemics, which would seem from highly respectable authority to require this plan of treatment, we know nothing—under such circumstances, we, however, think it proper to state what others say upon this subject; as such epidemics may infest this country, as it appears they have done Europe.

1348. For this purpose we shall quote from Laennec, as he is generally opposed to the use of this class of remedies in acute diseases. He says, “these, (tonics,) and especially bark, are often very useful in the peripneumonies of old people, and de-

bilitated and cachectic subjects, especially towards the termination of the disease, when, after the suppurative stage, the fever passes off, and resolution goes on very slowly." "We sometimes even meet with epidemic peripneumonies in which blood-letting is constantly hurtful, and bark beneficial in every stage of the disease. This fact, which cannot be denied, was frequently witnessed in Germany, towards the close of the last century; and there is no doubt that Brown's theory was indebted to this medical constitution for a portion of the fame it obtained in that country. A number of such examples are recorded in the old *Journal de Medecine*; and I have myself wet with many, particularly among the troops in 1814, (see par. 1340,) already mentioned. In gangrene of the lungs, cinchona is the best remedy. I have used it successfully, even in cases where hepatization around the eschar was very extensive; and have sometimes combined wine and opium with it, when the violence of the inflammatory symptoms had begun to subside. To be effectual, it must be given to the extent of an ounce of the powder, or an equivalent portion of the extract, daily. In several cases I have continued to give the sulphate of quinine for more than a month, to the extent of eighteen grains in the twenty-four hours." p. 246.

1349. Of opium, which Laennec enumerates among the tonics, he speaks disparagingly. He says, "by itself it has never, as far as I know, been recommended as a remedy in pneumonia. We even know that it is capable, in large doses, of producing the disease—instances of which I have myself seen subsequent to cases of poisoning. It has, however, been sometimes employed with success in the same circumstances as the bark. With these exceptions it should be only used, and then cautiously, to quiet nervous irritation, to procure sleep, or to check an excessive diarrhoea." p. 247. In this statement there is a little prejudice against this article, if we can judge from our own experience; for this has taught us to believe, that opium is occasionally highly useful in pneumonia, after a sufficient abatement of the inflammatory action, and especially where there is great watchfulness, and an harassing cough. Hamilton and Armstrong are decided advocates for its employment after liberal blood-letting. The former exhibited it with calomel—from one, to five

grains of the latter, with from a quarter, to a grain, of the former, every six, eight, or twelve hours, according to the severity of the disease, "after bleeding and opening of the bowels." The latter, Dr. Armstrong, orders at least three grains, *after bleeding to syncope or approaching syncope*. He uses much larger doses of calomel than is recommended by Dr. Hamilton. Dr. Forbes also adds his testimony in favour of this plan.

6. *Tartar Emetic in Large Doses in Pneumonia.*

1350. From the frequency, severity, and danger of inflammations of the respiratory organs, much interest is necessarily excited; and consequently a strong desire must be felt to discover some remedy that shall abate the one, and diminish the other. We therefore feel it a duty to lay before our readers every thing which may tend to satisfy this interest; especially when the testimony is so much in favour of the remedy now under consideration, and when its claims are so strongly supported, by so accurate an observer, so cautious a practitioner, and so candid and faithful a relator, as Laennec, from whose Chapter on Peripneumony we make the following long, but highly interesting extract. We do this the more willingly, because, he is not the *inventor* of the method of cure about to be considered; and whatever enthusiasm he may appear to indulge in, it is certain, it does not proceed from the pride of a *discoverer*, but the honest zeal of a faithful and watchful investigator of disease.

1351. He says, "the preparations of antimony have been employed in large doses, either empirically, or on theoretical grounds, as a means of cure in different inflammatory diseases. During the seventeenth century, more especially, to judge from the remaining memorials of the controversies of those days, some brilliant cures and many unfortunate events were the consequence of this practice. These latter results may perhaps be attributed partly to the preparations being too active, and partly to ignorance of the proper method of using them. Be this as it may, we meet with traces of this practice, from time to time, in the writings of the physicians of the last century. I do not here allude to the exhibition of the medicine in small doses as an emetic, nor to the method of Rivière, who vomited his pneumo-

nic patients with it daily, or every second day; but may remark, in passing, that this practice has always had partizans among practitioners. It was constantly followed to my own knowledge, by Dr. Dumangin, physician to *La Charité*, in peripneumony. This gentleman scarcely ever combined blood-letting with it, and yet his practice was quite as successful as that of Corvisart, who bled much in this disease. But administered in this way, the remedy is an evacuant, and its good effects may consequently be attributed to the derivation operated by it, on the intestinal canal."

1352. "The employment of Kermes' mineral as an expectorant, may be considered as a relic of its ancient use as an alterant. In the old *Formulaire des Hôpitaux de Paris*, printed in 1764, we find the remains of a still bolder practice, in a potion entitled *in pluritide et in peripneumonia*, and which consists of four drachms of the white oxide of antimony in four ounces of the infusion of borage. The famous *bolus ad quartanam*, of La Charité is another proof of the employment of antimony in large doses, and as an alterant. I have been informed that the practice of giving antimony to this extent was longer pursued in Italy than in the other countries of Europe. At all events, it is to a modern Italian physician, Rasori, that we are indebted for the revival and demonstration of the utility of this method, which had fallen too much into disuse. I say nothing here of this author's theory, or rather of the modification of the theory of Brown. The doctrine of *stimulus* and *contra-stimulus* has hitherto found partisans only in Italy, and will perhaps never reach beyond the Alps; but practical facts of such importance as those in question, ought to find all medical men, whatever be their theoretical opinions, disposed to put them to the test of experiment. I am unacquainted with the details of Rasori's practice, farther than as these are stated in his *History of the Petechial Epidemic of Genoa*. The first idea I had of his method was derived from some medical men who had been in Italy. I began to make trial of it in 1817, having learned at this time that my colleague, M. Kapeler, had tried it with some benefit, and without any inconvenience, in cases of apoplexy. For a long time I restricted with him, my trials to this disease; but having occasion to attend two cases of peripneumony, in which venesection was not practicable, I re-

solved to make use of the tartar emetic in large doses: and the recovery of both patients, equally rapid as unexpected, encouraged me to repeat its employment in many other cases."

1353. "I shall here detail the manner in which I administer this remedy, and which differs, I believe, in some respects from that of Rasori. As soon as I recognise the existence of the pneumonia, if the patient is in a state to bear venesection, I direct from eight to sixteen ounces of blood to be taken from the arm. I very rarely repeat the bleeding, except in patients affected with disease of the heart, or threatened with apoplexy, or some other internal congestion. More than once I have effected very rapid cures of intense peripneumonies without bleeding at all; but, in common, I do not think it right to deprive myself of a means so powerful as venesection, except in cachectic or debilitated subjects. In this respect, M. Rasori does the same. I regard blood-letting as a means of allaying for a time the violence of the inflammatory action, and giving time for the emetic tartar to act. Immediately after bleeding I give one grain of the tartar emetic, dissolved in two ounces and a half of cold weak infusion of orange leaf, sweetened with half an ounce of syrup of marsh mallows or orange flowers; and this I repeat every second hour for six times; after which I leave the patient quiet for seven or eight hours, if the symptoms are not urgent, or if he experiences any inclination to sleep. But if the pneumonia has already made progress, or if the oppression is great, or the head affected, or if both lungs, or one whole lung is attacked, I continue the medicine uninterruptedly, in the same dose and after the same intervals, until there is an amendment, not only in the symptoms, but indicated also in the stethoscopic signs. Sometimes even, particularly when most of the above mentioned unfavourable symptoms are combined, I increase the dose of the tartar emetic to a grain and a half, two grains, or even two grains and a half, without increasing the quantity of the vehicle. Many patients bear the medicine without being either vomited or purged. Others, and indeed the greater number, vomit twice or thrice and have five or six stools the first day; on the following days they have only slight evacuations, and often indeed have none at all. When once *tolerance* of the medicine, (to use the expression of Rasori,) is established, it even very frequently hap-

pens that the patients are so much constipated as to require clysters to open the body. When the evacuations are continued to the second day, or when there is reason to fear on the first that the medicine will be borne with difficulty, I add to the six doses, to be taken in twenty-four hours, one or two ounces of the syrup of poppies. This combination is in opposition to the theoretical notions of Rasori and Tommasini, but has been proved to me by experience to be very useful. In general the effect of tartar emetic is never more rapid or more efficient than when it gives rise to no evacuation; sometimes, however, its salutary operation is accompanied by a general perspiration. Although copious purging and frequent vomiting are by no means desirable, on account of the debility and hurtful irritation of the intestinal canal which they may occasion, I have obtained remarkable cures in cases in which such evacuations had been very copious. I have met with very few cases of pneumonia where the patient could not bear the emetic tartar; and the few I have met with occurred in my earliest trials; insomuch that this result now appears to me to be attributable rather to the inexperience and want of confidence of the physician, than to the practice. I now frequently find that a patient who bears only moderately six grains with the syrup of poppies, will bear nine perfectly well the following day. At the end of twenty-four or forty-eight hours at most, frequently after two or three hours, we perceive a marked improvement in all the symptoms. And sometimes even, we find patients, who seemed doomed to certain death, out of all danger after the lapse of a few hours only, without having ever experienced any crisis, any evacuation, or indeed any other obvious change; but the rapid and progressive amelioration of all the symptoms. In such cases the stethoscope at once accounts for the sudden improvement, by exhibiting to us all the signs of the resolution of the inflammation. These striking results may be obtained at any stage of the disease, even after a great portion of the lung has undergone the purulent infiltration. As soon as we have obtained some amelioration, although but slight, we may be assured that the continuation of the remedy will effect complete resolution of the disease, without any fresh relapse; and it is in regard to this point more particularly, that the greatest practical difference between the emetic tartar and blood-letting con-

sists. By the latter measure, we almost always obtained a diminution of the fever, of the oppression and the bloody expectoration, so as to lead both the patient and the attendants to believe that recovery is about to take place: after a few hours, however, the unfavourable symptoms return with fresh vigour; and the same scene is renewed often, five or six times, after as many successive venesections. On the other hand, I can state that I have never witnessed these renewed attacks under the use of the tartar emetic. In these cases we observe only in the progress towards convalescence, occasional stoppages. And this is more particularly the case in respect of the stethoscopic signs; as we find that, between the period when the patient experiences a return of his appetite and strength, and fancies himself quite cured, and the period at which the stethoscope ceases to give any indication of pulmonary engorgement—more time frequently elapses than between the invasion of the disease and the beginning of the convalescence. It is necessary to observe, however, that this remark is still more frequently applicable to the disease when treated by blood-letting; and moreover, that the patients subjected to the antimonial method never experience the long and excessive debility which too often accompanies the convalescence of those who had been treated by repeated venesections.”

1354. “The best way of appreciating any particular mode of treatment is by its results. I am sorry to say I began only last year to keep an exact account of mine by the tartar emetic; but I can affirm that I have no recollection of death from acute pneumonia in any case where this medicine had been taken long enough for its effects to be experienced. I have only witnessed a few fatal terminations where the case was a slight peripneumony complicated with severe pleurisy. I have also lost some patients, who, besides the pneumonia, were affected with cancer, phthisis, disease of the heart, &c. and these are the cases where I had an opportunity of observing the different degrees of resolution in this disease. Finally, I have lost some who were brought to the hospital moribund, and who sunk before they had taken more than two or three grains of the remedy. In the year 1824, at the Clinic of the Faculty of Medicine, I treated by the tartar emetic twenty-eight cases of pneumonia, either simple, or complicated

with slight pleuritic effusions. Most of these cases were very severe, yet they were all cured, with the single exception of a cachectic old man, who took but little of the medicine, because he bore it badly. During the present year, (1825,) I have treated thirty-four cases in the same manner. Of these, five died; but of this number two women, one aged fifty-nine and the other sixty-nine, were brought to the hospital moribund, and sunk before they had taken more than two or three doses of the tartar emetic; a third died of disease of the heart, when convalescent from pneumonia; and a fourth fell a victim to chronic pleurisy, also in the period of resolution of sub-acute peripneumony. These two last cases will be detailed hereafter; the one at the end of the present chapter, the other in the section of pleuro-pneumonia. The fifth case was that of a man, seventy-two years of age, who died of cerebral congestion, on the tenth day of the disease. Of these five cases then, the two first cannot be adduced in either way as instances of the effect of this remedy; and the two next are proofs of its efficacy in *pneumonia*, rather than the contrary. The result, therefore, of the whole is, that of fifty-seven cases of pneumonia treated by the tartar emetic, only two individuals, both upwards of seventy, died of this disease joined with cerebral congestion—that is, a little less than one in twenty-eight. In private practice, during the last three or four years, I have not been called, in consultation, to cases of acute pneumonia, or to cases uncomplicated with violent pleurisy, except such as appeared already threatening a fatal termination; and yet I do not remember a single case which proved fatal under the use of tartar emetic; except that of a plethoric subject, aged seventy-two, whom I attended along with Dr. Juglar. This patient laboured under a relapse of pneumonia after a delusive convalescence, the third attack of the kind he had had during the preceding fifteen months. The fever was intense, with *sub-delirium* and other signs of cerebral congestion. He took the emetic tartar to the amount of six grains daily for two days; *tolerance* was established on the second day; the pneumonic symptoms decreased; the expectoration became again mucous; but he sunk on the third day from an increase of cerebral congestion. To this case I can oppose two others where the probabilities of success were less, and where, nevertheless, a rapid recovery took place.”

1355. “A man aged forty-five, weakened by various excesses,

was seized with pneumonia, in 1823. I saw him on the fourth day in a state almost hopeless. The right lung was affected throughout, notwithstanding venesection had been repeatedly used. There was extreme oppression of the chest; and during the last twelve hours, jaundice, with pain in the region of the liver, had come on, indicating the supervention of hepatitis. I recommended the tartar emetic, which the attendant, Dr. Michel, the more readily agreed to, from having seen it used by Rasori at Milan. We prescribed twenty grains, to be taken during the twenty-four hours, in two grain doses; but by mistake forty grains were given, within the same period. This treatment occasioned but little evacuation, and on the following day, we found the jaundice, the pain, and the oppression gone, the stethoscopic sign perceptibly improved, the fever less, and the patient, in short, out of danger. Convalescence proceeded without any relapse."

1356. "In June, 1825, I was called to M. de C. aged sixty-five, by MM. Laudré, Beauvais, and Jadiloux. I found the patient in the eleventh day of pneumonia. He had been repeatedly bled with marked relief, but this was always speedily followed by a renewal of the violence of the disease. Since the preceding day he had been insensible, and he now lay with the tracheal rattle of the dying and covered with a sweat, which felt cold on the extremities. Two days before, the debility not justifying the loss of more blood, tartar emetic had been tried; but the first doses having increased a diarrhoea which the patient laboured under, and the evacuations having occasioned syncope, the medicine was suspended after two or three grains, at most, had been given. On examination both lungs were found to be affected; the right over great extent, and in an advanced state of hepatization; the left at the roots and base, in the state of engorgement and incipient hepatization. I recommended the aromatic antimonial infusion, in doses of a grain and a half of the tartar emetic, with the syrup of poppy. The patient bore the medicine well, and took eighteen grains during the first twenty-four hours. It did not occasion more purging than had previously existed. During the administration the patient recovered his consciousness; the rattle, sweat, and oppression disappeared; and when we saw him on the following day, we found him decidedly convalescent, the stethoscopic signs indicating resolution. The me-

dicine was continued for some days, and convalescence proceeded without any fresh relapse. It was questioned whether the sweat which existed at the time when the tartar emetic was administered, might not have been critical in this case. I cannot believe that a perspiration of the kind described, coming on with cerebral congestion, and the tracheal rattle of the moribund, ought to be considered as critical, more particularly as it as well as the other mortal symptoms passed off during the use of the antimony."

1357. "The above results of my practice are more favourable than those of Rasori's, lately published, (*Revue Med. Mai*, 1825.) This may be owing to two causes—first, *because auscultation enables us to ascertain the existence of peripneumony* much quicker than we could do from the ordinary symptoms; and, secondly, because, in all probability, many cases of simple pleurisy, or of pleuro-peripneumony with predominance of pleurisy, are comprehended by Rasori under the name of *peripneumony*—it being impossible to discriminate these different affections from each other, *without the aid of auscultation*. I have already stated we must not expect equally favourable results in the treatment of pleurisy, as in the treatment of pneumonia, by the tartar emetic."

1358. "My cousin, Dr. A. Laennec, physician of the Hôtel Dieu, of Nantes, has treated with the tartar emetic, during the last two years, forty cases of the pleuro-pneumonia. Of these, six proved fatal, three in consequence of errors of regimen during convalescence. Subtracting these, then, the proportion of deaths will be one to thirty.* Dr. Hellis, of Rouen, has lately presented to the Royal Academy of Medicine, a Memoir on the Treatment of Pneumonia, after the Method of Rivière and Stoll, that is, by repeated emetics.† Of forty-seven cases treated by

* Journ. de la Sect. de Med. de la Soc. Acad. du Depart. de la Loire Infer. 1825.

† "This memoir has since been published by the author under the title "*Clinique Medicale de l'Hôtel Dieu de Rouen*, Première Année." Paris, 1826. From this work, and also from another before me, entitled "*Memoire sur les Fluxions de Poitrine*," par Louis Valetin, M. D. Nancy, 1815, it would seem that the practice of giving emetics in pneumonia, so much employed formerly by Stoll, and others, has still many partizans in France."—Note by Dr. Forbes.

him, he only lost five, being a proportion somewhat less than one in nine. This result, although much less favourable than that which has followed the use of the tartar emetic in large doses in my practice, is yet more so than that obtained from the employment of blood-letting and derivatives, which I have stated to be one in six or eight. Independently of being less successful, the practice of Rivière has not even the merit of being more gentle than the tartar emetic in large doses, as the repeated evacuations occasioned by it produces great distress to the patients, and alarm to the attendants, while such effects take place in the other method, at most only in the two first days. I continue the use of the medicine as long as the *tolerance* lasts, and while there exists any remains of the crepitous rattle. This tolerance I find every day to continue indefinitely, in patients in full convalescence—a fact which is not in accordance with Rasori's theory. If I have been correctly informed, he considers the tolerance as owing to the excess of stimulus existing in the system, and which produces the disease; and, according to him, as soon as the excess of stimulus is destroyed by the contrastimulant effect of the tartar emetic, the tolerance ought to cease. It is certainly true, that after the acute period of the disease, the tolerance diminishes, and sometimes entirely ceases; but it is more common to find the patient become habituated to the medicine, insomuch, that, during convalescence, and when he has begun to use as much food as in health, he will take daily, without knowing it, six, nine, twelve, and even eighteen grains of the emetic tartar. Putting aside entirely the question of theory, I agree with Rasori in opinion, that the tartar emetic is in general better supported, and produces more speedy and powerful effects, in proportion as the patient's constitution, and the symptoms of the disease, bear the marks of great plethora, and high vital action; but I must, at the same time, remark, that similar results, are occasionally obtained in debilitated and cachectic subjects, who have not been able to bear blood-letting, notwithstanding the presence of an intense local inflammation. Upon comparing the facts which I have witnessed in my own practice, I am convinced that the *tolerance* depends on the concurrence of several circumstances. In the first place, the medicine in considerable doses is less emetic than in small doses; an observation which

has been already made by most practitioners. In the second, the habit, which accustoms the stomach to all kinds of substances, seems readily formed in respect of this, since we find that vomiting or purging almost always follows its administration on the first day, and scarcely ever returns after the second. A third circumstance, which contributes much to the prevention of vomiting, is the ingestion of the medicine in an agreeable vehicle, somewhat aromatic, and moderately diluted. The intervention of a period of two hours between the doses, also contributes to the same result. I have excited copious vomiting by means of the tartar emetic given in doses of two grains in three ounces of warm water, every quarter of an hour, in the commencement of a bilious peripneumony; while the same patient has taken it on the following, and subsequent days, in doses of from six to nine grains, in the manner formerly mentioned, without experiencing evacuations of any kind. When the flavour of the orange leaf is disagreeable to the patient, I give the medicine in some other aromatic infusion, or sweetened emulsion. When it occasions too copious evacuations, I conjoin with it, as I have stated above, a small quantity of opium—the only corrective of its operation in this way that I have observed. Cinchona certainly, does not act in this way, although it has been supposed to neutralize the tartar emetic in the *bolus ad quartanam* of *La Charité*.^{*} There is no doubt that bark, as well as the various vegetable infusions usually combined with tartar emetic, more or less decompose this medicine; but this change of state does not seem in any way to affect its virtues, since we find that one or two grains dissolved in a pint of vegetable broth, lemonade, decoction of tamarinds, or even a strong decoction of bark, will produce very effective vomitings; and this result we also observe occasionally from the *bolus* above mentioned, especially when given in small doses.”

1359. “The practice above detailed is not in reality so bold as it seems at first sight; since only one, two, or three grains of the tartar emetic are given at one dose—a quantity which prac-

^{*} “The *bolus ad quartanam* used by M. Laennec in Necker Hospital, the same I presume as that of La Charité, consists of one grain of the emetic tartar, to the drachm of bark, made into a mass by extract of juniper.” (*Ratier, Formul. des Hopitaux*, p. 193.)—Note by Dr. Forbes.

tioners have long been accustomed to administer. The medicine is, moreover, given much diluted, and is thereby deprived of all the caustic properties which it possesses. These, be it remembered, are but feeble, since we know it only then produces pustules when it is applied in substance,* and retained in contact with the skin for two or three days. In prescribing the medicine, we are careful not to repeat the dose if the preceding has occasioned any ill consequences, a circumstance which will always obviate any risk from its employment in the hands of the prudent and attentive practitioner. I have been in the daily habit of employing the tartar emetic in the hospital since 1816, and more particularly since 1821; and I do not think any one who has observed my practice, have ever witnessed any ill effect, of consequence, from its administration. And I can give a like report of this in my private practice, with this single exception, that I have observed, in the latter, vomiting to be more frequent than in the hospital. This difference of result has appeared to me owing to the patients being informed by their nurses or their friends, that they were taking tartar emetic, a thing which I have always been anxious to conceal from them." Pages 249 to 258.

1360. We have thus given M. Laennec's experience in the use of the tartrate of antimony in pneumonia—of this plan we can say nothing from our own experience, though we have considered it our duty to lay before the reader, every thing that has been urged in its favour, by this judicious and generally cautious practitioner; but at the same time leaving each to choose whether he will adopt or reject it.

SECT. II.—PLEURISY.

1361. This disease consists, strictly speaking, of an inflammation of the pleura; and its pathognomonic symptom, agreeably to common opinion, is a pain in the side, which is augmented by coughing, and a full inspiration. We have already remarked, (par. 1286,) that in inflammations of the thoracic viscera and their appendages, that we had no indubitable sign, by which the inflammation of any particular portion of these parts was indicated.

* "A strong solution will have the same effect."—*Dr. Forbes.*

1362. Dr. Cullen makes pleurisy, (pleuritis,) a species of pneumonia, and defines it as "a pleuritic pneumonia, accompanied by a hard pulse, pungent pain, and for the most part in the side,* particularly increased by inspiration, a difficulty in lying on the affected side, cough very painful, dry in the beginning, afterwards moist, and sometimes bloody."†

1363. Now, there is no one of these symptoms, which distinctly point out an insulated inflammation of the pleura; while on the other hand, none of the symptoms detailed by authors, as constituting peripneumonia, however carefully selected, or earnestly insisted on, declare, that either the lungs or rather their parenchyma, are involved, to the exception of the pleura. Yet it is a circumstance not to be doubted, that this membrane may be inflamed to the entire exclusion of other portions of the thoracic contents.

1364. It is now, however, sufficiently well established by frequent post mortem examinations, that in pneumonia, it is the parenchyma of the lungs that is the seat of the inflammation; and in uncomplicated pleurisy, that it is the pleura alone that is affected; but the same observations also declare, that these tissues are very much oftener combined in inflammation, than found separately or independently in this condition.

1365. This being admitted, it would seem to be a natural consequence, that this specific location of inflammation should be marked by some constitutional or characteristic symptoms—but this is not exactly so. For had this been the case, the researches of the more modern pathological enquirers, would certainly have detected them, provided we do not include auscultation among the means by which pleurisy or peripneumony may be known.‡

1366. Pinel and Bricheteau have attempted the diagnoses of

* Nothing, perhaps, shows the insufficiency of *pain in the side*, to distinguish pleurisy from peripneumony or other thoracic inflammatory affections, than that authors of the greatest experience should differ with regard to which side the patient lies most easily upon. Thus Cullen makes "a difficulty of lying upon the affected side," as an essential part of his definition of pleuritis; while Laennec, Williams, and others declare, that the lying upon the affected side is a character of this inflammation.

† Synop. Vol. II. p. 102.

‡ See the Anatomical Characters of Pleurisy, p. 460.

pleurisy and pneumonia; and with as much success perhaps as the subject is capable of. We shall therefore quote it, from the *Dict. des Scienc. Med.* tom. 43, p. 202, reserving to ourselves the right of making a few observations.

1367. "The diagnostic of pleurisy is sometimes difficult to establish, especially in children and the insane, and in those who habitually breathe with difficulty. Pneumonia, from its location, resembles pleurisy more than any other affection, especially when the pleura of the lungs is also involved. We must therefore compare the respective symptoms, to understand the difference between them. Pleurisy is attended by an acute superficial pain, which is increased by percussion, by lying on the affected side, by inspiration and coughing. In pneumonia, on the contrary, the pain is deep-seated, obtuse, with a sense of suffocation, and decided oppression. In pleurisy, the cough is commonly dry; the pulse hard, contracted, and frequent. In pneumony, the cough is moist, the pulse often soft; in pleurisy, we rarely see blood mixed with the limited expectoration; in pneumony, it is very common, and the expectoration is very abundant." We believe the above to be as correct as any history that has been given of these two affections; but it will be seen as we proceed, that the distinctive marks are by no means constant.

1368. Fever is a constant attendant upon both peripneumony and pleurisy; though authors, in attempting their diagnoses, make it in the latter more intense than in the former. The pulse in pleurisy, as we have just stated, is declared to be always hard and resisting. This circumstance is so uniform that it has been insisted on by Galen and many others, (*Dict. des Scien. Med.* vol. 43, p. 195,) as pathognomonic, and is strongly enforced by Baglivi; nay, he has said, that from this symptom alone he would not fear to pronounce that the disease was an inflammation of the pleura. "*Pulsûs durities est signum feré infallibile omnium pleuritidum. Si duritiem in pulsu deprehenderis, quamvis reliqua signa non adsint, procerto habeas patientem laborare pleuritide.*" While in peripneumony the pulse is said to be more generally soft and undulating.* These two conditions seem to be

* Morgagni declares it to be rather slower in peripneumony than natural; and thinks this circumstance alone may betray an inflammation of the lungs. *Epist. xxi. art. 13.*

acknowledged by almost all writers; yet exceptions so frequently occur, as to render them extremely uncertain guides. Besides, the degrees of fever must be determined with difficulty, as we have no certain means to measure them; nor have we any other method than the touch, to ascertain the degree of force of the pulse; and the result of attempts to determine this state by several individuals in any given number of cases at one and the same time, would, in many of these instances, be very discrepant.

1369. But this fortunately can lead to but little practical error, since it must be by the absolute, and not the comparative state of the pulse, that our prescriptions are to be regulated—for if the pulse be tense and resisting, we must bleed, whether the tissue involved be the pleura, or the air cells of the lungs themselves. Nor do we hesitate to believe, that the pulse may differ in character, as one or other of the thoracic tissues may be affected; but as “the degree of fever,” or “the hardness or softness of the pulse,” can have no absolute standard, by which either can be determined with unerring precision, the condition of the pulse in the two affections, cannot, nor should not, be compared with each other; therefore, much must always be left, (whether right or wrong,) to the medical attendant, either to form his diagnosis, or to regulate the nature and extent of the remedial means.

1370. In pleurisy, the breathing is less laborious and oppressed than in peripneumony; for the patient for the most part can lie down; whereas, in the other, it is so confined, that he is obliged sometimes to sit up, to prevent suffocation. In pleurisy, the breathing is also less frequent than in peripneumony.

1371. Laennec declares that “the dyspnœa is very variable as to intensity. In some cases the patients are unconscious of its existence, though it is perceptible to the bystanders; and sometimes it is equally unobserved by both; in other cases it is extremely urgent, and speedily reaches the degree of impending suffocation. When the dyspnœa is not severe, it appears to be rather occasioned by the pain of the side, which moderates the inspiration, than by the compression of the lungs by the effused fluid;* since we find that it commonly ceases after a few days

* “The fever ceases with the stitch, and the patient finding his appetite and strength return, fancies himself cured, though there still exists an abundant

with the pain and other symptoms of acute inflammation, though at this time the effusion is more copious than before." Laennec, p. 443.

1372. In pleurisy, as a general rule, there is a more acute and distinctly located pain, which, when it exists, is sure to be augmented by coughing, or by a deep inspiration. But this symptom is by no means constant, or always to be relied on. Morgagni gives a number of remarkable proofs of this fact.* Pain is sometimes felt on both sides of the chest at the same time, but this does not necessarily constitute a double pleurisy. The pain when felt is generally about the neighbourhood of the nipple. Laennec confirms the opinion of Morgagni, that the stitch is not a constant symptom, being absent, sometimes, in the most acute cases. It sometimes shifts its seat to the other side, but without a transfer of the inflammation. Sometimes the painful stitch is on the side opposite to the inflammation. Laennec does not think that pressure upon the intercostal spaces always excites pain, unless a rheumatic affection be present. While Andral, Broussais, and Forbes, think it far from unusual.†

1373. In pleurisy, there is an absence of that sense of weight and distention throughout the chest, that sometimes attends peripneumony; and though this is not a constant symptom in the latter, yet it is never perhaps felt in the former. But on this last distinction much reliance should not be placed, since Morgagni informs us that it was not present in the case of Coralli, who died of a short illness, from an inflammation of his lungs; for he says, that "when the thorax was opened, we found the upper part of the lungs on the right side, tumid, hard, and stuffed up with blood," loc. cit. art. 12. Yet we have witnessed this sense

extravasation in the chest, which cannot be got rid of for a long period, even should nothing interfere to check the progress of absorption. And the physician who does not explore the chest, must fall into the same error as his patient." Ib. p. 444.

* Epist. xxi. art. 23.

† So far from pain in any part of the thorax being a constant attendant upon pleurisy, that Pinel, Baglivi, and others say, that it may inflame and even suppurate, without the patient experiencing any sensation that would characterize this affection. This condition of the pleura gave rise to that species, called "the latent, or occult pleurisy."—*Dict. des Sciences Med. art. Pleurisie*, p. 192.

of weight in a number of instances of peripneumony, though, as just observed, it is not a constant symptom.

1374. The cough in pleurisy is more constant and severe, perhaps, than in peripneumony; it is usually dry in the beginning, and does not become otherwise, unless the force of the disease be abated by prompt and active antiphlogistic means, or until the disease has run its course for several days without opposition, or with but feeble applications; in which cases, expectoration sometimes takes place; but the sputa are tenacious, nearly transparent, and resemble very much a thin solution of glue. Mucus is never spat, unless the pleurisy be complicated with bronchial inflammation. Blood does not unfrequently accompany the sputa in every form of pneumonia; it is therefore not characteristic of pleurisy; indeed we believe it never happens in pure pleuritis. Pleurisy is almost always accompanied by a severe lancinating pain upon coughing, or upon a deep inspiration, as we just have noticed; whereas, this is rarely the case when the substance of the lungs is the seat of the inflammation. Pain in this case is almost entirely wanting, or is only obscurely perceived in the course of the sternum, or spine. The flushing of the face does not take place so early, nor is it so intense in pleurisy, as in peripneumony; yet towards the latter period of the disease, where the inflammation has been less obedient to remedies than usual, or where it had been neglected, or timidly treated in the commencement, and especially in persons beyond the meridian of life, the cheeks have an intensely red and circumscribed circle almost constantly upon them. This condition is almost always accompanied with a disposition to coma, a tenacious expectoration, and suppressed or imperfect cough, and a very slow respiration.

1375. It is perhaps at this moment, that the parenchyma of the lungs may become implicated in the inflammation, and the disease now becomes a pleuro-pneumonia. The urine now is almost sure to become sparing, and very high-coloured; which constantly augurs a severe and dangerous state of the disease. In general the patient lies easiest on the side in pleurisy, and on the back in peripneumony.

1376. But notwithstanding every attempt to distinguish the two affections of pleurisy and peripneumonia from each other,

much obscurity still prevails upon the subject.* This appears to be admitted by all the best practical writers, and the most experienced pathological anatomists. Morgagni is perhaps less satisfactory upon these points, than upon almost any other of which he treats; to be convinced of this, we need but consult his twentieth and twenty-first letters. Laennec makes the following important remarks. "When pleurisy is simple, we find no sign whatever of inflammation of the pulmonary tissue, even in the vicinity of the most inflamed portions of the pleura; only we find the substance of the lungs in such cases, more dense and less crepitous, by means of the compression produced by the effused fluids. If the extravasation has been very great, the lung becomes flattened and completely flaccid; it ceases to contain air, and consequently to crepitate; its vessels are compressed and contain little blood; and the bronchia, (and sometimes even the largest trunks,) are evidently rendered smaller. The peculiar texture of the lung, however, is still very perceptible, there being no trace of obstruction like that produced in peripneumony; and if air be blown into the bronchia, the lungs become expanded more or less completely," p. 428.

1377. This exposition, will we trust, tend to lessen the reports of the wasting of the lung, in post mortem examinations. On this point we have been led by the reduced size of the lung, into the belief, where there were large accumulations of sero-purulent fluids in the thorax, that it was wasted to the size we found it; whereas, it is much more than probable, that in these several instances, the lungs were only compressed by the weight of the fluid which was surrounding them, as appears to be proved by Laennec.

1378. Laennec alone is satisfactory upon pneumonia; and in his account of pleurisy, he has detailed minutely, and we presume faithfully, the anatomical characters of this disease, and of which we shall make free use. In doing this, we are convinced we shall be performing a useful and an acceptable office, as all

* We must here be understood to mean, by any of the constitutional symptoms enumerated as attending upon the two affections—for it is now conceded that the stethoscope is able to distinguish them with great certainty; and consequently this very circumstance offers strong inducements to the study of auscultation.

his pathological researches are of the utmost value; and we will here take occasion to recommend, the careful study of his invaluable work upon the diseases of the chest.

1379. Laennec* divides pleurisy into, 1. Simple acute pleurisy. 2. Acute hæmorrhagic pleurisy. 3. Chronic pleurisy. 4. Contraction of the chest consequent to pleurisy. 5. Circumscribed or partial pleurisy. 6. Latent pleurisy. 7. Pleuro-pneumonia. 8. Emphysema. But we do not think it necessary to follow these divisions in detail; we shall endeavour to incorporate the most important parts under one general title.

Of Simple Acute Pleurisy.

1380. "The anatomical characters of pleurisy, are drawn from the state of the pleura, and the alterations and augmentations of the secretion *which always accompanies the inflammation of this, and of all serous membranes.*"†

1381. "The pleura in the state of inflammation presents a punctuated redness; as if one had traced with a pencil upon the pleura, an infinity of small bloody spots of a very irregular figure, and very close to one another. These red points occupy the whole thickness of the membrane, and have small intermediate portions retaining the natural white colour."

1382. "*Inflammation of the pleura is always accompanied by an extravasation on its internal surface, and which may be considered as the species of suppuration proper to serous membranes. This extravasation appears to commence with the inflammation itself.* It consists, usually at least, and in my opinion always of two very different matters: the one of a firmer, semi-concrete consistence, is usually termed *false membrane*, or coagulable lymph; the other very thin and watery, is called *serosity* or sero-purulent effusion. Both of these exhibit great varieties of character."

1383. "Occasionally, and especially when the effused fluid is in large quantity, the false membranes becomes separated

* Diseases of the Chest, p. 421, et seq.

† We have put in italics, throughout our quotations from Laennec, the points most worthy of observation in our estimation, and which deserve to be insisted on, either as remarkable facts, or as important practical observations.

from the pleura, either wholly or in part, and float loosely in the serum."

1384. "The effused fluid which attends the formation of the false membranes, is of a light yellow colour, transparent, or only a little opaque by filaments of the false membrane. It is generally without smell in acute pleurisy; sometimes however it is offensive. The serum is sometimes very abundant, and the membranous exudation very small, and the reverse. *In general, the thickness and extent of the membranous exudation, is in proportion to the inflammation.* In weak leuco-phlegmatic habits, the quantity of serum on the contrary is great; and the disease seems to pass insensibly into hydrothorax. Sometimes the contiguous surfaces of the pleura are united without any serous effusion."

1385. "In cases of peripneumony also, even in those which are slight and partial, we sometimes find the pleura pulmonalis in the vicinity of the inflamed part, invested by a false membrane of small extent."

1386. "I think it necessary to notice a common error respecting the period at which the pleuritic effusion takes place. Many imagine that it does not occur until after a certain time, and even some days; and it is this notion, no doubt, that has given rise to the common expression of *pleurisy terminated by effusion*. These opinions are incorrect. I have several times observed all the physical signs of effusion—that is, ægophonism and absence of respiration and sound on percussion—in the course of an hour after the invasion of the disease, and I have seen the side obviously dilated at the end of three hours. On the other hand, I do not remember to have met with a single case in which the effusion was doubtful, (under the stethoscope,) during the first and second day, and distinct in the succeeding days. I am convinced, that *the effusion of serum is contemporaneous with the inflammation in all serous membranes.*"

1387. We beg the reader's attention to the several highly valuable practical facts contained in the above extract, as it will necessarily lead him to oppose this disease by decisive measures in its commencement; for it is at this time only it can be done with all the advantage that the interest of the patient requires. From the observations of Laennec it is declared, that

the membranous exudation is in proportion to the degree and extent of the inflammation; to diminish this disposition then, becomes a very important indication—the mode of fulfilling it, is at once obvious; namely, by blood-letting and other evacuations.

1388. Another very important part of the history of the inflammation of the pleura, is, that *the effusion of serum is coincident with the inflammation*—this being the case, it will seem to follow, that this will also be in proportion to the extent and duration of the inflammation; consequently, a new and powerful motive for the employment of active measures, in the forming state, (if possible,) of the disease, presents itself. The pathological fact, as regards the economy of all serous membranes when labouring under inflammation, is not only valuable in a practical point of view, but it also reconciles us to those histories of peritoneal inflammations, in which the effused fluid was so enormously great, in a short space of time, as almost to excite disbelief. As this subject is highly interesting, as well as practically important, we are certain we shall receive the reader's thanks for dwelling so much upon it; especially as it is almost untrodden ground. To Laennec then, is the profession largely indebted for his valuable pathological contributions, particularly upon so important a portion of the body as the chest, the diseases of which are no less numerous than severe, and yet none, perhaps, so little understood. The method pointed out by him, by which the various conditions of the thorax and its viscera are ascertained, is not less certain than simple; and we earnestly recommend the study of the exploration of the chest by means of the stethoscope and percussio, to every practitioner of medicine who holds his own comfort and reputation, or the welfare of his patients, in any degree of estimation. But to return—we shall now give Laennec's explanation of the conversion of the "false membranes produced in pleurisy, into a true serous tissue, like that of the pleura."

1389. "This change is produced in the following manner; the serous effusion which accompanied the membranous exudation is absorbed, the compressed lung expands, and the false membrane that invests it and the costal pleura becomes united into one substance. By and by, this substance becomes divided into layers pretty thick and opaque, which are separated by a very small

portion of serosity. About this time blood-vessels begin to make their appearance in it; the first rudiments of which, have the aspect of irregular lines of blood, *much larger than the vessels that are to take their place.* The blood seems as if it had been forced into the substance of the false membrane by a strong injection; and we find the corresponding portions of the pleura redder than elsewhere, and as it were spotted with blood. After a time the pseudo-membranous layers become thinner and less opaque; *the lines of blood assume a cylindrical shape, and ramify in the manner of blood-vessels, but still preserving their augmented diameter.* On minutely examining them at this stage, we find their external coat *consisting of blood scarcely yet concrete, and very red; within this there is a sort of mould, or rounded substance, whitish and fibrinous, and formed evidently of concreted fibrin, perforated in its centre, already permeable to the blood, and evidently containing it.* Eventually, the layers of the false membrane become quite transparent, and nearly as thin as those of the ordinary cellular tissue, and the blood-vessels resemble in every respect those which ramify on the inner surface of the pleura."

1390. "*After they have attained this stage, whatever may be their extent, they do not in general, affect the health.*" This is a curious fact; especially as it is at once at variance with all our preconceived notions and apprehensions upon this subject. He farther adds, "*the respiration even, except in some particular cases, does not suffer from their presence.* They possess in fact, all the characters of the natural serous tissues, being capable of exhalation and absorption like them, and often containing in cases of dropsy, a considerable quantity of effused serum. They sometimes even inflame, and in this case *become invested with false membranes similar to what they themselves had originally been*—this is however very rare."

1391. Mr. Laennec in the conclusion of this very interesting history of the production of new membranes, makes a practical remark, which is contrary to the popular opinion on the subject of pleurisy. He says, "it is found, that in cases of a second attack of pleurisy in a person whose lungs adhere to the pleura from the effects of the first, the inflammation, albuminous exudation and sero-purulent effusion, do not invade the adherent parts; inasmuch that we may lay it down as a principle, that *the*

severer has been the attack of pleurisy, the less likely is a return of the same disease. The following remarks on the condition of the chest after inflammation is removed, are curious and interesting.

1392. "I have known cases in which the thoracic resonance and respiratory sound have not completely returned before the expiration of six months, though the patients, judging from the continuance of the pain and fever, asserted that they had only been ill, in all, four or five days. It is very rare even in the mildest cases of acute pleurisy, and in which the inflammation is the most speedily checked, *for the effusion if at all considerable, to be completely absorbed and the false membrane converted into cellular substance, in less than a month; most commonly this is not affected in less than two or three.*" p. 444. These facts are of great value, and deserve to be borne in mind by every practitioner.

1393. In addition to the common or local symptoms of acute pleurisy, the physical signs are next in importance. This part of the pathology of the chest, is largely indebted to a number of living cultivators of the auscultic branch of medicine, as Andral, Forbes, Williams, &c. but to none so eminently as to the lamented and amiable Laennec. It seems to be admitted by common consent, that he was the most accomplished of those who made mediate auscultation a study. His facts are never disputed; nor his veracity impugned—what he declares to be the result of his own observations, no one hesitates to believe. He has effected, we must repeat, an entire revolution in the study of the diseases of the chest, by the extent, and accuracy of his pathological details; and has pointed out a certain, and unfailing method of exploring the healthy, and pathological condition, not only of the pulmonary organs, but of the heart, and larger blood-vessels themselves. We cannot feel it necessary to make an apology for the extensive use we have made of this justly celebrated physician's work, as it is in the hands of but few, as we are confident, that by doing so, we are but promulgating some of the most valuable practical discoveries of modern times. We shall, therefore, without hesitation, detail the more material points he has insisted on, in his account of the "Physical Signs of Acute Pleurisy." He says—

1394. "As soon as effusion takes place," (and he has declared, as we have observed above, that this, (the effusion,) is contemporaneous with the inflammation of the pleura,) "the natural sound of the chest on percussion, fails over the whole space occupied by the fluid. From this result simply, we could not indeed be certain that the disease is pleurisy or peripneumony; though the common symptoms, general and local, must assist us in making the distinction." "But," he adds, "in the case of pleurisy, it frequently happens, that, *in the course of a few hours from the attack, the dull sound exists over the whole affected side, or, at least, over its lower half—a thing which is never, or almost never, observed in peripneumony.* But mediate auscultation furnishes us with much more certain means of discriminating these two diseases, and enables us to ascertain with precision, not merely the existence of the effusion, but its quantity. The signs by which the cylinder effects this, are, 1st, the total absence, or great diminution, of the respiratory sound; and 2d, the appearance, disappearance, and return of ægophony."

1395. "When the pleuritic effusion is very copious from its very commencement, *the sound of respiration is then totally absent, through the whole of the side affected, except in a space of three fingers' breadth along the vertebral column; where it is still heard, though less strongly than on the other side.* This complete disappearance of respiration after the existence of disease for a few hours, *is quite pathognomonic of pleurisy with copious effusion, whether there exists pain of the side or not. In peripneumony, the disappearance of respiration is gradual, and is perceived to be unequal in different parts of the chest.*" p. 436.

1396. "In pleurisy, with copious effusion, on the contrary, *the loss of the respiratory murmur is sudden, equable, uniform, and so complete, that no effort of respiration can render it perceptible.*" p. 437.

Prognosis.

1397. Pleurisy, like all the other phlegmasiæ, may terminate variously; and especially, like peripneumony—we have already

noticed these terminations at par. 1313. As a general rule, this disease is more severe and threatening in the plethoric and robust, than in the more feeble; and it is particularly dangerous in constitutions that have been impaired by hard drinking.

1398. Women who are not pregnant, support this disease better than males; but if pregnant, it is always of doubtful issue. This was perhaps first observed by Hippocrates; and the truth of the observation has been constantly confirmed by all subsequent writers. Relapses of pleurisy are always alarming; as they are almost always fatal. Nor is this of difficult explanation; the disease recurs at a moment, in which the system is almost exhausted of its powers, and altogether incompetent to support the farther depletion, that is necessary, to subdue the new accession of disease.

1399. A diarrhœa supervening on the fourteenth day, is favourable, agreeably to Van Swieten; but one occurring at the commencement of the disease, is bad, according to Triller. But neither of these observations have been confirmed by our own experience, for we have constantly found, that a diarrhœa of any extent, at any period, was always unfavourable in pleurisy; and this has appeared to us to be especially so, where the disease required large losses of blood; or, in other words, where the pleura, from the great severity of the symptoms, appeared to be extensively involved in inflammation. The diarrhœa in these cases seemed to injure the recuperative powers of the system, without diminishing the local affection. We may farther remark, that the occurrence of diarrhœa is by no means frequent, where the cure of pleurisy is attempted early, and by adequate means; for, as the disease is very much taken out of the hands of nature, the system has no need, if we may so express ourselves, of having recourse to a critical discharge on the fourteenth day; nor is it so liable to suffer from a metastasis in the early part of it.

1400. Our own experience then, is in strict conformity with that aphorism of Hippocrates, which declares, "*A pleuritide aut peripneumoniâ detento, alvi profluvius superveniens, malum;*" and the cause of its being bad, perhaps is, that it declares a metastasis, and not a critical effort.

1401. If the breathing be laborious, or orthopnœa be present,

it is always bad in proportion to its extent—hence, a free respiration is constantly considered as a favourable sign, especially if it have been procured by adequate depletion. If the disease be attended with free expectoration, it may be considered as presenting less risk; while its absence must always be considered as a bad sign; these circumstances have been acknowledged as truths by the experience of every body since the time of Hippocrates.

1402. The urine also furnishes us with signs of pretty certain import—thus, a small quantity without deposition, is bad; an abundant one with sediment, is favourable; while a bloody urine, with a black settling, is pretty certain to be fatal. Sweating, without a diminution of the distressing symptoms, is rarely productive of relief; and delirium must always be regarded as a highly dangerous symptom, especially if it persevere after the system is too much reduced to bear general blood-letting.

1403. We have just said, that pleurisy, like all the other phlegmasiæ, may terminate in several ways—by resolution is the most common, as well as the most fortunate; and from the important discovery of Laennec, as mentioned above, namely, that effusion was co-evil with the inflammation, we are led to attempt its diminution by the reduction of the phlogistic symptoms; and happily this very often succeeds.

1404. In modern practice, in this country especially, where active means are early had recourse to, we seldom have opportunities of witnessing “resolution” procured by certain discharges, upon what are termed the critical days—such as hæmorrhages from certain parts of the body, as the nose, or hæmorrhoidal vessels in men; or from the uterus in women. By excessive discharges of urine, or very copious expectorations, profuse sweats, or importunate diarrhœa. We think we have oftener seen abscesses, critical, than any other kind of termination—these may form upon almost any portion of the body, without our being able to decide why the particular part was selected; the most common however are the glands of the axillæ, and parotides.

1405. It may terminate by suppuration, or rather, agreeably to Laennec, by a particularly copious effusion, or “extravasation,” from the whole of the pleural surface that is involved in the inflammation, as we have observed above, par. 1382.

1406. This change, when so abundant as to relieve the engorged state of the vessels of the pleura, is announced by symptoms similar to those that forerun suppuration properly so called—such as irregular chills in various parts of the body, but especially in the chest, followed by evanescent heat, increased difficulty in breathing, an incapacity to dilate the affected side of the chest; the necessity of lying on the diseased side; “an extreme sense of suffocation upon pressing the hypogastric region;” Pinel. An increase of size of the affected side, with a separation of the ribs, and a sinking of the shoulder blade; fluctuation between the ribs, and a swelling of the breasts.

1407. Percussion produces a dull sound; and when the patient is shook, a sensation like water agitated in a close vessel, is perceived by the patient; and ægophonism by the stethoscope, when the patient is made to speak. Sometimes it terminates by the effusion of blood, and then becomes the hæmorrhagic pleurisy of Laennec. Gangrene, as we have already observed, is a very rare termination of this disease.

1408. Pleurisy may be complicated with the inflammation of any of the thoracic viscera, and it will then receive a name compounded of the parts involved, (par. 1285.) We have already mentioned the consequences following the effusion of serum within the cavities of the thorax, (par. 1382, &c.)

Acute Hæmorrhagic Pleurisy.

1409. This state of the pleura has but lately attracted attention—not that the appearance of blood with effused fluids found in the chest had escaped the notice of the pathological anatomist, but because no sign was known that could point out this condition of the pleura when its surface under inflammation was pouring out serum and a greater or less quantity of blood. It is to the industry of the modern cultivators of auscultation that we are indebted for a knowledge of this variety of pleurisy, and the mode of detecting its existence. As this form of pleural inflammation has its peculiarities, we have thought proper to notice it with some of the other forms of this disease. As regards ourselves, we hesitate not to confess, we have never been sensible that we have witnessed the disease during its progress; though

we well remember that the principal phenomena recorded by writers, and especially Laennec, were present on opening the chests of two who had died of thoracic inflammation; but in these cases, the blood was thought to be an accidental *rupture* of a blood-vessel upon the surface of the pleura, and not a circumstance of frequent occurrence, and one more or less belonging to an inflamed condition of the pleura.

1410. By an acute hæmorrhagic pleurisy, Laennec informs us he means "the reunion of hæmorrhage, (usually slight,) with inflammation of the pleura." "It differs from the simple acute pleurisy, not merely in its pathological anatomy, but even in its progress and treatment." The phenomena that present themselves, are, 1. The effused serum is tinged with blood. 2. It is small in quantity, and coagula rarely appear. 3. *Coagulable lymph* is secreted in much smaller quantity than in common pleurisy. 4. The false membranes are thin, and sometimes only cover a small portion of the pleura. 5. "Generally speaking, in the hæmorrhagic the effusion of *fluid* is more abundant than in the simple pleurisy. In the former, also, the tendency to absorption is much less, and the cure when it takes place, is much more protracted. This is the case which most commonly constitutes the *acute empyema*," p. 431. 6. Instead of a new serous membrane being formed, a fibrous or fibro-cartilaginous one is produced, which want the soft and yielding disposition of the serous tissue.

1411. The consequences of this difference of product are severely felt by the patient; as by this arrangement the lung becomes bound down by it in the compressed state that the fluid effused had left it, in the cavity of the thorax; and in these cases it is always, as just noticed, in large quantity, and remains a long time, as the disposition to absorption is diminished in these cases. But after a certain time the fluid becomes diminished by absorption, but the lung cannot expand itself in consequence of its being retained in its position by the production of the fibro-cartilaginous texture just spoken of—one of two things must happen to fill up the vacancy occasioned by the removal of the effused serum; either the ribs will be drawn inwards so as to touch the lung, or the part that was occupied by the effused fluid, will be filled by an æriform exhalation. The first is the most common,

and constitutes the "contraction of the chest consequent to certain pleurisies."

1412. The symptoms of this species of pleurisy are not very distinctly marked; and the disease always requires a long time to cure itself. The absorption of fluid requires a number of months, and the complete contraction of the chest. After these have taken place, the new fibro-cartilaginous membranes of the pleuræ come in contact, and by the intervention of a gelatinous matter, they become agglutinated—this is a mode of cure which nature sometimes adopts; it however does not leave the patient free from inconvenience, as a permanent difficulty of breathing is apt to remain.

Chronic Pleurisy.

1413. This species of pleurisy is comparatively but little known in this country; while in France, and in other portions of Europe, it would appear to be one of frequent occurrence, as it is described by a number of the continental writers. This at first sight might appear singular; especially as the acute form of this disease is one, that is very frequently met with. These facts, however, are not beyond explanation. In this country, the habits of practice are, without exception almost, those of great activity; every acute disease, from the rapidity with which it usually runs its course, must be met with adequate vigour of treatment, if success is to attend the efforts to arrest its course—consequently, pleurisy being a disease of great suffering, and one about the treatment of which, there is less dispute than almost any other, is sure to be met with adequate depletion; the disease is therefore properly subdued, or it proves fatal in a few days. In either case, the disease has not an opportunity to assume a chronic form. While in France, and in other portions of Europe, this disease is of milder type; which, with the "*expectant*" method of cure which so generally prevails, give it an opportunity to assume a lengthened form. But chronic pleurisy is nevertheless occasionally met with, and that at times, in its worst forms.

1414. Pleurisy may become chronic, from the acute form being changed; or it may be chronic, agreeably to Laennec, p. 446, from its origin.

Anatomical Characters.

1415. In these it does not differ essentially from the acute; yet the pleura is of deeper colour, and the serous effusion is more abundant, less limpid, and much loaded by *albuminous flocculi*; so much so, as sometimes to give a puriform appearance to the effused fluid. It assumes an intermediate consistence between the sero-purulent effusion and the false membrane.

1416. The fluid extravasated in chronic pleurisy is remarkable for the strength and the peculiarity of its odour. Laennec calls it "alliaceous;" others compare it to phosphorated hydrogen; while Professor Nespoli, Dr. Forbes informs us, likens it to assafœtida. And Dr. Forbes adds, that some have considered this smell as declaring a communication between the bronchia and pleura; and from a recent case that we witnessed, this circumstance appeared to be confirmed. This form of pleurisy has but little disposition to terminate by resolution; for in cases of extravasation of months standing, Laennec tells us, that "no mark of any step towards the conversion of the false membranes into cellular substance, (par. 1392,) could be observed." p. 447. The effusion has a disposition to augment; the affected side enlarges; the intercostal spaces become broader, and assume a level with the ribs, and sometimes even higher.

1417. The lung of the affected side (par. 1376,) becomes reduced to a thickness, not exceeding six lines; and "without a careful examination, might be considered as entirely destroyed." "The pulmonary tissue is soft, pliant, and dense like a piece of skin, without any crepitation, paler than natural, grayish, and almost entirely without blood." "This case constitutes the purulent empyema." "It is in this species of pleurisy, that we must refer those histories of lungs entirely destroyed by suppuration." (par. 1377.)

Signs and Symptoms.

1418. Laennec declares the physical signs of chronic pleurisy to be the same as in the acute, with the exception that ægophonia is rarely met with in the former, owing to the effusion

being very abundant before the physician is consulted. The disease is generally insidious; the stitch if it exists, is slight, and transitory. A fever steals on by degrees; the cough however is more frequent than in the acute disease, and is attended by a mucous or even a purulent expectoration. Emaciation follows at a quicker or slower pace; the digestive powers become impaired; the sensibility of the stomach is sometimes so great, as not to bear the lightest food or drink. Sometimes so copious a puriform expectoration takes place, as to give rise to the belief that pus has made its way into the bronchia; this is observed in many cases where no such communication exists.

1419. Chronic pleurisy is the purulent empyema of surgeons; and though the constitution is in a more critical state, than in the acute, yet an operation bids fair to succeed. There is less chance indeed of success from an operation in the acute, as the lungs cannot expand themselves after it, as they are tied down to the spine. This difficulty does not exist in the chronic pleurisy; for there is either no false membranes, or if there be, they are soft and easily destroyed. This disease is essentially chronic; it never presents the same intensity of fever or pain as the acute. It only attacks cachectic habits; and especially when this state proceeds from a tuberculous state of the lungs. This form of pleurisy is almost always confounded with phthisis.

1420. Laennec has an interesting chapter on the contraction of the chest, the consequence of pleurisy; but more especially he thinks, of the hæmorrhagic species. This complaint is almost new to the medical world, but is now exciting great attention. The entire chapter might be introduced with profit to the reader, did not its length prevent our doing so—and to be master of the subject would require an attentive study in all its details; to abridge it would be to render injustice to almost its discoverer, without materially serving the student. We therefore earnestly recommend the study of Laennec's masterly work upon the diseases of the chest—a work that leaves every thing upon this subject far behind it. The reader may also consult with advantage his account of "latent pleurisy."

Of the Treatment of Pleurisy.

1421. We have already under the head of pneumonia dwelt upon this point so long, that little remains to be said upon the treatment of acute pleurisy; we shall therefore refer to what has been already proposed for the reduction of the inflammation of the pleura. We are however of opinion with almost all the writers upon this subject, that pleurisy in general, requires both more ample, as well as more frequent abstraction of blood than pneumonia, especially by general bleedings.

1422. Leeching and cupping are most successfully resorted to, after the pulse does not seem to justify farther depletion from the arm. We entirely agree with Laennec, that cupping is the preferable of the two local means of drawing blood; and the reasons he assigns for the preference to cupping, altogether coincide with our own experience, notwithstanding the high authority of Dr. Forbes* is against it. As this is a matter of considerable practical moment, we shall employ the arguments of Laennec upon this point.

1423. "Leeches are very often tedious and painful in their action; sometimes they scarcely fill themselves with blood; and at other times their punctures will continue to bleed for twenty-four hours, and can only be closed by the cautery."† And he

* Dr. Forbes in a note observes, "I cannot at all agree with our author (Laennec,) in giving the preference to cupping over leeching, in pleurisy; and I somewhat suspect that, in this, as in some other cases, he has visited the sins of the advocate," (alluding to Laennec's hostility to Broussais,) "of certain measures upon the measures themselves. There are many obvious reasons I think, why leeches must in a great majority of cases of *pleurisy*, be preferable to the application of cupping glasses. One of the many practical advantages of accurate diagnosis in pleurisy and peripneumony, is the much greater benefit derived from local bleeding in the former than in the latter disease." Now we would ask, is not cupping, a mode of local depletion, as well as leeching, and this sometimes without some of the penalties that attach to leeching? It is certainly (cupping) much more under our command than the other, which in a practical view is sometimes of the highest consequence.

† We have found the application of punk or spunk, in every instance in which we have tried it for obstinate bleeding from leech bites, to be altogether effectual in arresting it—a piece, or pieces, sufficiently large to more than cover the wound, or wounds, are to be applied, and maintained in their position by a compress and bandage; the bleeding ceases almost instantaneously, after the application.

declares that he has even known fatal bleedings from their bites, (p. 470.) Besides the objections just stated, we may add, that we think we have seen decided mischief arise from the exposure, cold, and wet, that constantly attend the application of leeches. We have therefore for many years past preferred the cupping, either by scarification or dry, as necessity seemed to require. We constantly prefer the first, when the abstraction of blood is absolutely required; and the latter, when the emptying of the capillaries would answer. When we have directed the dry cupping, we have caused them to be kept on until a slight vesication would appear—the cups are then to be removed. On this account the glass cups are to be preferred; but if these cannot be commanded, the others should be left on for forty minutes or three quarters of an hour; the surface may be dressed with simple cerate.

1424. In pleurisy, as well as in pneumonia, it should be remembered, that it is highly important to make a speedy and powerful impression upon the pulse—we never direct the loss of blood by the number of ounces; the capacity to expand the chest, and alleviation, or entire cessation of pain is the only safe rule, in such cases. This abatement of unpleasant symptoms however, may be of short duration; the symptoms in full force may return in a short time, even after ample depletion, and especially after the first bleeding. In this case, we care not for the shortness of the interval that may have existed between the bleeding, and the return of the unpleasant symptoms—we instantly cause the loss of more blood, and regulate its quantity by the same rule. The many terrible consequences from the imperfect reduction of inflammation in pleurisy, should keep us constantly on the alert, to guard against them, for in no disease scarcely, is less to be apprehended from large losses of blood than in pleurisy; and in none perhaps are the benefits from it, more important and decided, or greater injury from the neglect of it.

1425. Sydenham was in the habit of bleeding freely in this disease, and he has left us his plan of using the lancet in these words. “As soon as I am called in, I order about ten ounces of blood to be drawn from the arm of the affected side.” “On the same day, (the first of my attendance,) if the pain be very

acute, I order as much blood to be again taken away; or else the next day; and if the pain and other symptoms rage severely, I bleed in this manner four days running. But if the disease be less violent and dangerous, and therefore allows me to proceed in a gentler manner; or if the patient be too weak to bear repeated bleedings at such short intervals, then after bleeding twice, I interpose a day or two between each bleeding afterwards. In this case I make the contraindications my rule; considering on the one hand the violence of the disease, and comparing it with the weakness of the patient on the other.”* He tells us also, that he had seldom known a confirmed pleurisy subdued by less than the loss of forty ounces of blood. We are led however to suppose, that he seldom or never exceeded ten ounces at a bleeding; and hence the necessity of its frequent repetition—now, we are certain, that the rule we have laid down for the quantity of blood to be drawn at a time, being regulated by the relief it is made to afford is very much the better practice; inasmuch, as the relief is more immediate; the reduction of the inflammation more certain; the course of the disease much shortened; and the convalescence very much better confirmed.

1426. After due depletion from the circulatory system, purgative medicines should be had recourse to—they are decidedly more efficient in pleurisy than in pneumonia; and this probably arises from the difference in nature of the tissues involved. For purgatives are pretty constantly observed to be more useful in affections of the serous, than in those of the mucous membranes. We almost always commence with a few grains of calomel, and carrying it off by magnesia, castor oil, or the neutral salts. Catharsis is to be produced, whenever the bowels become a little tardy—two or three evacuations should be procured daily, during the more active stage of the disease; and one certainly per diem during its decline. But Laennec thinks they are particularly indicated after blood-letting, and when the symptoms give rise to the suspicion, that the pleurisy is of the hæmorrhagic kind.

1427. Much advantage is certainly derived from the exhibition of the nitro-antimonial powders—they frequently supersede

* Vol. I. p. 374.

the necessity of giving any other medicine, for the double purposes of purging, and sweating. The nitre however sometimes disagrees with the stomach; giving a sensation of gnawing and coldness—but this is easily obviated by the addition of a grain of camphor to each dose. Should they operate too freely upon the bowels, they should be discontinued for a time, or given at longer intervals. (See recipe, page 115.)

1428. Blisters are of great value, when their application is well timed; and are as certainly mischievous, when they are employed before the phlogistic condition of the system is sufficiently reduced. We have already explained what we mean by that condition of the system, (which has been happily,) termed the blistering point. (See par. 258.) A blister, to be as successful as it may be, should be of sufficient dimensions, and be applied over the pained part, or as near it as possible. It may be suffered to remain until it draw amply; for in pleurisy we believe, an advantage is derived from a large cuticular effusion being produced. The surface should be dressed a few times with the yellow basilicon; the common dressing with cabbage leaves should never be permitted.

1429. Laennec advises the exhibition of tartar emetic during the active stages of pleurisy—we have already put the reader in possession of his opinions of this medicine. (See page 432.) “When the fever and pain have ceased,” he observes, “the disease then enters the chronic stage, or that of absorption, which is seldom of less than a month’s duration, and may sometimes extend to two years.” p. 473. When an acute pleurisy has become chronic, he thinks it has a great analogy to dropsy; and it is at this time he thinks that blisters applied to the affected side, become very useful; later in the disease, he thinks a seton is still better.

1430. It is of much importance that the patient be well supplied with drinks—such as barley water, toast water, flaxseed tea, slippery-elm bark tea, or bran tea. These should be drunk cool, and in liberal quantities; they may be acidulated by lemon juice in a little currant jelly. No stimulating substance whatever should be permitted, be the pretext what it may—in a word, the most rigid antiphlogistic regimen should be persisted in. (See pars. 215, 216, 217.)

1431. Laennec says, that "during the first days of the disease, the patient, (unless an infant,) ought to receive no food; but should be allowed some liquid aliment, at least, after three or four days. This indulgence, (forbearance,) is the surest way of escaping those interminable convalescences, occasioned by the passage of the pleurisy into the chronic state." p. 471.

1432. These suggestions are too loose and ambiguous for any valuable practical purpose; for should they be literally followed, or understood, it might lead to great errors in diet. There appears to be a distinction made between "*food*" and "*aliment*;" now food and aliment in the English language mean precisely the same thing, consequently something is granted by way of nourishment on the one hand, that is ordered to be withheld on the other. Besides, the qualifying term "*liquid*" added to the word "*aliment*," seems to declare that any nourishment in a liquid form would be eligible, than which nothing can be farther from sound practice; for any of the animal jellies can be given in a "*liquid*" form, consequently they are not prohibited by the terms of M. Laennec's text. Now, we believe that this gentleman would have shuddered at the very idea of giving any animal substance however dilute, in the acute stage of pleurisy. Besides, neither vinous nor alcoholic preparations are forbidden by this direction; since either could be easily added to any "*fluid aliment*" prepared for the patient, without infringing on the direction. We are therefore of opinion, that the directions respecting the food of the patient, was a slip of the author's pen; while we think that a little blame should attach to his very able and learned translator, for allowing these rules to pass unchallenged.

1433. We are equally surprised that an exception should be made in favour of an "*infant*;" for as far as our experience goes, we have ever found it necessary to be as rigorous in diet with children as with adults. If they are at the breast, we do not permit them to be nursed but at long intervals, and then only in small quantities, and at the same time to put the nurse, be she the mother, or a hireling, upon an abstemious, vegetable diet. Indeed, we are of opinion, that children bear these privations even better than more aged persons—but be this as it may, we

are sure they require the abstraction of nourishment of every kind, as certainly as the adult, and to as great an extent.*

1434. We therefore under these impressions, never permit a pleuritic patient, be it young or old, to have any other food during the active stage of the disease, than the thin vegetable jellies named above; that is, the linseed tea, barley water, &c. (par. 214,) these serving the double purposes of drink and nourishment.

1435. Sydenham speaks highly of the practice of allowing the patient to sit up; he says, "to prevent the patient's being over-heated during the continuance of the distemper, I allow him to sit up a few hours every day, as his strength will permit; which indeed is of such moment here, that if he be kept always in bed, neither the plentiful evacuations of blood, nor the most cooling remedies, will sometimes at all avail in conquering the symptoms." Vol. I. p. 376.

1436. Laennec is also an advocate for this plan; he says, "it has frequently appeared to me to have contributed powerfully towards subduing the inflammation." p. 471.

1437. The plan laid down for the treatment of pleurisy, will for the most part be sufficient for its removal; yet occasionally it proves fatal under the best devised plan, and the most vigorous and best adopted treatment. While, on the other hand, we are told by Laennec, that, "in this, as in most acute diseases, the unaided resources of nature are very great; and that a great number of pleurisies, if left entirely to themselves, would do well. This much is certain, that a cure frequently takes place when the treatment amounts almost to nothing, or even when it is conducted on principles opposed both by reason and experience. It is even now by no means uncommon, particularly in country places, to meet with persons who attempt the cure of pleurisy according to the sudorific plan of Paracelsus and Van Helmont; that is, with hot wine or brandy, and aromatics, such as pepper, ginger, cinnamon, and juniper, or coriander berries; the dung of horses or sheep infused in wine, &c. And yet all the patients

* "As to diet, I forbid all flesh-meats and the smallest flesh-broths, and advise the patient to sup barley broth, water gruel, and panada; and to drink ptisan made of pearl barley, sorrel, and liquorice roots, &c. boiled in water."
—Sydenham, Vol. I. p. 374.

of these sages do not die: a salutary crisis occasionally triumphs over both the disease and the treatment." p. 473.

SECT. III.—PHTHISIS PULMONALIS, OR CONSUMPTION.

1438. In a work, professing to be practical, it becomes as much a duty to treat of the diseases which common experience and consent declare to be incurable, as of those, that are strictly amenable to medical discipline, or directions. We therefore feel it is right to speak of the common, and truly formidable disease, phthisis, though we are obliged at once to confess, it almost always baffles the best concerted means we can employ. Though this is strictly true, yet with even our limited acquaintance of its *absolute nature*, we have it very constantly in our power to mitigate the violence of its symptoms, to diminish the sufferings consequent upon its progress, and, in some instances, even to retard its fatal termination.

1439. If this be true, we have strong inducements to investigate its nature, by studying its etiology and pathology; ascertaining its peculiarities; detailing its symptoms; discriminating its varieties; determining its location and extent; and in endeavouring to lay down the best plan of treatment that our present limited knowledge of some of the great points just named, will permit us to do.

1440. It has been asked by Broussais,* Laennec,† and others, is phthisis a curable disease? this, with certain strict limitations, has been answered in the affirmative by both the gentlemen just named; and others have declared, that their practice has afforded a number of successful cases. The first named, thinks, that phthisis may be cured, when there is but one or two tubercles; and when these have softened, and been expectorated, that the tubercular cavities may then cicatrize, and the patient be cured. Here indeed is but a very limited condition to rest the hope of cure upon; especially, as we must all believe, with Broussais himself, that the cause which gave rise to one or two

* Phlegm. Chron. Vol. II. p. 151.

† Diseases of the Chest, Forbes' Translation, p. 299.

tubercles, may operate to produce a very much more abundant crop, though these may be in slow succession. He appears, however, to admit the possibility of cure in his Exam. des Doct. Med. upon a more extensive scale, than he does in his Phlegm. Chron.

1441. Indeed, cures would be rendered very probable, were his hypothesis of the cause of tubercles true; namely, that they are the *product* of inflammation, however excited in the pulmonary tissue. Were this so, it might perhaps often happen, that the disease could be arrested, and even cured, by taking the disease in its forming state, or even in its first stage. But unfortunately, the basis of this expectation is not well founded, as we shall have occasion to say presently; consequently, the mode of treatment predicated upon it, cannot be successful.

1442. As regards such, who have declared their belief, (honestly, without doubt,) that they had cured consumption, we must believe they were almost always in error; as these declarations have come from those, who had very partially investigated the pathology of the disease, or perhaps not at all; and who, consequently, were almost altogether ignorant of the nature of tubercles, and not in possession of the signs that discriminate chronic catarrh from a true phthisis.

1443. On this point Laennec* very justly observes, "to many practical physicians, who are not anatomists, the possibility of a cure taking place after the formation of an ulcerous excavation of the lungs, may seem quite admissible. This opinion, however, will in all likelihood appear quite absurd to those who have paid much attention to morbid dissection. Previously to the knowledge of the true character and mode of development of tubercles, and while consumption was considered simply as a consequence of the chronic inflammation, and slow suppuration of the pulmonary tissue, medical men did not question, any more than the vulgar do now, the possibility of curing this disease by a suitable mode of treatment, especially if taken in *time*, and during the *first stage* of it. It is now, however, the general opinion of all those who are acquainted with the actual state of our knowledge respecting the pathology of diseases, that

* Diseases of the Chest, Forbes' Translation, p. 299.

the tubercular affection, like cancer, is absolutely incurable, inasmuch as nature's efforts towards effecting a cure are injurious, and those of art are useless." "Crude tubercles tend essentially to increase in size, and to become soft. Nature and art may retard, or even arrest their progress; but neither can reverse it. But while I admit the incurability of consumption in the early stages, I am convinced from a number of facts, that in some cases the disease is curable in the latter stages; that is, *after* the softening of the tubercles, and the formation of the ulcerous excavation."

1444. So far Broussais and Laennec agree, with this exception, however, that the former has limited within a much narrower compass the condition of the lung necessary to a cure, than the latter. It would not appear essential to the cure of consumption, that the tubercles should be so few as stated by Broussais; since, if all that exist in the lungs should soften down, and be expectorated at the same time, the chance of recovery might be equal. But unfortunately, the history of these bodies furnish us with but slender expectations that this either has, or will take place frequently. Indeed, it seems to be a point on which all the late pathologists agree, that there are successive crops of these bodies in the lungs; and that no sooner has one set run on to suppuration, than that another succeeds until life is extinguished. At other times, tubercles are observed to be in all the various stages of their existence, in the same lungs, at one and the same time.

1445. Thus, miliary tubercles, some of larger size, but yet solid; those that were softening; others softened; many suppurate; and ulcerous excavations, betraying either the recent, or long evacuation of their pus, have been found at one and the same time, in the same individual. Now, it would appear from the researches of Broussais, Laennec, Bayle, &c. that this is the almost constant progress and termination of tubercles that do not run their course with great rapidity; for in this there is a very great variety depending principally upon the force of the exciting cause; the susceptibility of the system; and the opposition to their development, from dietetic observances, medical discipline, &c. This being true, we see that consumption, though not an absolutely incurable disease, yet is one in which the co-

incidences, essential to success, can very rarely combine. These facts, however, should teach the practitioner reserve in his prognostic, and still more in inspiring confidence, where nothing can be hoped for.

1446. Laennec has related a most interesting case, among several others, in which every thing was to be dreaded, but in which an entire cure was effected. As this case cannot fail to interest, we shall relate it at length, especially as the work from which it is derived, is in the hands of but few in this country, though its merits claim it should be possessed by every practitioner.

1447. "*Tuberculous Phthisis cured.*—An English gentleman, aged thirty-six, detained at Paris as a prisoner of war, in September, 1813, had an attack of hæmoptysis, followed by a cough, at first dry, but in the course of a few weeks, accompanied by purulent sputa. To these symptoms were added a well-marked hectic, considerable dyspnœa, copious night sweats, emaciation, and great debility. The chest sounded well every where except under the right clavicle, and in the axilla of the same side. The hæmoptysis returned in a slight degree, now and then, and in December he had diarrhœa, which was with difficulty checked by astringents. In the beginning of January he was so much reduced, that both M. Hallé and Bayle agreed with me in opinion that his death might be daily looked for. On the 15th of January, during a severe fit of coughing, and after bringing up some blood, he expectorated a solid mass, of the size of a filbert, which upon examination, I found to be evidently a tubercle in the second stage, surrounded apparently by a portion of the pulmonary tissue. This patient remained in the same degree of extreme emaciation and debility all January, being expected to die daily; but in the beginning of February, the perspiration and diarrhœa ceased spontaneously, the expectoration sensibly diminishing, and the pulse, which had been constantly as high as 120, fell to 90. In a few days the appetite returned, the patient began to move about in his room, his emaciation became less, and against the end of the month, his convalescence was evident. In the beginning of April he was perfectly recovered, and his health has continued good ever since, without even the least cough, and without his being at all guarded in his climate or regimen.

In 1818 this patient consulted me for a different complaint, and I took the opportunity of examining his chest by means of the stethoscope. The only thing I could detect, was the comparative indistinctness of respiration in the superior portion of the right lung, as low as the third rib. This part, however, sounded as well on percussion as the opposite side, and there was no pectoriloquism. From these circumstances I am of opinion, that the excavation which contained the expectorated tubercle must have been replaced by cellular or fibro-cartilaginous cicatrice; and as the total absence of cough, dyspnœa, and expectoration for so long a period, forbids the supposition of the existence of others in the lungs, I think we have a right to consider this patient as perfectly cured. In 1824, this gentleman was examined at Rome by Dr. Clark, an English physician, who practises there with great distinction, and who recognised him as the subject of the case just detailed. I saw him also the same year, and found him precisely in the same state as in 1818." To this account, Dr. Forbes adds, "I learn from Dr. Clark, who is now resident in London, that Mr. G. is still living, and in good health. Several well marked instances of expectorated tubercles are upon record. A very remarkable case is recorded in the *Journal de Med.* tom. 78, for March, 1789. In this case the patient also recovered, though previously on the brink of the grave." p. 320.

1448. Bayle's* fifty-fourth case is also an instance of consumption being cured, but not by the expectoration of tubercles. It was thought by both Bayle and Laennec to be a case of chronic catarrh, as neither at the time considered it possible to cure consumption. Bayle, in his work, makes no particular observations upon the case; but Laennec says, that some time after, he had an opportunity to satisfy himself of the nature of the disease by the cylinder, and declares, "that our patient had more than a mere catarrh. His respiration is quite perfect throughout the whole chest, except at the top of the right lung, in which point it is entirely wanting. On this account I am certain that this portion of the lung had been the seat of an ulcerous excavation, and that this has been replaced by a complete and solid cicatrice." p. 322.

* *Researches*, p. 454.

1449. Laennec, p. 323, concludes his interesting observations by the following important remarks. "To conclude, I think that the cure of consumption, where the lungs are not completely disorganized, ought not to be looked upon as at all impossible, in reference either to the nature of the disease or of the organ affected. The pulmonary tubercles differ in no respect from those found in scrofulous glands; and we know that the softening of these latter is frequently followed by a complete cure. On the other hand, the destruction of a part of the substance of the lungs is by no means necessarily mortal, since we know that even wounds of these organs are frequently cured, notwithstanding the unfavourable conditions with which they are necessarily complicated, by the perforation of the walls of the chest, and the admission of air into the pleura."

1450. These cases, with their accompanying observations, deserve the serious consideration of the medical practitioner; for they encourage a hope, in cases of the most desperate character, that by a kind, persevering, and a well-adapted plan of proceeding, we may be rewarded with success. They will tend to banish that indifference towards the suffering many, that the general hopelessness of their situation but too constantly produces; and will prevent that recklessness to whatever the patient may do, either as regards diet, or the perseverance in a well-directed medical course. May not many have fallen victims to this supineness on the part of the medical attendant? May not the too often granted indulgence of a wayward appetite, and the entire neglect of all the Hygiean means, have proved fatal in cases, where the disease was not necessarily mortal? Do they not reconcile us to exertions, that are too often looked upon as ill bestowed, because they are so seldom successful? Do they not prove, that consumption, so far, is a more curable disease than cancer, hydrophobia, or perhaps even traumatic tetanus? Yet in either of these diseases, who thinks of abandoning the patient, because hitherto cures have rarely, if ever, been effected? But at the same time, let us repeat, that these considerations should not make us hold out with too much facility, a hope that can be but extremely rarely realized.

1451. Were we to rely implicitly upon the bills of mortality, we should be awfully impressed with the ravages of "consump-

tion." But we must not take for granted, that the calculations upon this point are correct; for there are several sources from which errors may arise—1. From every chronic affection with great emaciation, if attended with cough, though there may be no purulent expectoration or hectic fever, being called "consumption." 2. From every protracted case of disease with emaciation attended by hectic fever being classed as consumption, though some other viscera than the lungs may have been the seat of the disease and the cause of death. 3. From every chronic cough being looked upon as "consumption," though the disease may have been chronic pneumony, catarrh, or pleurisy, &c.

1452. With so much room for inaccuracy, it is very presumable that much error prevails upon this subject—thus, we are informed, that the deaths from this disease in England amount to no less than fifty-five thousand; and that in London it causes one-fourth of the deaths. The same observations we have no doubt will apply to every place in which the bills of mortality are kept. Error must constantly prevail, where certainty cannot be arrived at, as regards the essential nature of the disease of which a patient may have died—for there is but one method of ascertaining this; namely, by post mortem examinations. Against this test unfortunately, many causes operate, and will, we fear, too long continue to do so.

1453. 1. Prejudice against the practice, arising from superstitious apprehension, or from a horror in having the body of the deceased disturbed. 2. From an indifference to such examinations, and this of the most reprehensible kind, on the part of the practitioner, since he loses by it important information. 3. Incompetency to perform the operation, owing to a defect in elementary studies, thereby being disqualified to judge between a healthy and a diseased structure; or perhaps, incapable of naming the deranged part, or of declaring in what the aberrations consists.

1454. From the operation of these causes, there must necessarily result much uncertainty as regards the *essential* nature of the disease of which the patient died; and consequently, the *artificial* character, or the character drawn from symptoms, is very constantly substituted for it. Yet with all the allowances that can be made for error, we are persuaded that a very large

proportion of the human race is carried off by this insidious and formidable disease. For all climates are subject to it, though not in equal degree; thus the more northern and temperate climates are more obnoxious to phthisis, than the hot countries; and position is also supposed to exert an influence, independently of temperature. Thus, "in large cities it is more frequent than in small ones; and more frequent in the latter than in the country." Laennec is of opinion that it is less frequent in maritime situations, than in the interior of the country. Dr. Forbes does not agree with this respectable authority on this point, and places the experience of Blane, Trotter, Johnson, Burnett, &c. in opposition to it.

1455. From what has been said, it will appear incumbent on us to define what condition of the lungs should be considered as essentially constituting "consumption." To fix this we shall not have recourse to any but the very modern pathologists, since they alone have ascertained the departures from healthy structure, and agreed upon what should constitute phthisis.

1456. Mr. Bayle says, "the generic character of phthisis may be drawn from the symptoms, or from the nature and seat of the disorder; that is to say, it may be either artificial or essential. But it appears to me indispensable to unite these two characters. The artificial, which is drawn from the symptoms, is not applicable either to all degrees or to all cases of phthisis. The essential character, which expresses the nature and seat of the disorder, suits it in every degree and every form it can take, but would be insufficient to know it by during life. As it results from my researches, the essential character of phthisis is this:"—

1457. "Every injury of the lungs, which left to itself produces a progressive disorganization of them, and in the end ulceration and death, ought to be called pulmonary phthisis."

1458. This definition would have been more perfect had not "death" been considered essential to its character; for we have just seen that death does not always follow, even in the best ascertained cases of consumption. Nor is ulceration a constant condition of the parenchyma of the lungs, though death may take place. Broussais* gives a remarkable case of this kind; indeed

* Phleg. Chron. Vol. II. p. 194.

there was an absence of all the usual symptoms of phthisis except cough; that is, there were neither hectic fever, diarrhœa, night sweats, nor purulent expectoration, though there were tubercles to a very large amount; indeed he says, "they formed three-fourths of the whole bulk of the left lung." Some of these "equalled a hen's egg in size, and consisted of dry cheesy matter, which was very easily broken." Drs. Physick, Otto, and myself, attended a young lady of this city; in the course of the disease which destroyed her, there was not a single symptom that betrayed that there was the slightest mischief lurking in the lungs—there was neither cough, difficulty of breathing, hectic fever, nor purulent expectoration, which Pinel makes constitute phthisis; there was marasmus, but it was not excessive. On opening the body, the lungs alone were found diseased. In another instance, Dr. Chapman and myself attended a boy of eight or nine years old, whose disease appeared to be located in the abdomen—in this part, he appeared to suffer excruciating agony, which powerful doses of laudanum would scarcely abate; and this continued to the last moment of his existence.*

1459. On opening the body, none of the abdominal viscera were at all diseased; the lungs alone were the seats of the disorder. They contained very large quantities of the most offensive pus I ever remember to have encountered; yet in this case there was not a solitary symptom to direct attention to the chest. Bayle has therefore said correctly that the "artificial character of phthisis" is not applicable to all its degrees, or to all cases. And that the "essential" "would not be sufficient to know it by during life." In fact, we have no pathognomonic symptom of phthisis—the knife alone reveals its existence with absolute certainty.†

* Indeed we may look upon Bayle's 38th and 39th cases as being cases without the pathognomonic signs of phthisis.

† We might with much safety, include the stethoscope; but as this instrument is so little understood in this country, and employed so rarely, that we hardly dare at this time consider it as a discriminating means, though it is absolutely one of great certainty.

Causes of Phthisis.

1460. Laennec says, that "the progress of pathological anatomy has successfully demonstrated that phthisis pulmonalis is owing to the development in the lungs of a particular species of *accidental production*,* to which modern anatomists have restricted the name of *tubercle*." "This, I think, is the only kind of phthisis which we should admit, unless indeed it were the *phthisis nervosa*, and the chronic catarrh simulating tuberculous phthisis." p. 271.

Mode of Development.

1461. We are informed by the same authority that tubercles may develop themselves, as insulated bodies, or in interstitial injection or infiltration. The first may show themselves under several forms, to which he has given the names of miliary, crude, granular, and encysted. The second presents three varieties, as the irregular, the gray, and the yellow. But in whatever form the tuberculous product develops itself eventually, it always at first is of a gray, semitransparent appearance, which gradually becomes yellow, opaque, and very dense. When it softens, it acquires a fluidity equal to that of pus; and when expelled from the lungs, it leaves what is commonly called *ulcers of the lungs*, but which Laennec denominates *tuberculous excavations*. The following are the descriptions of these varieties.

1. The Miliary Tubercles.

1462. This is the most common form of tubercles in the lungs. They resemble small grains, are of a semitransparent gray colour, and sometimes have a consistency almost equal to cartilage. They differ in size from a millet to a hemp-seed. They are intimately connected with the pulmonary substance; so much so, that they cannot be removed without bringing with them a por-

* "Under the term accidental productions, I comprehend every substance foreign to the natural organization of a part, which any aberration in the nutrition may develop in our organs." p. 271.

tion of it. They become united in groupings. Before this takes place, a small yellowish speck appears in the centre of each tubercle, which eventually involves the whole tubercle. After a while, the whole mass is converted into a single homogeneous body of a whitish-yellow colour, and nearly as dense as cartilage—it now constitutes *the yellow crude tubercle*, or simply the *crude tubercle*. When the tubercle preserves its original roundish form, it is thought to originate from a single point or granule.

2. *Granular Tubercles, or Miliary Granulations.*

1463. This variety is said to be rare, and was first described by Bayle; and from its peculiar character was thought by him to be an accidental production. These are nearly of the size of millet seed, and are perfectly round—they differ from other tubercles in being uniform in size, transparent and colourless. Laennec thinks Bayle was mistaken in looking upon these bodies as different from tubercles, and still more in regarding them as accidental cartilages.

3. *Gray Tuberculous Infiltration.*

1464. This infiltration is frequently found around tuberculous excavations. They sometimes exist primitively, without tubercles; this is rare. At other times there are large tuberculous masses in the first stage, without miliary tubercles. These masses are dense, humid, and impermeable to air—upon cutting them they are found nearly as dense as cartilage, and the vesicular structure of the lungs is altogether lost. As these advance to softening, small yellow, opaque specks show themselves; these increase in size, and eventually involve the whole mass, and convert it into yellow tuberculous matter.

4. *Jelly-like Tuberculous Infiltration.*

1465. In the intervals of the miliary tubercles, a small infiltration of matter, rather humid than fluid, is frequently found. It is colourless, or very slightly tinged with blood, and resembles a fine jelly. This acquires consistence, and is eventually

converted into the tuberculous matter just described. These masses are produced by infiltration into the pulmonary tissue, while the common round tubercles are foreign bodies, which press aside and separate the substance of the viscus on all sides, rather than penetrate into its parenchyma. These masses may occupy, occasionally, a considerable part of one lobe, without altering in any way its shape.

Progress.

1466. But "in whatever manner the crude tubercles are formed, after a very variable period, they finally become soft and fluid. The process begins in the centre of each mass, and gradually increases, the tuberculous matter becoming daily softer and moister, cheesy, or at least unctuous to the touch, like soft cheese, and finally acquires the visciduity and fluidity of pus. The softening gradually attains the surface, and at last involves the whole mass."*

1467. "In this stage, the tuberculous matter is of two different kinds in appearance—the one resembling thick pus, but without smell, and yellower than the crude tubercle; the other a mixed fluid, one portion of which is very fluid, more or less transparent, and colourless, unless tinged with blood, and the other portion opaque, of acaceous consistence, soft and friable. In this last condition, which is chiefly observable in strumous subjects, the fluid often perfectly resembles whey, having small portions of curd floating in it. When the softening of the tuberculous mass is completed, this finds its way into some of the neighbouring bronchial tubes, and as the opening is smaller than the excavation, both it and the latter remain of necessity fistulous, even after the complete evacuation of the tuberculous matter. It is extremely rare to find only one such excavation in a tuberculous lung. Most commonly the cavity is surrounded by tubercles in different stages of their progress, which as they successively soften, discharge their contents successively into it, and thus gradually form those irregular and continuous excavations so frequently observable, and which sometimes extend from one ex-

* Laennec, p. 278.

tremity of the lungs to the other. Bands composed of the natural tissue of the organ, condensed as it were, and charged with the tuberculous degeneration, frequently cross these cavities in a manner something resembling the *columnæ carneæ* of the ventricles." p. 278, ib.

1468. "In proportion as an excavation discharges its contents, its walls become covered with a species of morbid or false membrane, thin, smooth, white, nearly opaque, of a very soft consistence, and almost friable, so that it can be readily scraped off with the scalpel. This membrane is quite perfect, covering the whole internal surface of the cavity. Occasionally this membrane is entirely wanting, and the walls of the cavity are formed directly by the natural tissue of the lungs, which, in this case is commonly condensed, red, and charged with tuberculous matter in different stages of its development. Bayle thinks that this false membrane secretes the pus expectorated in this disease—an opinion which is founded on the analogy existing between it and that which forms on the surface of blisters and ulcers. It seems certain, however, at least to me, that the greater part of the matter expectorated is the product of the bronchial secretion, augmented as this is by the irritated condition of the lungs. I do not assert that pus is not formed in these tuberculous excavations at all, but I certainly have observed, that when these are lined by the soft membrane described above, they are often entirely empty, and that, when they do contain any puriform matter, this bears by no means so great a resemblance to the sputa, as that does which is contained in the bronchia." p. 280.

5. *Encysted Tubercles.*

1469. These are developed in patches under the false membrane, if the disease has been long stationary; they are of a grayish-white, semitransparent, with a cartilaginous texture, and adhere closely to the pulmonary tissue. These patches increase so as to make a complete lining to the tuberculous excavation, and forms a continuous surface with the bronchial tubes which open into it. Sometimes, though rarely, the semi-cartilaginous membrane is seen before the softening of the tubercles,

and seem to be of the same date with them; this is the encysted tubercle of Bayle.

Effects of Tubercles.

1470. Death may take place without any ulcerous excavations, when tubercles, even of a small kind, are very numerous; in this case they have not become sufficiently soft to have their contents discharged into the bronchia, but this is rare. And agreeably to Laennec, it never happens, but when this state of lungs is complicated with some other severe affection. But agreeably to Broussais and Bayle, as stated above, death may take place without this complication; provided perhaps always, that the tubercles are advancing towards their ultimate softening. When tubercles are inert, that is, altogether free from inflammation, they have not been found to incommode the system in the slightest degree; though they may the lungs themselves in a certain way. For tubercles contain nothing acrid, until inflammation has converted them into suppurating bodies; then access of air produces all the terrible consequences of phthisis.

1471. But death may ensue from tubercles, even in an inert state, if they be very numerous; as they must necessarily diminish the bronchial surface on which very important changes of the blood take place, by respiration. Therefore, all the mischief, which the want of due oxygenation may produce, will happen in this case; among which we may reckon, all that can happen from the want of the just and proper constitution of the blood itself—secretion and nutrition will necessarily be imperfect; and we are all aware how much depends upon the due performance of these important functions. We cannot perhaps estimate the exact degree of importance that may attach to a deficiency of oxygen in the blood; nor are we acquainted precisely, with the chemical changes that may take place in this mass from its diminution; nor to what extent this may influence the laws of living bodies; yet we are sensible of the necessity of its presence, though we cannot exactly appreciate the consequences of its absence, unless this be nearly absolute. We see, however, that debility and emaciation have been the constant attendants on this state of the lungs. In this condition of tubercles, it would

be extremely difficult, if not impossible, to determine that they were present in the lungs—for no symptoms discover their existence; an accidental death, that is, death from some other cause, alone has revealed their existence, and led to the present conclusions.

1472. "When there are few tubercles," says Laennec, "we sometimes find them all excavated after death." p. 282. Now, these are the cases that should get well, agreeably to what this author has said; as these excavations are essential to a cure; and perhaps would, were not the recuperative powers of the system too much exhausted to effect restoration—hence, the truth of the remark made above by Laennec, that the efforts of nature to cure this disease, was rather mischievous than otherwise; as the suppurating of the tubercles, necessarily exposes the cavities to the presence of air; hectic fever, the most wasting of all the chronic affections, immediately ensues, and the patients become exhausted before restoration of the parts can be accomplished. He looks upon the semi-cartilaginous productions as an effort of nature to cure the disease.

1473. It is agreed by all the later pathologists, especially by Bayle, Broussais, Laennec, &c. that the development of tubercles is progressive in the greater number of instances; but certainly not in a regular degree—this sometimes taking place very rapidly, and at others very slowly. But whether the progress be rapid or slow, the process almost always ends in their softening, and thus producing purulent expectoration. It is however not uncommon to see tubercles in all their various states, in the same lungs—these are "1, in the state of granulations, either gray or colourless, and semitransparent; 2, gray, but larger, and yellow, and opaque in the centre; 3, yellow and opaque throughout, but still firm; 4, in the state of gray tuberculous infiltration, gelatinous, or yellow; 5, softened, especially in the centre; 6, in the state of excavations, more or less completely emptied." Laennec, p. 282.*

* The anatomical character, as well as the variety, and progress of tubercles, as thus laid down, has been contested lately. Thus Andral, (Clin. Med. Tom. III. p. 4,) denies, that the granular appearance described by Bayle, Laennec, and Louis, to be the germs of tubercles. He says this appearance is owing to the collapsing, (affaissement,) of the healthy pulmonary vesicles which surround

1474. Laennec says, that tubercles first begin to show themselves almost always in the top of the upper lobes, "*more particularly the right.*" Louis however has been led from his experience to an opposite conclusion; and states that of thirty-eight cases in which the upper lobe was entirely disorganized, twenty-eight of the instances, were on the left side.* Dr. Forbes appears doubtful whether his cases were sufficiently numerous, (123,) to unsettle the experience of Laennec. When large tu-

the indurated and inflamed vesicles. That the tubercular matter is not always placed in the centre; for it is met with in various points, as well as at the circumference of the granules; and thus he decides, that they are partially inflamed vesicles, (pneumonies vésiculaires partielles.)

He thinks also, that he has established, that the gray gelatinous infiltration has no relation to tubercles. That it presents no anatomical character different from the infiltrations that take place in chronic pneumony; and that it is a morbid, (sui generis,) secretion, and has been found in many other parts of the economy. Cruveilheir disputes with Andral the originality of this suggestion. Bouillaud thinks, that the name of *tubercle* can only properly apply to such bodies in the lungs as have been called tuberculous abscesses, softened tubercles, tuberculous matter, vomica, &c. if such an improper term is to be retained in medical science.

Andral thinks he has satisfactorily proved from many dissections, that the tubercle always begins from a small point of liquid matter; yellow, or absolutely analogous to pus; and that in other portions of the same lung, similar, but larger collections, and of which the periphery was concreted by the influence of absorption on its surface; while the centre was still liquid. He therefore concludes, that tubercles are nothing more than hardened pus. Of this opinion is also Bouillaud. We would only ask, if this pus differs in any respect from the mildest and most healthy pus? If it do, that difference must have been imposed upon it, during its secretion; and consequently the part forming this pus is the diseased part, and not the fluid which it yields. No one would certainly say, that cancer consists of a fetid, sanguineous and acrid pus—or that the whey-like fluid, discharging from a diseased gland, was scrofula; the effect is here, evidently mistaken for the cause. On the whole, as far as we are capable of judging, we do not think that the account of tubercles as laid down by Bayle and Laennec is at all impaired by the suggestions of Andral, and Cruveilheir. Besides, the whole economy of these bodies, show widely they differ from every other inflammatory production; 1, they acquire a cartilaginous hardness when suppurating; 2, the cavity from which the pus discharges is lined by a peculiar membrane, from the surface of which no pus is secreted after the first portion has discharged itself; 3, and that the cavity never, or but extremely rarely fills up, as the excavations of common abscesses do.

* Recherches, p. 7, 8, 9.

berculous excavations are found, it is for the most part in these places.

1475. "It is by no means uncommon," says Laennec, "to meet with cavities of this kind, in the situations just named, when the rest of the lungs are quite sound, and do not contain a single tubercle; but in this class of cases, the patient during life, has frequently exhibited no signs of phthisis, or only equivocal ones, and has died of some other disease." p. 282. These are very interesting facts, and should be borne in mind; we have already adverted to this condition of the pulmonary organs, to show how insidious in some instances this is. Dr. Forbes supposes, that this was the condition of the lungs of Laennec himself. "There can be no doubt," says Dr. Forbes, "that the disease of which Laennec died was *phthisis pulmonalis*; and it is somewhat curious," he adds, "that he shared the fate of some of his most illustrious predecessors, in falling a victim to a disease, the nature of which he had taken particular pains to illustrate. Lancisi, and Corvisart died of diseased heart; and his own friend, Bayle, sunk, like himself, under the ravages of the disease of which he had been the most successful illustrator, and of the inevitable fatality of which he had been the most strenuous assertor. M. Laennec's case presented all the external symptoms of consumption; and its nature was moreover, fully confirmed by the very art which he had himself discovered. Before he left Paris, Drs. Racamier and Meriadec Laennec discovered *imperfect* but *evident pectoriloquism*, under the left clavicle, and in the supra-spinal fossa of the left side."*

1476. It is not uncommon to find in the same lung evidences of two or three successive crops of tubercles. The oldest of which, generally occupies the top of the lung, and is in a state of excavation, the second, situated around and below these, are yellow, and of no great size; the third are crude miliary tubercles, and are situated lower.†

* Life of Laennec, p. xxi.

† The progressive nature of tubercles would seem to prove, that they are vital and organized bodies, notwithstanding the cavilling of Bouillaud upon this point. Mr. B. has denied (*Journal des Progrès* for 1827. Vol. IV. p. 149 et suiv.) to tubercles, either of the properties just named. With a view to prove this, he gives the definition of an organ from Béclard; who says, that "every

1477. Various parts of the body are subject to tubercles besides the lungs; indeed all the larger glands, and almost every surface or part that is susceptible of active inflammation appears obnoxious to them. Some however are more liable than others; Laennec arranges them as follows—"the bronchial, the mediastinal, the cervical, the mesenteric,* and the other glands throughout the body: the liver—in which they attain a large size, but rarely come to maturation; the prostate; the surface of the peritoneum and pleura; the epididymus, the vasa deferentia, the testicle, spleen, heart, uterus, brain and cerebellum," &c. &c. p. 284.

1478. It seems indeed proved by the pathological investigations of Louis, that it is sufficient, that the lungs possess them, to have

organized body is formed of particles intermixing and crossing each other, with a tissue forming or resembling areolæ, with particular cavities for fluids." "Whereas, he says all who have described the tubercle, declare it to have, a close, homogeneous structure (Bayle) formed of a mass of matter more or less solid; but that its greatest solidity does not exceed that of cheese, and which softens down to the consistence of pus. Certainly, there is nothing here which resembles organized matter." "Moreover, Stark, (the first who studied the subject with attention, and whose description is strikingly true, and who if he had been better known, would have prevented both Bayle and Laennec the laborious investigations they have made upon this subject,) endeavoured in vain to force injection into these little bodies; he could never make it pass beyond the pulmonary tissue that surrounded them. Cruveilhier repeated these experiments with the same results; and therefore did not hesitate to declare, that these bodies were absolutely inorganic. And Andral having never been able to trace any vessels, fibres, laminæ, in a word, organization, has declared a like opinion." p. 163.

Now, we would ask any candid mind, whether it would consent, to either the definition of an "organ," or to the proofs, adduced, that the parts upon which these experiments were made, were devoid of organization? Thus cartilage, has scarcely a single mark laid down in the definition; yet, who doubts of either its vitality, or its organization. Has injection ever been forced into its substance, when in a healthy state; or into that of tendon, or bone? yet, are these parts, decidedly living and as decidedly organized? Has it ever penetrated the medulla of the cylindrical bones? yet is this substance, both vital and organized, though possessing perhaps, even less tenacity or firmness, than the tubercle, which is denied these properties, because it does not possess more solidity than cheese—nay, who will deny the vitality of the blood, or of the male semen, though they are fluids?

* Louis tells us he found the mesenteric glands more frequently affected, (that is, in one-fourth,) than any others. The spleen and kidneys were equally affected; that in one-sixth of the cases.

them develop themselves in other portions of the body; though this does not appear to have been the opinion of Laennec, who says, "sometimes, but very rarely, the production of tubercles begins in the parts just named; especially in the mucous membrane of the intestines and in the lymphatic glands; and their appearance in the lungs is the result of a secondary formation." p. 285.

1479. But on the other hand, Louis declares he never found tubercles in any other organ, without their existing in the lungs as essential to their development. He thinks himself justified in this opinion, by having observed, with a single exception that the tuberculous matter was always much more advanced in the lungs than in other parts. We think this renders the matter probable, but by no means makes it certain, as some circumstances connected with the economy of the lungs, or the other viscera may make the development much more rapid, or slow, than in other portions of the body. That there are parts of the body in which the development is much more excessive than in others cannot be doubted; as the cavernous excavations are much larger in the upper portions of the lungs, than in the middle or inferior parts. And Broussais gives us an instance in which "the liver and spleen were tuberculous; in the former, the tubercles were almost miliary, and without pus in the centre; while the spleen appeared to be transformed into a mass of tubercles, several of which were very large, and softened either entirely or in part."*

1480. Besides, it does not appear from dissection, that tubercles will develop themselves in other portions of the body, merely because the lungs are occupied by them; of this kind is Obs. xl. of Broussais. He declares, that the lungs were "sowed with little miliary grains;" but all the abdominal viscera were sound. But we must not omit to state, that he appears to disbelieve in this instance, his own statement; for in a note he exclaims, "doutez, lecteurs, avec moi meme." (p. 23.) He appears to have allowed a subsequent theory to call in question his own facts. But we believe we could bring many facts to prove, that the progress of tubercles towards suppuration in the lungs, is not

* Phlegm. Chron. Vol. II. p. 40.

always in advance of those in other parts of the body. Thus in Obs. xlii. of the same author, we do not find they were more advanced in the mesentery, than they were in the lungs. We do not think therefore, the opinion of Louis, that "it is essential, that tubercles exist in the lungs, to have them developed elsewhere," is well sustained. The predisposition to this development, most probably exists in the whole of the lymphatic system; and therefore any portion of it, under the influence of certain exciting causes may have these bodies developed in it with as much certainty, if not with equal rapidity, as in the lungs.

1481. We therefore have as much reason to believe, that the development of tubercles in other parts of the body may anticipate their development in the lungs, as to believe with Louis, that this operation must commence in the pulmonary tissue. But be the commencement where it may, we can have no hesitation to believe that it will sooner or later involve the whole of the lymphatic system, as there will constantly be a sympathetic influence exerting itself to this effect.

1482. Some of the organic changes are not less remarkable than constant; thus the cellular and adipose membrane is absorbed to a degree perhaps that no other disease occasions. The bones have their diameters diminished, though their length remains unaffected; while the blood-vessels are diminished in capacity, merely from less blood being furnished to them. The chest of phthisical patients is usually narrow, and oftentimes contracted; the latter arises agreeably to Laennec, from 1, the pleurisies to which such patients are extremely subject, both before and during the course of their disease, and which give rise to a contraction of the chest, when they terminate favourably; 2, the attempts which nature makes to cure phthisis. The serous membranes and skin are very pale and free from blood in these cases; while the muscles and heart, are usually of a bright red. Ulcers, which penetrate sometimes the intestines, especially the smaller, near its termination, are not unfrequently found.

1483. Louis says, that ulcers existed in the small intestines and not unfrequently in the large; in the former this happened in five-sixths of the patients he examined. (p. 175.) Laennec observes, that phthisical patients are not very much disposed to sceptical decomposition, since patients in this disease, are much

less liable to gangrenous eschars on the back, from long confinement, than in many others, and that their bodies are slow in running into putrefaction.

Of the Cause of Tubercles.

1484. Laennec has very justly observed, in his section on the "examination of the question, whether or not tubercles are the consequence of inflammation," that the ancients attributed to it, all the accidental productions of the system with which they were acquainted, and that this opinion prevailed, until Bayle exploded it by facts. It is well known, that Broussais not only adopted this notion, but warmly espouses it at this moment. With a view to settle this question, Laennec has examined the agency of the inflammatory affections of the chest in detail, and his conclusions are altogether adverse to those of the celebrated pathologist just named. He first treats of—

"Acute Peripneumony."

1485. From what he has observed of this disease and its consequences, he declares it to be his opinion, and thinks it would be the opinion also of every unprejudiced practitioner of observation, that "phthisis very rarely shows itself after acute pneumonia." "And that even where this sequence is observed, it is impossible to say whether the pneumonia has given rise to the tubercles, or whether these, acting as irritating bodies, have not excited the pneumonia. On the authority of pathological anatomy, the solution of the question is much more simple; since it is certain that we very rarely find tubercles in the lungs of those who have died of pneumonia, and that the greater number of consumptive subjects exhibit no symptom of this disease during the progress of their fatal malady, nor any trace of it after death." (p. 290.) And were this true, he thinks, that the transition of one disease into the other might be traced, as is done between the inflammatory engorgement, and the pulmonary abscess; but this is far from being the case. (p. 291.)

1486. He confesses, that, acute pneumonia, and tubercles, occasionally co-exist; but this is rare; when the frequency of both

diseases are taken into consideration. And that in nineteen-twentieths of this complication, the tuberculous affection precedes; and we may therefore infer, that the tubercles are the occasional cause of the pneumonia, or that the diseases though existing together, have no etiological relation to each other. (p. 292.) He next considers—

*“Chronic Pneumonia.”**

1487. This disease he declares to be rare, and that the physical character of this affection differs much from tubercles. That in chronic peripneumony the inflammation is confined to the air cells, which are pressed closely together, without any intervening space, and are of a reddish, greenish, or yellow colour; yet these bear no resemblance to the miliary tubercles.

“Catarrh,”

1488. Laennec makes next in order. He thinks that the popular opinion, that consumption is the consequence of a neglected cold, to be entirely without foundation. He admits, that in most instances of phthisis, the first symptoms are catarrhal; but that it is equally true that very large and numerous tubercles are found without any sign of catarrh. Nor can they be the result of former catarrhs, since they are found in those who may never have had catarrh. He agrees, that a pulmonary catarrh may come on in a state of apparently perfect health, and yet be the first evidence of a tuberculous phthisis; but this case however, may have existed a long time in a latent state; since examination

* The observations of Laennec upon the influence of inflammatory affections of the chest, in the production of tubercles, are strongly supported by Louis; (*Recherches sur la Phthisie*, p. 522, et suiv.) He informs us, that of eighty phthisical patients, whose previous history he had ascertained, only seven had been affected with peripneumony; of these there were four, who had been perfectly free from any affection of the chest, for several years before the onset of phthisis. He agrees with Laennec, that tubercles select most frequently the upper portion, or lobes, of the lungs for their seat, while peripneumony invades the lower. He also states, that pneumonia rarely affects both lungs, while phthisis almost always does; and adds that the former is most common to men, while the latter is so in females. He applies the same remarks to pleurisy and catarrh—but with this remarkable fact, that in chronic

detects all the physical signs of tubercles, and sometimes of even tuberculous excavations.

1489. On the other hand, many persons have catarrh repeated several times a year; yet few of them become phthisical. Indeed, some live to an advanced age without becoming phthisical, though they may have had a mucous catarrh for many years. He however does not wish to be understood as believing, that catarrh is a preventive to consumption, though he concludes it is not the cause of it; that no anatomical marks show the transition of the one complaint into the other. The seat of these affections are altogether different—catarrh consists in an inflammation of the mucous membrane of the bronchia, while tubercles are accidental productions, or foreign bodies occupying the substance of the lungs, but are extremely rarely found in the bronchial membrane itself, even when the lungs are completely charged with them. p. 296.

“*Pleurisy,*”

1490. Next occupies his attention. In cases of severe pleurisy, “*the inflammatory afflux*” is not propagated to the lung; on the contrary, the copious secretion of serum, which always takes place in this disease, (see Chap. on Pleurisy,) compresses it against the mediastinum, and thus diminishes its stock of fluids. In cases of empyema, of even a year’s standing, the lung is constantly found sound, except that it is strongly compressed. From all his observations, he concludes, that pleurisy is frequently the effect of tubercles in the lungs. And “from all that has gone before,” he thinks, “we are authorized to conclude, that tubercles are not the product of inflammation of any one of the constituent textures of the lungs.”

pleurisy, he found as many tubercles in the lung of the sound, as in the lung of the diseased side. Of the eighty patients above specified, twenty-three only had been particularly subject to catarrh; and out of one hundred and forty-nine cases of catarrh for which he prescribed, only fifty-two happened to women. From these facts it is evident, that a merely inflamed condition of the lungs, is not sufficient to generate or produce tubercles; and at first sight, it might even appear, that it is not even necessary to their development, where a predisposition really exists; but of this, we must not be too certain, until we know more of the physical condition of inflamed parts, than we do at present. (See note, p. 16.)

1491. "On the contrary, a multitude of facts prove, that the development of tubercles is the result of a general condition of the body; that it takes place without previous inflammation; and that, when inflammation coincides with the tuberculous affection, it is most frequently posterior to it in its origin." p. 297. He thinks this is abundantly proved, by the progress that tubercles make in scrofulous glands. 1. They swell in many cases, and remain in this state for a long time, without redness, or even the surrounding parts being so. 2. It is sometimes several years before inflammation occurs in the parts. But when this takes place, the softening of the tuberculous matter is hastened. "Sometimes, however, not only the softening of this matter, but even the perforation of the skin, and the discharge of the pus take place without any distinct mark of inflammation." *Ib.**

* Perhaps there is less difference in fact in the opinion of Laennec and those who have declared inflammation to be the cause of tubercles, (as Sylvius, Wepfer, Tralles, &c.†) and lately, and especially Broussais; and we may add, indeed, Andral, than would appear at first sight. The absence of inflammation in the development of tubercles, as stated by Laennec, is only proved by the non-existence of redness. But it still remains to be proved that redness is a *sine qua non* to inflammation; indeed, we are of opinion, that a condition may exist in a part, and this to a degree that will eventuate in suppuration, without redness accompanying the process in any of its stages. This appears to be proved in phlegmasia dolens; and especially in such cases of it as run on to suppuration; and also in certain cases of milk abscess, as they are called. Of the former, the phlegmasia dolens running on to suppuration, we can only speak from the information of others, (Ferriar's Med. Hist.) in the latter, we can declare its occurrence, in a number of instances. Yet in all these cases, every other phenomenon of inflammation, were present, namely, swelling, heat, and pain. Broussais notices this condition of a part, and calls it "irritation;" this it must be acknowledged, is not very precise; and perhaps it conveys no idea of the actual condition of the part so circumstanced. It is only by a consent of the mind, that this state is admitted, as no positive proof can be offered, beyond what has just been stated, namely, that swelling, heat, and pain may alone exist in a suppurating part, (without the circumstance of redness to constitute it inflammation by definition,) be considered as such. Now, it is every way probable, that the several phenomena just mentioned are always anterior to the error loci of the red particles of the blood, which, "*definition*" makes essential to the existence of inflammation. Some change certainly must take place in the parts, when tubercles are about to alter their condition—in what does that change consist? can any one point it out? is there any physiological fact that

† Young on Consumption.

1492. There is perhaps no belief more universal than that hæmoptysis is the cause of consumption. But neither Laennec, Broussais, nor Louis,* is of this opinion—they all agree in the frequency of its appearance in phthisical patients, and they also concur, that it is often the consequence of tubercles, but that it is never the cause of them; but of this more when we come to treat of this hæmorrhage.

“Of the Depressing Passions as Causes of Phthisis.”

1493. Laennec declares the depressing passions to be highly instrumental in the production of phthisis, especially if they be strong and long-continued. In large cities, he seems to view them as the sole causes. He thinks this is owing to the more frequent relations the inhabitants have with each other, and the greater prevalence of immorality, shutting out many times all consolation.

1494. He relates in proof of the instrumentality of the depressing passions in the production of phthisis, one of the most remarkable, as well as interesting histories, we ever remember to

will explain it? in certain cases, may not the *vis a tergo* be inadequate to the forcing of the red globules into the capillaries to constitute inflammation, by “*definition?*” yet, may not all the other conditions of this morbid state exist, without this contingency? May we not understand the “irritation” of Broussais, to consist of that state of inflammation in which the red globules are not forced into the capillaries? If this be admitted, will it not account for the disappointments now and then met with in post mortem examinations, where every symptom declared the presence of inflammation, agreeably to its full “*definition,*” to have been the cause of death?

On the other hand, we have many facts to prove, that violent inflammation of the substance of the lungs from even mechanical causes have existed for a long time, and even proceeded to ulceration, without causing the development of tubercles; and Broussais himself furnishes at least one remarkable case of this kind. (See Monroy’s case, Ob. liii. Vol. II. p. 103.)

* Louis informs us, that “for the last three years, he had questioned every patient that came under his care, whether they had ever had a spitting of blood, and he was constantly answered in the negative, except some few who may have received a severe blow on the chest, or women who may have had a sudden suppression of the menses. But with these exceptions he agrees, that this symptom indicates very constantly the presence of tubercles in the lungs.—*Recherches*, p. 194.

have met with. I shall relate it in his own words, or at least in the words of his successful and accurate translator.

1495. "I had under my own eyes, during a period of ten years, a striking example of the effects of the depressing passions in the producing of phthisis, in the case of a religious association of women, of recent foundation, and which never obtained from the ecclesiastical authorities any other than a provisional toleration on account of the extreme severity of its rules. The diet of these persons was certainly very austere, yet it was by no means beyond what nature could bear. But the ascetic spirit which governed their minds, was such as to give rise to consequences no less serious than surprising. Not only was the attention of these women habitually fixed on the most terrible truths of religion, but it was the constant practice to try them by every kind of contrariety and opposition, in order to bring them as soon as possible to an entire renouncement of their own proper will. The consequences of this discipline were the same in all; after being one or two months in the establishment, the catamenia became suppressed; and in the course of one or two months thereafter, phthisis declared itself! As no vow was taken in this society, I endeavoured to prevail upon the patients to leave the house as soon as the consumptive symptoms began to appear; and almost all those who followed my advice were cured, although some of them exhibited well-marked indications of the disease. During the ten years I was physician to this association, I witnessed its entire renovation two or three different times, owing to the successive loss of all its members, with the exception of a small number, consisting chiefly of the superior, the grate keeper, and the sisters who had charge of the garden, kitchen, and infirmary. It will be observed that these individuals were those who had the most constant distractions from their religious tasks, and that they also went out pretty often into the city, on business connected with the establishment." p. 328.

"Is Phthisis a Contagious Disease?"

1496. There is considerable diversity of opinion upon this subject. We have never in a single instance met with a fact that

inclined us to the belief that phthisis is a contagious disease; and we have certainly witnessed many cases, in which it would have propagated itself, had it been capable of this effect. The best writers, and at the same time the closest observers, such as Laennec, Young, Louis, Forbes, &c. are of opinion, that it is not a contagious disease; though Dr. Forbes recommends caution, in making up our minds upon this subject, by saying, "in a practical question, of such high importance as the present, it is certainly the duty of every medical man to act cautiously, and not unnecessarily expose the friends of his phthisical patients to a risk, which, although he may deem it problematical or even visionary, may not be so in reality."*

1497. Laennec says, "in France at least, it does not appear to be contagious. We frequently observe among the poorer classes, a numerous family sleeping in the same apartment with a consumptive patient, and a husband occupying to the last, the same bed with his wife, without any communication of the disease. The woollen apparel and the beds of consumptive subjects, which it is the custom in some countries to burn, are not even generally washed, much less destroyed in France, and yet I have never seen the disease communicated by them." p. 330. He, it is true, seems rather inclined to the belief, that we may produce the matter of tubercle, by the direct application of some of it to an abraded surface, and relates, rather perhaps as a coincidence than as a proof, his own experience upon this subject.

1498. He says, "about twenty years since, while examining some vertebræ containing tubercles, I slightly grazed the forefinger of the left hand, by a stroke of the saw. The scratch was so small that I paid no attention to it; but on the following day it was slightly inflamed, and there gradually formed in it, and almost without pain, a small round tumour, apparently confined to the skin, and which at the end of eight days was of the size of a large cherry stone. At this time the epidermis cracked, and showed us the small tumour within, which was yellow, firm, and in every respect like a crude yellow tubercle. I cauterized it with the deliquescent hydro-chlorate of antimony, and felt no pain from its operation. At the end of a few minutes, however,

* Note to Laennec, p. 330.

after the fluid had penetrated the whole substance of the tumour, I detached it by a gentle pressure. The caustic had softened it, and made it exactly like a soft friable tubercle. The walls of the cavity which had contained this body, were of a pearl-gray colour, slightly semitransparent, and without any redness. I applied the caustic afresh to these; the parts soon healed, and I have since found no farther effects from the accident." p. 331.

1499. We cannot, however, look upon this case as a positive propagation of the tubercle by inoculation, though we do not in the slightest degree question the truth of the statement; for opportunities for their multiplication occur in every phthisical patient, by the passing of the matter of tubercle over the oftentimes denuded bronchia and trachea; yet it is very rare to find tubercles occupying these parts.

"Of Hereditary Predisposition."

1500. There are few facts better established, than predisposition from hereditary transmission, in certain diseases of the human system; among these the consumptive *taint* perhaps stands foremost. We have had frequent opportunities of witnessing the transmission of pulmonary complaints, even, in a few instances, to the extinction of a family. One instance of this kind, was remarkable for the extent, and the uniformity of the cause of death in a very numerous family. This predisposition arose on the side of the mother; though she lived herself to the age of forty-three; a period much exceeding that of any of her children, with the exception of a son, who died in his forty-fifth year. This lady bore twenty-three children, without being able to suckle any but the two first. The males much exceeded the females in number, in the family; yet there did not appear to be any exception in their favour in the transmission of the phthisical taint, except, that they attained in general a greater age before they died—some died about puberty, others at man, or womanhood; but all, with the exception just stated, died under thirty. The disease in no instance was very rapid; they generally complained from one to two years before they died. But what was remarkable in the history of this family was, the healthy, nay

in some instances, the athletic appearance of the men, until the disease became open and decided. In their growth and stature, they altogether resembled the father; who was not only a remarkably stout man, but lived beyond the eightieth year. The females that passed puberty, (two in number,) were rather stout women; while the mother was both delicate and small.

1501. The history of this family is remarkable in another particular; it lived in the country, was very wealthy, and always accustomed to the various physical means, that is so generally found successful, in either destroying the predisposition, or in lessening its influence; yet in no one instance in this family, was this successful, though the open form of the disease was retarded perhaps in all.* The females died the earliest. But this is an extreme case; in general, the tendency to consumption is not

* Dr. Forbes, (note to p. 332,) says, "there can be no doubt of the frequently hereditary character of consumption. I mention this circumstance here, merely with a view of enforcing the vast importance of keeping this in sight in the physical education of the children of consumptive parents. The predisposition cannot be avoided in such cases; but no sufficient reason seems to exist why we may not obviate by proper management their actual development, at least in a certain proportion of cases." Broussais says that tubercles are very often developed by accidental causes; and that this is a frequent occurrence in the army—here, fatigue, exposure, or other circumstances, may cause the appearance of phthisis, even in such as might never have had this to take place, but for this fortuitous exciting cause.—*Phleg. Chron. Vol. II. p. 25.*

To effect the object suggested in Dr. F.'s note, is every way "devoutly to be wished"—but how is it to be accomplished? We regret that this judicious writer, has not offered his views upon this subject; for but one mode suggests itself to our mind; which is, the gradual development of all the physical powers of the body, by a strict observance of every thing that relates, to what is, (absurdly,) called, the non-naturals; but even this should be under the direction of a skilful master. The first perhaps in importance among these, is well-regulated and appropriate exercises—and for this purpose, a properly conducted gymnasium is the best. We are persuaded, we have seen important, as well as permanent benefit derived, from this delightful school of exercises; and we think in one instance, the development of phthisis was prevented.

Dr. Baron observes upon this subject, (Illustrations of the Enquiry, &c. p. 215,) "since it appears that whatever enfeebles the frame or deteriorates the constitution, predisposes to the disease in question; how shall we avert this predisposition? The answer is apparent; we must do every thing in our power to invigorate and fortify the frame; to bring all its functions into a healthy state; and by all means to keep them so."

so extensive; visiting only certain members of the family, while other portions escape; and this oftentimes without any obvious reason for the selection, or the exemption.

1502. On the other hand, we sometime find large families of children destroyed by consumption, without our being able to trace it to hereditary predisposition. Laennec mentions an instance he himself knew, "in which the father and mother died upwards of eighty years of age, and of acute diseases, after having seen fourteen children, (born healthy, and without any seeming predisposition to the disease,) successively carried off by consumption, between the ages of fifteen and thirty-five. One other child, who was delicate from birth, and with decided marks of tuberculous predisposition, is however still living, at the age of forty-eight, after having suffered several severe attacks of hæmoptysis, and appeared to be more than once affected with phthisis." p. 332.

1503. He adds, "the ancients, and especially Aretæus, have carefully described this particular temperament or constitution. It is distinguished by the brilliant whiteness of the skin, the bright red of the cheeks, the narrowness of the chest, the projecting or winged configuration of the scapulæ, and the slenderness of the limbs and trunk, which is however combined with a certain degree of adipose and lymphatic stoutness. This particular constitution is attributed by Aretæus rather to hæmoptysical than consumptive subjects; and the remark is worthy of that accurate and clever observer, as there can be no doubt that phthisical subjects possessing this configuration, are more subject to hæmoptysis than others." p. 331.

1504. The period of life at which phthisis makes its appearance, must necessarily be subject to various contingencies; and which will of course, either hasten or retard its development, and consequently unsettle the precise period of its attack. Thus, the general state of the constitution; the liability to the action of exciting causes; and force of these, or the frequency of their application, will contribute to render uncertain, the exact time of life for phthisis to make its appearance. To determine therefore, any tolerable average of period, will require the mean of very many cases—the older writers, and especially Hippocrates, fixed the time between the age of eighteen and thirty-five; and it

is generally conceded he was nearly right. While Bayle, who had charge of a hospital in Paris, determines the period to be from the fortieth to the fiftieth year.

1505. But from this disease, as Laennec justly observes, "no age is free." "The unborn fœtus has been found affected with it." It is extremely common among the children of the common people; it is likewise frequent in old age.

1506. Women are more subject to phthisis than men. Louis says, "des cent vingt-trois cas dont il s'agit, soix ante-dix appartiennent aux femmes, et cinquante-sept aux hommes;"* and this opinion is confirmed by almost all the writers upon the subject, and is in strict conformity with our own experience.

"Of the Physical Signs of Tubercles."

1507. As no attempt had been made to ascertain the existence of tubercles in the lungs, if we except the "percussion" of Avenbrugger, before the discovery of the stethoscope by Laennec; and as he is now looked upon as the highest authority upon this subject, by the profession at large, we shall condense what this sagacious physician has said upon it, nor offer an apology for its introduction; being satisfied that we are performing an *important* service to our readers; and we shall trust confidently to their good feelings, for its being an acceptable one.

1508. Tubercles, with some rare exceptions, commence in the summit of the lungs. The earliest signs are discoverable below the clavicle. If they are small and detached, they cannot be discovered—at this time the health appears good; at least the cough is so slight, that it is for the most part disregarded.

1509. But when there is an accumulation of *crude or miliary tubercles*, in the upper portion of the lung, the sound from the percussion of the clavicles diminish, and is usually unequal; this extends sometimes as low as the fourth rib. Dr. Forbes remarks on this observation, that "in no case is the importance of *percussion* so frequently and strikingly evinced as in the early stages of phthisis. A single blow upon the clavicle will often afford the means of a more certain diagnosis and prognosis than weeks, or even months of observation on the general symptoms." p. 334.

* Recherches, &c. p. 522.

1510. No other parts of the chest will give rise to this phenomenon from the accumulation of tubercles, except the interscapular region, where there may be at the root of the lungs, a great number of them. When this sign exists, and even when absent, a diffused broncophonism is perceived below the clavicle, over the infra-spinal fossa of the scapula, and in the axilla.

Signs of the Softening of Tubercles.

1511. When the tubercles begin to soften, the same signs continue; coughing now gives rise to a kind of guggling, as if the matter were thick. This, however, soon becomes more like the mucous rattle; the *cavernous* cough indicating pulmonary excavation. As this empties itself, the respiration also becomes cavernous; and with the cough, indicates the increasing of the cavity. Broncophonism is succeeded by pectoriloquism. Sometimes as the excavation empties itself, the resonance becomes clearer; this has led to the supposition that the patient was improving, but this is a mistake. At the time the tuberculous matter is softening, percussion produces a guggling, or jar, like that yielded by a cracked pot, with a peculiar resonance, declaring the presence of a cavity. This sign determines, that the excavation is very near the surface of the lung, but is only to be observed in thin subjects. When one of these superficial excavations has its walls thin, soft, and not adhering to the costal pleura, the auricular *puff* frequently accompanies the cavernous respiration and cough, as well as the pectoriloquism. In this case, every word is followed by a puff, like that used in blowing out a candle, and "would be mistaken for a puff in reality, if the sense of touch did not rectify that of hearing."

Signs of the Complete Discharge of the Tuberculous Matter.

1512. When a tuberculous excavation is completely empty, it is indicated by the cavernous respiration and cough. The cavernous rattle is no longer heard; or only temporarily, if secretion be going on; but will disappear for hours after the patient has expectorated. Now, and sometimes before, pectoriloquism becomes perfect. (See par. 1511.)

Symptoms and Progress of Phthisis.

1513. There are few diseases in which so much uncertainty of diagnosis prevails, as in phthisis. We have already remarked how vague the statements are, (par. 1452,) as regards the frequency of this disease, and this owing to the difficulty of determining its existence, by the common, or general symptoms. Too much has always been taken for granted, as regarded the pathological condition of the lungs; and this would still have prevailed, had not so much pains and talent been bestowed lately on this subject, by men, whose zeal and opportunities have enabled them to establish with certainty the morbid changes in these organs, and which it is now agreed, shall be called phthisis. As we have laid it down to be a well ascertained fact, that tubercles are the cause of this disease; or in other words, have restricted the term phthisis, to the effects of these bodies, it will necessarily follow, as their development is gradual, and oftentimes successive, that the initial symptoms produced by their presence, will be different from the more advanced and final stages of their development; and in this, in great measure, consists the difficulty of deciding on the existence of tubercles, from the symptoms they primarily create.

1514. For as there are so many causes which give rise to cough, expectoration, and pain, independently of tubercles, one cause or condition may readily be taken for another—in either case injury may arise, as indifference or over-anxiety may prevail. With a view to prevent either of these errors, we will state from the best authorities, as well as from our own experience, all that is at present known of the diagnosis of consumption. Laennec, with the intention of lessening the embarrassments upon this subject, has considered phthisis under five different forms or varieties, and as there appears a just foundation for this division, and especially as it comprehends nearly all the symptoms that can occur, or that can distinguish one state of the lungs from another, we shall adopt his mode of treating this difficult subject.

1. *Regular Manifest Phthisis.*

1515. This frequently begins by a slight dry cough, which may continue with more or less severity, for months, or even years. Other symptoms, however, generally accompany this condition; such as an abundant expectoration of phlegm, uneasiness about the chest, and sometimes an obscure or dull pain, which we have often seen patients attempt to relieve, by striking pretty hard upon the chest. Should another "disease now carry off the patient, his lungs will be crowded with very small tubercles."*

1516. Sometimes these symptoms attack subjects predisposed to phthisis, and apparently in their best health; and with such as may have a hereditary taint, it always creates uneasiness and distrust; so much so is this the case sometimes, that the patient almost falls a sacrifice to the influence of depressing passions, or has too often recourse to the thousand "specifics for consumption," with the no less certain, but oftentimes more speedy destruction of his health. Spitting of blood, sometimes, is among the very first threatenings of this disease; but this is not constant. Nor does it always prove the presence of tubercles, though its returns may be both frequent and severe.

1517. This symptom, however, is no less suspicious than alarming; and should neither be treated with undeserving neglect, nor with undue attention; for on the one hand, we have known it to take its unrestrained course to a fatal issue, and on the other, we have seen the patient subjected to an unnecessary, injurious, and severe discipline. The latter was particularly so, in our own case, as will be mentioned, under the head hæmoptysis. If other symptoms accompany the spitting of blood, which are known also to belong to phthisis, it should be regarded as but too certain a sign that the lungs are infested with tubercles.

1518. Laennec says, "in whatever way the disease commences, a more or less abundant mucous expectoration, and a constant state of feverishness gradually supervene." The latter, agreeably to our own observation, is by no means constant; for we

* Laennec, p. 345.

have seen patients remain free from all febrile excitement, until the expectoration had become decidedly purulent; at this time, a feverishness would manifest itself, and would sooner or later, and with more or less intensity, become a regular and confirmed hectic.

1519. We are disposed to agree with Broussais, that a *genuine hectic fever* never occurs, until the tuberculous matter, or genuine pus, becomes exposed to the influence of atmospheric air; and that as soon as this happens in the lungs, it is immediately excited, and continues until death closes the scene, or recovery is about to be established, (p. 1447, case.) This fever is the never-failing attendant upon phthisis, when accompanied by purulent sputa—we say when attended by purulent expectoration, for this does not always take place, though the patient die of the disease.*

1520. This fever is not always regular in its phenomena; but it generally has two periods of exacerbation; namely, one about

* Louis, (Recherches sur la phthisie, p. 402,) however gives a case in which the pulse, towards the close of the disease, became very much accelerated, small, and weak; though there was "neither cough, nor expectoration." The dissection however renders it probable, that a purulent expectoration had existed for a short time before death, though it may have escaped even the vigilance of Louis himself. For a considerable time before death there was a small increase of the natural heat, with a slight acceleration of pulse; and a chilliness took place, both morning and evening. This most probably was owing to the tubercles being about to develop themselves, and though not capable at that moment of producing a genuine *hectic*, yet were sufficient as foreign bodies, to disturb the vascular system to the extent just stated. But as the disease was about to come to a fatal close, "the heat became more or less considerable in the evening, sometimes preceded by chilliness, and always followed by sweats." p. 403.

The dissection is detailed as follows; "the right lung adhered closely to the costal pleura in all its extent; its upper lobe swarmed with gray, semitransparent granulations, more or less opaque in their centre; there were none in the inferior portion. The left lung presented feeble cellular attachments; gray granulations throughout its extent, and a tuberculous excavation of middle size was found at its top; this was lined with a semi-cartilaginous membrane, applied to the healthy parenchyma, or upon the granulations, and itself covered by a buffy exudation." Now we cannot comprehend how a cavernous excavation should exist, but by the discharge of tuberculous matter. And as but one was found, it is possible, that its contents may have been expectorated without its having been observed; and if this be so, it will not interfere with the position just stated in the text.

noon, and the other during some period of the night. It is sometimes accompanied manifestly by a chill; and occasionally observes a regular tertian type; but this for the most part is slight; and never, as far as we have observed, is the system depressed to a state of danger in this fever, as in the intermittent fever, properly so called. But be the chill ever so slight, it is followed nearly constantly by a hot stage, which eventually terminates towards morning in a deluging escape of perspiration. The pulse in this fever presents to the touch peculiarities as regards its frequency, volume, and quickness, that is perhaps never found in any other fever, and it may therefore bear with much propriety the specific name of the "*hectic pulse*."

1521. As regards its frequency, it is rarely, or never below 120 strokes in a minute, and oftentimes this is exceeded; its volume is always small or attenuated, and its quickness remarkable and decided. There is another peculiarity belonging to this consuming fever; namely, let its intensity be what it may, it is never, as far as we have seen, attended by the graver symptoms of other fevers. The head moreover is almost sure to be free from pain; and the intellectual faculties exempt from delirium. The respiration is sometimes as free as in health; the digestive organ preserves its power; while the muscles retain their strength to a certain extent, however extreme the emaciation may be.

1522. Diarrhœa accompanies, and sometimes seems really to alternate with the night sweats; this is occasioned, agreeably to Broussais, Laennec, and others, by a secondary eruption of tubercles in the intestinal tunics. Broussais says it is frequently attended by ulcerations in the intestinal tube; in this Laennec appears to agree; at least he says, it *sometimes* happens without either inflammation or ulceration. This additional evil contributes largely to the waste of the patient's strength; and but too certainly hastens the fatal issue.

1523. In females the catamenia are want to disappear very soon after hectic manifests itself; and sometimes even before any severe pulmonary symptoms show themselves. When this event takes place, it is constantly believed to be the cause of the disease; and too often, for the advantage of the patient, stimulating and active medicines are exhibited, with the certain effect of aggravating the pulmonary affection.

1524. It is every way desirable, that this point should be settled, and well understood by the young practitioner; as no mistake is more common in practice, than this effect being taken for the cause. This suppression sometimes takes place before any strong evidence has appeared of the existence of a pulmonary affection; when this happens, it is constantly urged, when the phthisical symptoms show themselves in a threatening manner, that they altogether depend upon the failure of the catamenia, and that every remedy must be addressed to the uterine system, to restore this suppressed evacuation. And too frequently, as just observed, this belief is too exclusively acted upon; for we have frequently seen the most mischievous consequences follow the use of emmenagogue medicines. In all cases, therefore, where we have reason to believe that amenorrhœa is symptomatic of tubercles; we should disregard this symptom altogether in our prescriptions.*

1525. To what circumstance is this suppression owing? it cannot be to any sympathy between the lungs and the uterine system; for it does not take place, unless as a mere coincidence, in any of the more violent and acute diseases of the lungs. It cannot be, as is generally supposed, from debility; as this is very often much more excessive, yet this does not take place. Nor can it happen from febrile excitement; as this is oftentimes more exalted, yet no stoppage occurs.

1526. May we not look for the cause, in the formation of tubercles, on the internal face of the uterus, or upon, or in the ovaria? Is not this supposition nearly confirmed by Louis' thirty-second case, p. 401? in this subject menstruation had ceased for three months previous to death. On examining the uterus, "its cavity, and the superior half of its neck were of a yellowish-white colour, with a dull and unequal surface, which arose from their superficial coat being converted into a very firm tuberculous matter, about a line in thickness. The rest of the uterus was sound. p. 405. Now, Louis supposes, that in this case, the tuberculous development probably did not take place, until about the period of the suppression of the catamenia. p. 140. And he remarks, that he never found tuberculous matter

* See Treatise on the Diseases of Females, by the author, Art. Amenorrhœa.

but in the uteri of those who died of phthisis. These pathological facts are highly valuable in a practical point of view, as they prove to us how utterly unavailing must be every means purporting to be for the restoration of the menstrual discharge; and they, consequently, tacitly forbid the attempt. How far this pathological condition may be of general occurrence, remains to be proved; but what little is known, should elicit farther observation; for should this tubercular condition of the uterus be found common when the catamenia are stopped, it may become a useful point of diagnosis; and might render treatment more availing than at present, because not absolutely hopeless when it does not take place, in affections of the lungs not arising from tubercles; or in chronic bronchitis simulating phthisis, in other respects.

1527. Bayle also relates a case, (Obs. 1st,) in which the catamenia were suddenly suppressed, as was supposed, by a fright; the uterus was found sound though her lungs were tuberculated; but both ovaria "presented hard unequal tumours of a blackish-red colour on the outside, and of a grayish-white within, presenting a granular suppuration; the ulceration was even visible upon a part of the external surface." (p. 138.) In this case, the ovaries were the seat of the tuberculous affection; yet the suppression of the catamenia was sudden and attributed to fright; but the morbid condition of the ovaria will sufficiently account for the interruption of the menses, without calling in the agency of fear; as these bodies are, we believe, the remote cause of this evacuation. It is to be lamented, that neither Laennec nor Bayle, has been as attentive to the condition of the uterine system, as the subject appears to demand; Bayle mentions one case, (as just related,) in which he carried his researches to the uterus, but Laennec gives not even one.

1528. No sooner does hectic fever establish itself, than emaciation takes place rapidly, even to complete marasmus. "The nose becomes sharp and drawn; the cheeks red and prominent; the conjunctiva of the eyes is of a shining white, or with a shade of pearl-blue; the cheeks are hollow; the lips are retracted, and seem moulded into a bitter smile; the neck is oblique, and impeded in its movements, the shoulder blades are projecting and winged; the ribs become prominent, and the intercostal spaces

sink in, particularly upon the upper and fore parts of the chest.”*

1529. After hectic fever and expectoration have supervened, the disease varies but little in its fatal progress. Laennec says, that hæmoptysis is not common at this period of the disease; but we have certainly seen it occur frequently at this time. Occasionally however, there are but a few streaks of blood in the expectorated matter. Should the stethoscope at this period indicate a complete evacuation of a tuberculous cavity, a great improvement of symptoms sometimes takes place, which leads to the belief that a solid improvement is about to take place. This false convalescence, as Laennec terms it, may last for days or weeks; or may even extend to months; of which he relates, (p. 318,) a remarkable instance.

1530. In those cases in which the amendment just mentioned takes place, and which lasts for several months, are those in which the secondary eruption does not take place until after the entire softening of the first crop of tubercles. But the cases in which the cure is complete, are those in which no secondary eruption takes place.

1531. The stethoscope alone detects the softening of the tuberculous matter, and its subsequent discharge into the bronchia; the local symptoms rarely affords any assistance. In some cases the patient himself is sensible of the guggling of the softened tubercle.

1532. “Notwithstanding the efforts which have been made, in all ages, to deduce pathognomonic signs, from the appearance of the expectorated matter in phthisis, it must be confessed that this affords no peculiar characters which are not met with in chronic catarrh. And modern chemistry has thrown no light on the subject. Three different kinds of matter may enter into the composition of the sputa of consumptive subjects, viz.: catarrhal mucus—the matter of tubercles, more or less softened—and, (sometimes,) the pus secreted by tuberculous excavations which are completely empty. Neither chemical analysis, nor the physical characters of these matters, enable us certainly to discriminate one from the other.” “It is extremely rare to

* Laennec, p. 347.

meet with well-marked tuberculous matter in the expectoration. When this is completely softened it combines so intimately with the puriform mucus secreted by the bronchia, that it is impossible to distinguish the one from the other. Besides, tuberculous matter can only form a very small proportion of the expectoration when this is considerable. If it amounts to more than a pound daily, considering how slowly the excavations empty themselves, we cannot believe that the tuberculous matter can amount to more than twenty grains—that is, to a thousand part of the whole.” “We cannot therefore yield much confidence to the inspection of the sputa in this disease, inasmuch as those which are most characteristic, viz.: the ash-coloured, puriform and vermicular, are frequently met with in chronic catarrh.”*

1533. Dr. Forbes thinks Laennec has not done sufficient justice to the expectoration as a sign of tubercles in the lungs; more especially in the latter stages. He thinks that all the characters of phthisical sputa may be found in chronic catarrh or bronchitis, but that it is extremely rare. As regards ourselves we are willing to confess, that the sputa has rarely afforded us any valuable or certain evidence of the condition of the pulmonary tissue; yet we are free to acknowledge, that our frequent disappointments have rendered us rather careless oftentimes in our examinations. Nor will we positively deny but that a very repeated and close observance of the physical properties of the sputa, may from long habit, lead to a correct estimate of their nature. And as we would not willingly withhold any apparently important circumstance connected with our subject, we will give Dr. Forbes' condensed but ample history of expectoration in phthisis, derived from various and best accredited sources, and especially from the latest French authorities.

1534. “It may be of some use to the student if I state here in a few words, what appears to me the most usual characters and progressive changes of the expectoration in phthisis. In the earliest stage of the disease, the cough is dry, or attended by a mere watery or slightly viscid, frothy and colourless fluid; this, on the approach of the second stage gradually changes into an opaque, greenish, thicker fluid, intermixed with small lines or

* Laennec, pp. 349, 350, 351.

fine streaks of a yellow colour. At this period also, the sputa are sometimes intermixed with small specks of a dead-white or slightly yellow colour, varying from the size of a pin's head to that of a grain of rice, and which have been compared by Bayle to this grain when boiled. These have been noticed by many writers from Hippocrates downwards. After the complete evacuation of the tubercles, the expectoration puts on many forms of purulency; but frequently assumes one particular character, which has always appeared to me to be pathognomonic of phthisis, although the more accurate and extensive observations of modern pathologists, has proved the same to exist occasionally in simple catarrh. The expectoration to which I allude, consists of a series of globular masses, of a whitish-yellow colour, with a ragged, woolly surface, and somewhat like little rolled balls of cotton or wool. These commonly, but not always sink in water. This kind of expectoration has appeared to me most common in young subjects, of a strongly marked strumous habit and in whom the disease was hereditary. At other times, in the cases in which these globular masses are observed, and also in those in which they have not appeared, the expectoration puts on the common characters of the pus of an abscess, constituting an uniform, smooth, coherent, or diffuent mass, of a greenish, or rather a grayish hue, with an occasional tinge of red, (from intermixed blood,) and sometimes more or less fetid. This is the '*sputum cinereum et cænosum, argillæ cujusdam liquidioris speciem præ se ferens*' of Bennet."*

1535. The symptoms which we have described as accompanying manifest phthisis, cannot be considered, even when united in the same subject, according to Laennec, as certain signs of the existence of tubercles in the lungs, as a simple catarrh may produce the same signs. For he declares he attended a young woman who died with all the symptoms of phthisis, whose lungs were found on dissection to be perfectly sound, and in whom no organic lesion could be found, with the exception of the liver.

1536. Bayle's 48th and 49th cases were of a similar kind. The first of these patients "was subject to frequent colds, which lasted many months together in the winter." "He experienced

* Note to p. 352 of Laennec.

deep-seated pains in the chest, and his cough was much stronger than ordinary." "The pulse was small, frequent, and rather irregular. At the same time there was heat of the skin, night sweats, slight delirium, frequent cough, and a slight diarrhœa; very abundant expectoration of an opaque, yellowish and greenish-white, quite like purulent matter. Respiration short, frequent, laborious; slight rattling; tongue white in the middle, very red at the edges; thorax sounding well throughout." p. 433.

1537. "The two lungs adhered to the surrounding parts by means of cellular layers; they were both soft and very crepitant, though their tissue appeared a little red when cut into. There was neither tubercle nor hardness in any place. The mucous membrane was rather red, and a little thickened in the trachea; it was still more so in the bronchiæ and the bronchial ramifications; and the redness was the more marked the farther one pursued the subdivisions of these ramifications. One saw throughout these bronchial pipes, a matter resembling that the subject had expectorated during life; and it was only after having scraped this matter, that one saw the swelling and redness of the mucous membrane." p. 435.

1538. In the second case, the patient had complained for nearly four years of frequent cough and mucous expectoration, at one time puriform, at another transparent and ropy. The cough increased; the sputa were opaque, thick, round, of a yellowish-white, and like pus. The pulse became small, feeble, unequal and intermittent, but not too frequent. After some time he expectorated mucous sputa quite puriform, and had a continued fever. A rattling was perceived in his breathing; nevertheless the chest sounded well on percussion. The rattling lasted two days, the pulse was frequent, the cough strong, mucous sputa very abundant, and like pus; in a few days he died. p. 438, 439.

1539. On opening the body the mucous membrane of the trachea and of the bronchiæ appeared in a sound state. A puriform mucus was every where to be seen in the bronchial tubes. The lungs were soft, crepitating, and perfectly sound; there were some slight adhesions to the pleura; and the cellular layers which formed these adhesions, showed marks of recent inflammation. p. 440.

1540. These cases teach us, Laennec says, to never assert positively, that the disease is phthisis, where none of the physical signs are present, when the chest is examined by percussion and auscultation. In confirmation of this he says, "in the course of last year, I several times met MM. Recamier and Richerand in consultation, on the case of a young lady who seemed already far gone in consumption, but in whom I constantly affirmed the lungs to be sound from the absence of physical signs in this case. The result of the dissection confirmed the correctness of my diagnosis; the disease was schirrus pancreas complicated with a simple catarrh." p. 355. These cases are of great practical value, as they determine that simple catarrh, unattended by an organic lesion of the lungs, may completely simulate phthisis. And again, they teach us that the exploration of the chest should be attended to, before the diagnosis of a pulmonary disease is pronounced, and that the absence of the phthisical physical signs determine the case not to be consumption with great certainty.

2. "*Irregular Manifest Phthisis.*"

1541. By this term Laennec wishes to designate those cases of phthisis, in which the disease seems to begin in some other organ besides the lungs. It is frequently found, that a chronic form of diarrhœa will precede the local and general symptoms of phthisis. In such cases, dissection reveals ulcerations and small miliary tubercles in the intestines, already softened and destroyed. Perforation of the intestines sometimes takes place in these cases, preceded by acute peritonitis and peritoneal tympany; this condition is announced by the general symptoms of peritonitis, except perhaps that the onset is more sudden and the pain more acute. p. 355, et seq.

3. "*Latent Phthisis.*"

1542. This form is rarely latent through its whole course; but it is not uncommon that the characteristic signs do not show themselves until a short time before death, and the disease to have been mistaken for some other affection. But phthisis is never so completely masked as by pulmonary catarrh; as it may

have all the prominent symptoms of phthisis, as hæmoptysis, hectic fever, emaciation, and an expectoration so much resembling it, that it is impossible to distinguish it. In the beginning, it may be said that phthisis is generally latent, as it is common to find miliary tubercles in lungs otherwise healthy, and in subjects that had never shown any signs of consumption. p. 358. Louis and Andral also mention this latent form.

4. "*Acute Phthisis.*"

1543. "Under this term are included those cases which, after remaining latent for a longer or shorter period, at length unfold themselves all at once, with acute fever, emaciation, and other symptoms of such severity as to carry off the patient at the end of six weeks, a month, or even a shorter period." p. 359.

1544. A great number of tuberculous masses or separate tubercles are found in these cases; they soften at one and the same time; or a second crop, of great extent, is found advancing. In these cases, the patients sink under the violence of the fever thus suddenly and powerfully excited. Laennec gives a case, which terminated in less than a month. p. 359. Louis, p. 414, also gives one, in which the disease continued thirty-five days, and but twenty-five after the cough showed itself. In this case the lungs were found adherent in some places; the upper lobe contained a considerable number of gray semitransparent granulations, and small tuberculous masses not yet softened, surrounded by a tissue that was slightly engorged. The right lung adhered universally to the pleura, and was completely studded with tuberculous matter, for two inches high and two broad, which contained a kind of canal filled with a thick fluid, the colour of the lees of wine.

5. "*Chronic Phthisis.*"

1545. Under this name we may include those cases which may last five or six years, or even much longer—marked by periods of increase, during which hectic fever is manifest, and emaciation makes rapid progress; and by remissions of longer or shorter duration, and these sometimes so complete, that fever, cough,

and expectoration cease, and the patient recovers his flesh. Cases of this kind, as must appear from what is stated above, are the consequence of successive eruptions of tubercles, usually also few in number. It is in these that the pulmonary cicatrices are most commonly found." p. 360.

Of the Treatment of Phthisis.

1546. On this subject, what can we say that will encourage the practitioner to perseverance, or tempt the patient to submission. We have taken much pains to collect the opinions of some of the best practical authorities upon this point, and lament we are obliged to declare, that we have gained nothing by our search; for all agree in the incurable nature of the disease; and all lament the paucity and uncertainty of even our palliative means. In declaring phthisis to be an incurable disease, we may at first sight appear chargeable with inconsistency, as we have admitted this in another place, (par. 1440,) to be otherwise—but this is not so in reality. When the question was agitated, "is phthisis a curable disease?" we admitted on the best authorities, that cures took place sometimes, even after the most formidable symptoms had made their appearance; but that these cases were not only rare, but were effected by the efforts of nature alone. We then pointed out by what means this end was accomplished; and we have now to confess, that we cannot by any means in our power imitate the example.

1547. We have had experience abundantly ample, to test the efficacy of almost every plan hitherto proposed for the cure of phthisis; and we lament to say, that the powers of the remedies recommended for its cure, have been we fear solely confined to the hands of the proposers. But we say this with the most perfect good will towards such as have declared their success, and have generously made known their plans; though we have the mortification to declare, that so far no one of them has ever succeeded in our hands. And we fear we declare too solemn a truism, when we say that we do not believe, that phthisis properly so called, has ever been cured by art; and perhaps no better evidence can be adduced, that this is almost the universal feeling on the subject, than the numerous "infallible remedies" proposed for its

cure. For were tubercles under the controul of any one remedy, that remedy would be every way ample for almost every case that could occur—but how stands the fact? Has any one means in the vast catalogue of remedies, outlived its hour, not to say its author? It would be time ill spent, to even pass in review the various plans purporting to be cures for phthisis.

1548. Aware of the total insufficiency of every remedial agent hertofore proposed, Laennec most judiciously passes the much greater part of them without notice; and on such as he has thought fit to mention, because they were at one time popular, he condemns by a sweeping disbelief of their efficacy. He nevertheless employs his great experience in the best manner he is able, by pointing out the most natural indications, though that experience has not put him in possession of the power to fulfil them.

1549. He says, “that the most rational indication to be fulfilled as soon as we have ascertained the existence of the disease, is to prevent the secondary eruption of tubercles; as in this case, if the primary tubercular masses were not extremely large or numerous, which they very seldom are, a cure would necessarily take place after they are softened and evacuated.” p. 361.

1550. “The second indication should be, to promote the softening and evacuation or absorption of the existing crop of tubercles. Though the first of these indications, like the facts on which it rests is new, nevertheless, all the means which have been thought best calculated to fulfil it have been put in practice from time immemorial; it having always been the common endeavour of physicians to prevent the development of phthisis in subjects threatened with it, either from constitutional predisposition, or from the actual presence of unpleasant symptoms. In the latter class of cases, the mischief is already done, inasmuch as the first symptoms, general and local, and even the physical signs, do not show themselves very often until long after the formation of tubercles.” *Ib.*

1551. The means proposed to prevent the development of tubercles, are first, blood-letting. This remedy has been recommended in several different ways; 1, in small quantity, and frequently repeated; observing to diminish the quantity, in proportion to the frequency; 2, in larger quantity, so as to make a

decided impression upon the system. But unfortunately, neither of these plans have succeeded in the object for which they were proposed. It now seems pretty generally admitted, that this remedy should never be employed, except in such cases as bear evidence of inflammation, either general or local. We have certainly seen it afford much relief under such circumstances; but to be of no advantage, under any other; for "bleeding can neither prevent the formation of tubercles, nor cure them when formed." When the abstraction of blood becomes necessary from the presence of local inflammation, the more certain relief is obtained by leeches, or cupping over the pained part.

1552. Laennec very properly condemns the more violent means recommended ever since the days of Hippocrates downwards; as the actual or potential cauteries, by saying he never in a single instance effected a cure, though he employed them. Moxa has not proved in his hands more successful than the other escharotics; nor did he insist upon the caustic potass, when his patient was averse to it. Our own experience in local and irritating remedies to the chest, but too certainly confirms that of Laennec; and as we have never derived any permanent advantage from their use in phthisis, we have ceased for many years to employ them; thinking with Laennec that "measures so painful ought not to be had recourse to, unless they are found by experience to hold out a reasonable hope of success."

1553. Blisters, issues, setons, tartarized antimony in plaster, cautery to the verge of the anus, &c. should all be held under the same proscription.

1554. The second indication is, to promote the softening of the tubercles. This has been attempted by a vast variety of remedies, as lime water, sulphurous waters, both internally and externally, muriate of ammonia, carbonates of ammonia, soda, nitrate of potass, hydrochlorate of soda, hydrocyanic acid, iodine, &c. &c. each of which have been lauded and condemned in its turn; so that neither holds at present, the smallest rank as a remedy for phthisis. The iodine, however, seems to deserve farther trial, as its influence upon glandular derangements is undoubted; and though we are of opinion, that the analogy between such affections and tubercles is very remote, still, as this substance has been found useful in several other diseases beside bronchocele, it may be

fairly entitled to farther trial. Of the other powerful remedy, the hydrocyanic acid, we cannot speak a word in its favour.

1555. Before the pathology of phthisis was ascertained, it was generally supposed, that it consisted chiefly in ulcers in the lungs; and with an expectation that they might be healed by the same means, as were in common use for this purpose on the external surface, the various balsams and aromatics were liberally exhibited—hence arose the praises of the balsams of Tolu, Peru, and Mecca; turpentine, camphor, sulphur dissolved in various volatile oils, all of which are now deservedly laid aside. With the same intention various gases were breathed; and with a similar hope, the vapours of rosin, tar, myrrh, benzoin, petroleum, wax, &c. were inhaled, which, like their predecessors, are now buried “in the tomb of all the Capulets.” And when either of these substances had been found successful, it must have been in simulated phthisis, as chronic catarrh is sometimes wont to do. We shall not notice the host of empirical remedies; as they of course must be put under the same ban as those already proscribed.

1556. Laennec says, “of all the measures hitherto recommended for the cure of phthisis, none has been followed more frequently by a suspension, or complete cessation of the disease, than change of situation. But even this statement must be received with caution, or perhaps with distrust, as a general admission, as but very few phthisical patients can derive advantage from it; since, change of climate, as a remedy in this complaint, requires a peculiar condition of the lungs, that it may be followed with benefit. And while upon this subject, we cannot lament too deeply, the unavailing, nay, in some instances, the unfeeling practice, of sending invalids of this kind from their comfortable homes, and their kind friends, to die in a strange land, bereft of almost every solace that illness and suffering so strongly claim. The removal to a temperate, or warm climate, has for the most part been sadly abused. The probability of advantage, and the chances against it, have not been as carefully weighed, as the high responsibility attached to the advice has merited. The cases in which this change might be useful, have not been discriminated with sufficient care from those in which it would be altogether unavailing, if not mischievous. For these

reasons we most gladly avail ourselves of the opinion of Dr. Clark upon this subject, which we extract from a note of Dr. Forbes, in his translation of Laennec, together with the introductory observations of the latter upon the competency of his friend, to give the best possible opinions upon this important subject.

1557. "For the following note I am indebted to my friend Dr. Clark, late of Rome, but now resident of London; whose opportunities of witnessing the influence of climate in consumption, have been, perhaps, unequalled, and whose accuracy of observation, and soundness of judgment, are, at least, equal to his opportunities. I am happy to say, that Dr. Clark is at this time preparing for publication a work on the Effect of Climate on Consumption and other Diseases, which I doubt not will throw great light on the subject now under consideration."—Trans.

1558. "I consider consumption, with your distinguished author, as a disease very generally consequent to a deranged or cachectic state of the system, originating in a series of functional disorders, and often favoured by an hereditary predisposition to tubercles. When adopted for the removal of this state of the system, and previously to the actual development of tubercles in the lungs, I look upon *change to a milder climate* as a measure of the utmost importance, and likely, when well-timed, and combined with such other treatment as the case may require, to go a great way to the acquirement of this desirable object. If the mischief has advanced a little farther, and there are good reasons for believing that tubercles are already formed in the lungs, more especially if a disposition to inflammation of the organs, or to hæmoptysis, has manifested itself; then, change of climate becomes a more doubtful measure; and, unless adopted with judgment, and with some precaution, may accelerate, rather than retard the progress of the disease. In cases of this kind, it will be necessary, previously to undertaking the journey, to remove, or at least to moderate, the more evident or important of the functional derangements, to subdue excitement, and diminish plethora. Much evil has arisen from inattention to these precautions. Medical men in general seem hardly sufficiently aware of the great excitement produced in the system

by travelling, and of the necessity, therefore, of removing those morbid complications most likely to suffer aggravation from this. If the disease has made still greater progress, and the cough, expectoration, emaciation, hectic fever, and *the results of auscultation*, leave no doubt of the advanced stage of the tubercles; the mischief to be apprehended from the exposure, the fatigue, the irritation, and excitement of a long journey, is greatly increased; and, under such circumstances, generally speaking, no advantage is to be expected from the change; and very often the fatal termination will be accelerated by it. But should the symptoms just enumerated, from whatever cause, have become much mitigated, and more especially if there is reason to believe, from a careful examination of the chest, that the disease is confined to a small portion of the lungs; then, a residence in a milder climate affords the best opportunity of aiding the efforts of nature in the work of reparation; and, by contributing to the reestablishment of the general health, will tend to prevent the farther formation of tubercles."

1559. "A change of climate having been decided on, the particular situation to be selected becomes a question. Professor Laennec's decided preference of a maritime residence is not, perhaps, founded on a very extensive experience; certain it is, however, that as well in this country as on the continent, the places chiefly frequented, and which I have had an opportunity of observing, are Hyères in the south of France, Nice in Piedmont, Pisa, Rome and Naples in Italy. Each of these places may have some advantages when compared with others, and when considered in reference to each individual case. The constitution of the patient, the coexistence of other diseased states with the pulmonary affection, the previous abode and habits of the patient, &c. &c. must be taken into account in fixing the decision. In almost every case, where the removal to a milder climate can be conveniently effected by sea, this means is much preferable to a journey by land; in some cases, the good effects produced by a voyage are very remarkable."

1560. From all that has been said on the subject of phthisis, it must be evident, that its treatment must be more regulated by the existence of symptoms, than any view to a radical cure. The inconveniences which the phthisical patient experiences vary during the course of the disease; one of the earliest for the most

part, and the most pertinacious and distressing, is cough. This sometimes becomes so urgent as to deprive the patient of sleep, especially during the night.

1561. Very many articles have been tried with a view to controul or subdue this distressing symptom; but we believe that all experience at this time decides in favour of opium, in one form or other. Hemlock, henbane, digitalis, &c. have been severally extolled; but their superiority over opium for cough is not sanctioned by trial. We therefore rely mainly upon this drug for the relief of this harassing symptom. It is generally administered at night with the hope of procuring sleep; and fortunate it is for the patient, when idiosyncrasy does not prevent its employment, for we know of no substitute; for as a general rule it is found, that where opium disagrees, all the other narcotics are equally ineligible.

1562. It is generally best administered in small doses, and these repeated pro re nata, at three or four hour's intervals. The denarcotized laudanum is preferable to the common under any circumstance; and it is particularly called for, where the other form disagrees. It is perhaps eight or ten per cent. weaker than the officinal laudanum. We have found in a number of instances, that the morphia will succeed when no other preparation will; it therefore always merits a trial, when opium in other forms disagree. It, or its sulphate, may be given in solution, or in the form of a pill, in doses of a sixth or eighth of a grain; these quantities being about equal to twenty or twenty-five drops of laudanum. If the former form be preferred, it should be so calculated, that a tea-spoonful of the julep should contain that quantity of the morphia; the following is the form we generally employ:—

R.	Morphia	-	-	-	-	gr. iij.
	Pulv. gum Arab.	-	-	-	-	ʒij.
	Aq. cinnam. simp.	-	-	-	-	ʒss.
	Aq. font.	-	-	-	-	ʒijss.
	Sacch. alb.	-	-	-	-	ʒij.
						f. jul.

A tea-spoonful of this is to be given at bed-time, and repeated in three hours if the cough persist, or is again troublesome. A tea-spoonful of this formula is supposed to hold one drachm of the

julep If pills be the choice of the patient, we prescribe each to contain the quantity mentioned above, taking care to have the morphia well united with some other substance, to insure its regular division, as well as to augment the bulk of the pills; the following is a good form:—

R.	Morphia	-	-	-	-	-	gr. j.
	Pulv. rhæi	-	-	-	-	-	gr. viij.
	Conserv. rosar. vel. syr. commun.						q. s.
	M. f. pil. viij.						

One of these to be used as directed for the solution,

1563. Demulcent drinks should be constantly used, with as much freedom as the stomach will bear, or thirst require. The most common in use is the flaxseed tea, and it is nearly as good perhaps as any. The slippery elm-bark tea, however, generally merits the preference, as it is more acceptable for the most part to the patient. The drinks may be varied as caprice may direct, or disgust require; therefore, gum Arabic water, barley water, rice water, toast water, baum tea, bran tea, &c. may be had recourse to in their turn.

1564. When expectoration is not free, and the patient oppressed, thirty or forty drops of the compound syrup of squills seems to answer better than most other preparations. For its composition, see par. 1208. This can be repeated as occasion may require. Should this quantity sicken the stomach, the quantity must be reduced.

1565. Though we cannot hold out a prospect of eventual recovery, yet are we bound to employ only such means as will be best suited to the immediate condition of the patient; for we are of opinion, that much injury is done, and even life itself abridged, by that recklessness of consequences which the utter despair of recovery produces, by indulging the patient's waywardness of desires for food or medicine. The constantly consuming fever, the exhausting sweats, and the wasting diarrhœa, certainly merit our closest attention, if we mean the patient shall derive all the aid from medical care that it is capable of affording. With this in view, the diet and remedial means, (as far as they can be considered such,) should be carefully selected, and faithfully persisted in; for by moderating the symptoms just named by judicious

and varied means, we may support life sufficiently long for nature to effect a cure. See case, par. 1447.

1566. For these purposes, the most bland, but highly nutritious substances, should be employed for food—as sago, tapioca, rice jelly, arrow root, &c. No animal substance should be permitted in any shape or form. Milk, where it agrees, can be taken with these substances; and rennet whey may be almost always freely indulged in.

1567. We know of no remedy for the fever; though when excessive, its violence seems to be abated by small and repeated doses, (twenty drops,) of sweet nitre, (æther. nitros.) in cold water; or by the occasional use of the acetate of soda, and not covering the body too warmly, especially during the night. The deluging sweats are frequently abated by the elixir vitriol, in small and repeated doses; by a free use of lime water, and by the acetate of lead in two or three grain doses slightly guarded with opium four or five times in the twenty-four hours. By moderating the quantity of bed-clothes, and sometimes by the patient being kept awake at the hour they are wont to appear at. The diarrhœa is best restrained by the occasional use of prepared chalk and laudanum; the acetate of lead has been found occasionally beneficial, as has the free use of the juice of sweet oranges. The diarrhœa, however, is rarely controlled beyond a short period at a time; and it has been supposed to constantly alternate with the night sweats—but this is an error. Post mortem examinations abundantly prove, that the diarrhœa proceeds from a tuberculous and ulcerous state of the mucous membrane of the intestines. (See par. 1483.)

CHAPTER XX.

PERICARDITIS, OR INFLAMMATION OF THE PERICARDIUM.

1568. THE pericardium may be either partially, or entirely inflamed. The symptoms to which this inflammation gives rise, are certainly very far from being either so well pronounced, or so peculiar, as to leave no doubt of the part from whence they originate. Thus, the heart itself may be inflamed only, (though this is confessedly very rare,) or the pericardium may at the same time be affected, yet no discoverable difference exists in the symptoms; but fortunately, this obscurity, does no injury to our therapeutical views.

1569. The surface of the pericardium in contact with the heart, is the one that becomes inflamed; its redness is however, not great in the acute form; and as this membrane is a serous one, the inflammation resembles that which may attack a serous tissue in any other portion of the body, except perhaps agreeably to Laennec, that the albuminous exudation is in greater proportion in pericarditis than in either pleuritis or peritonitis; being in the two latter, from twenty to twenty-five times as much serum as coagulated lymph; while in the former, they are nearly equal. Serum however, is occasionally found in pretty considerable quantity; Laennec says a pound, and Corvisart has seen as much as four pounds. This serum is generally limpid, of a pale yellow; and does not contain a sufficient number of albuminous coagula, to render it turbid, though now and then, as in pleurisy, it is found bloody.

1570. Laennec states that the effusion is very considerable in the commencement of the disease, but diminishes by absorption quickly as the violence of the disease abates; for when this takes place the quantity of serum and lymph is about equal. In some very violent cases, there is no serum; instead of this, a strongly concreted albumen is found filling the whole pericardiac cavity, uniting the heart and large vessels to the exterior or

loose portion of the pericardium. In these cases it is supposed that the effused serum has been quickly absorbed, and the two layers of false membrane, that is, the layer which the heart itself furnishes, and that yielded by the serous surface of the pericardium, became cemented together, though Laennec confesses, that it is not impossible, in some instances, that the more solid exudation, may be the only one. When the disease terminates favourably the "pseudo-membranous exudation, after a certain time, is converted into cellular substance, or rather into laminæ of the same nature as the serous membranes." These constitute the general appearances of the pericardium and heart under inflammation—besides these, pathologists remark many others, but as they are not constant in their appearance we shall pass them over.

1571. This disease has been divided into two forms—the *acute* and the *chronic*. In the acute form, the redness as just noticed, is not very great, and even this exists but partially. The character of this inflammation is peculiar, agreeably to Laennec, "it looks as if the surface of the membrane was covered here and there with little specks of blood very close to each other." In some cases an albuminous exudation covers the whole surface of the heart, pericardium, and large vessels—this false membrane the same author tells us, has given rise to a singular error, having been mistaken for a variolus eruption in subjects dead of the small-pox. This offers a caution to those who are engaged in pathological researches, not to mistake one phenomenon for another.

1572. It would seem, that the serous membrane of the pericardium, has laws somewhat peculiar to itself; or at least, apparently different from those which govern in other parts the same kind of membrane, as the pleura or peritoneum. The consistency of this membranous exudation, is greater in the pericardium, than when it is thrown out in pleurisy, and adheres more firmly to the subjacent parts. And besides, it seems to have a greater self-preserving power, than the pleura and peritoneum, if the causes which produce inflammation in the latter membranes, be identical with those, which excite it, in the former, since nothing is more rare than simple pericarditis; and even when complicated is very much less frequent than pleurisy or peri-

tonitis. There is a morbid appearance of the heart, about the origin and seat of which Corvisart and Laennec disagree; these are white opaque patches of various sizes; they are about the thickness of the nail, and have a pretty firm consistency. Corvisart thinks they are produced without previous inflammation, and are situated beneath the serous covering of the pericardium; while Laennec contends, they are the result of inflammation, as there is no instance he says of an albuminous exudation without inflammation; and that they are situated upon the membrane as he has been able to remove the one from the other.

Chronic Pericarditis.

1573. This form is said to be very much more frequent, than the acute; existing ten times, out of twelve. The inflammation is much more general, and is much more florid; and "the redness is formed by the close approximation of minute points, which look as if applied by a pencil." It commonly occupies the whole internal surface of the serous membrane. This form is rarely accompanied by the "pseudo-membranous exudation; and when it exists, it is thin, soft, friable, and entirely resembling a layer of very thick pus."

1574. Laennec says in this form of pericarditis, "the muscular substance of the heart loses its colour and becomes whitish, as if it had been macerated several days in water. This loss of colour is attended sometimes by a considerable degree of softening, and at other times, the consistence is natural." This loss of colour, most writers think has been occasioned by inflammation—but this is denied by Laennec; "we can never be sure," he says, "of the existence of inflammation in a muscular organ, unless we find pus deposited among its fibres." p. 663.

Signs of Pericarditis.

1575. It is agreed, by all the writers almost upon this disease, that no other, presents so much obscurity of symptoms; or perhaps so much uncertainty of its existence; consequently its diagnosis is extremely difficult. This perhaps is owing to its seldom or never being presented to us, in its simple, uncomplicated

form; that is, where the inflammation is limited to the serous membrane of the pericardium alone; this being the case, it cannot present its own insulated symptoms, by which we might be enabled to detect its presence.

1576. The following are the signs laid down by Corvisart, when the inflammation of the pericardium predominates over the other affections, which complicate it. "Breathing difficult or confined, high, frequent and interrupted. A pain about the region of the heart; the patient feeling an internal painful heat and anxiety; the hand if applied to this part feels a palpitation and tumult more or less marked. Commonly, there is cough; but it is dry and distressing; the pulse is small, contracted, frequent, and rather rapid; the face expressive of anguish; urine scarce; in a word, the whole train of symptoms which denote extreme irritation of the whole system, syncope, &c."

1577. Laennec cautions against "too implicit confidence in these signs, even when they coexist; for pericarditis may assuredly exist without them, and they without pericarditis. The accumulation of blood in the heart, and polypus concretions, the consequence of this, give rise to precisely the same symptoms." From this it would appear that we have no pathognomonic sign in pericarditis; and that its existence can only be presumed, from symptoms more or less founded in reality. For acute pericarditis is almost always complicated with an inflammation of the pleura and lungs, especially of its contiguous side.

1578. The chronic form of this disease, is much more frequent than the acute, as we observed above; it is also much more extensively complicated; it is almost sure to be united to all the organic affections of the heart, and with even other affections of the pericardium itself, as dropsy, cartilaginous condition, &c.; it is implicated in the various disorders of the pleura, lungs, mediastinum, diaphragm, and stomach, as well as the acute form. The most common complication is that of the heart; nor is this surprising since the same membrane which lines one, covers the other; and when the portion which covers the heart becomes inflamed, it may penetrate and involve the substance of the heart. In this it resembles the pleura and lungs, as we seldom see one much injured, without the other being implicated, though this is not absolutely a necessary consequence.

1579. The acute form, generally attacks adults in robust health and in the vigour of life; while the chronic may take place at any period of life, as it is generally but a consequence of other diseases.

Causes.

1580. The causes of pericarditis, may be all such as are capable of exciting inflammation in any of the similar tissues—as a sanguine temperament; cold; sudden check of perspiration; the suppression of accustomed evacuations; errors in diet; metastases, especially rheumatism and gout; blows or other violences, &c.

Treatment.

1581. From what has been said, it is evident, that in prescribing for pericarditis we take for granted that the disease exists, rather than feeling an assurance, that it is present—we have however observed, that the acute form of this disease was perhaps complicated by acute inflammation of the parts in the immediate vicinity of the heart, as the pleura, lungs, mediastinum, and diaphragm, and that while this complication rendered the diagnosis of pericarditis extremely obscure, it nevertheless rendered the nature of the treatment more certain, however unsuccessful it might prove. Indeed, from all testimony upon this point it would seem, that nothing but dissection can determine the previous existence of pericarditis; consequently that as it has no marked characters on which we can rely, that we may often prescribe for this disease where it does not exist; while on the contrary, it may have been present when it was not suspected.

1582. But as this disease is rarely, if ever, simple, or uncomplicated; and as, when in combination, it is always connected with affections of high inflammatory character, the mode of treatment must be such, as pleurisy or pneumonia, with which it is so commonly connected, require—such as blood-letting, both general and local, &c. but at the same time always having regard to the nature and type of the disease with which this affection may be associated. In the chronic form we have more *time* to

combat the disease, but absolutely perhaps less *chance*, from the changes of structure, &c. the parts have already undergone.

1583. The history of this disease, should teach us a more cautious language than is oftentimes employed, when giving a name to a disease, or when relating our cures; it is not very uncommon to hear a disease called pericarditis; or its cure boasted of, when no certainty could be obtained of the nature of the affection purporting to be an inflammation of the pericardium.

Carditis.

1584. The same obscurity prevails in cases of carditis—this disease furnishes no pathognomonic sign; and perhaps for reasons similar to those we have expressed for pericarditis; namely, that it is seldom or never found simple, or uncomplicated; and when complicated, it is with affections similar to those enumerated as embarrassing inflammation of the pericardium. The causes are similar to those which cause pleurisy, &c. But, perhaps the heart is more liable to become affected by metastasis, than the pericardium; hence, it is supposed not unfrequently to become the secondary seat of disease, especially of gout and rheumatism. Practical writers offer no other mode of treatment for this disease, than for pericarditis.

CHAPTER XXI.

PERITONITIS.

1585. It has not been but a short time, that the affections of the peritoneum have been well understood; and it is principally owing to the genius and industry of the lamented Bichat, (though to a certain extent anticipated by Pinel,) that the profession is indebted for their clear exposition. Before his time, it was not known, that the peritoneum could be inflamed, either

generally or partially, without involving either of the several viscera over which it passed; or that either of these viscera could have its parenchyma inflamed, without this affection being transmitted to its investing membrane, the peritoneum. Modern pathological researches have, however, settled this point now; and the truth of Bichat's declaration on this subject rests upon so solid a foundation at this moment, as not to be shaken, though Lieutaud and some others pretend, that dissection never shows the peritoneum in a state of inflammation, without the viscera it covers being implicated.

1586. This was certainly the view taken of abdominal inflammation, by all the older nosological writers; and hence, Cullen made peritonitis a genus, which comprehended several species—as one or other of the viscera over which it passed, was thought to be involved. Thus, if the peritoneum of the omentum was inflamed, the inflammation was called by its name; and so on with the other viscera of the abdomen; though Cullen confessed it was difficult to distinguish these phlegmasiæ from each other, by any marks or signs; nor did he consider this a matter of much moment; for if known, they all required to be treated as inflammation in general. Hence, we have gastritis, enteritis, cystitis, hysteritis, &c. &c. proving, that those who made these distinctions, were persuaded, that an inflammation of the peritoneum did not exist, without these viscera participating in it.

1587. It is therefore a matter of great practical value, that this subject should be better comprehended than it is generally; with this in view, we shall give the best tested opinions upon this point, both anatomically and pathologically, that the mode of treating the inflammation of the several tissues composing the abdominal organs shall be more easily understood, and better comprehended. But to comprehend the various phenomena presented by a diseased organ, requires an acquaintance with the brilliant discoveries of Bordeu and Bichat, of the more intimate and varied structure of our bodies.

1588. M. Gasc has observed,* that “the researches of Bichat upon the tissues which enter into the composition of our or-

* Dict. des Sciences Med. Art. Peritonite.

gans, have led us to believe that an inflammation of the peritoneum may exist, independently of the organs beneath it. And that these organs are composed of several tissues, whose structure and nature are different, and their affections vary, as it may be one or other of these tissues that may be primarily inflamed; for instance, the mucous membrane of the stomach, intestines, the bladder, the uterus, &c. have both acute and chronic catarrhs; for the peritoneum, serous inflammations; for the muscles, a particular inflammation, though we know not at present the mode of these alterations. But it is certainly always true to say, that the stomach, the intestines, the bladder, the uterus, &c. are never attacked by these three affections, at one and the same time; that the inflammation is always confined in the first instance to a single tissue; and when this is acute, it is only the peritoneum that is diseased, the other tissues remaining sound.”

“And that those who suppose, that this inflammation depended upon the organs over which it passed, was in error, since the inflammation of the peritoneum is never confined to the limits of the organ, but spreads itself indefinitely beyond it.” This part then, of pathological anatomy, seems to be so well established at this time, that we take it at all times for granted, as will be seen in treating of the inflammations of the several viscera of the abdomen, especially in the forms peculiar to the female.*

1589. Few tissues of the body are so susceptible of inflammation, as the peritoneum; this disposition it seems to derive from its very organization; hence, the variety of causes which may urge it to inflammation. It may be produced from external, as well as from internal causes; mechanical violences, as strong compression, blows, falls, wounds, &c. Chemical irritations, as the injection of stimulating liquids within the cavity of the belly; unabsorbed effusions of blood, pus, serum, bile, &c. The internal may be, pressure from pregnancy, either uterine or extra-uterine, enlargement of the ovaries, &c. Violent and long-continued efforts, which may put the peritoneum upon the stretch, as lifting heavy weights, jumping, carrying heavy loads, &c.

1590. Cold suddenly applied to the body, especially if it be in a state of perspiration, or if it be long and partially applied;

* See Hysteritis and Puerperal Fever.

too cold water in bathing, &c.; sudden and powerful passions or emotions of the mind; the sudden suppression of the lochia or menses, in females, is also said to be capable of producing peritonitis; an epidemic constitution of the air we are told has given rise to this disease; in proof of which several of the French army surgeons or physicians, might be cited; Pujol and Broussais quote instances of this kind; and Gase declares he has seen it more than once in the hospitals of the army, and especially at Dantzick, (loc. cit.) It may, and is perhaps, very often produced by metastasis.

1591. These causes may act suddenly, and excite the acute form of this disease; or they may act more slowly, and produce the chronic; it will therefore be proper to divide this disease into the acute and chronic peritonitis.

Acute Peritonitis,

1592. Is that form of the disease which declares itself suddenly; is preceded by causes more or less evident; where the symptoms are violent, and the progress rapid. It may attack persons of any age, or of either sex, but more frequently the young and plethoric, but especially women after delivery.*

1593. This disease generally invades by a chill, and marks of debility—the chill sometimes is not distinctly marked, and occasionally it is of very long continuance; this is succeeded by heat of various intensities; head-ache, and sense of tightness around the stomach, or epigastric region. So soon as the inflammation is established, the belly becomes painful to the slightest pressure; so much so sometimes, as not to be able to support even the weight of the bed-clothes, or the lightest application. The degree of pain will be in proportion to the extent and intensity of the inflammation. Sometimes it is intensely fixed to a spot of the abdomen, at other times it is vague or more extended. The patient finds most relief, by laying on his back, with his knees drawn up, all other positions being extremely painful. The hypochondria are more or less distended; a tumour, answering to the form of the intestines, may be sometimes observed;

* See Puerperal Fever.

the stomach swells, and becomes to a certain degree tympanitic by extracted gases. Hiccough, nausea, vomiting succeed, together with great anxiety; respiration hurried and painful; especially during inspiration. These symptoms are attended sometimes by constipation, at other times by diarrhœa.

1594. The pulse is hard, contracted, and frequent, in the beginning; and towards the close, when the disease is violent, it becomes so frequent as scarcely to be numbered. The face is pale, and frequently is covered by a cold sweat; and by and by becomes livid, and agitated, though the integrity of the mind is rarely disturbed, even to the last. The extremities become cold and clammy; the urine high-coloured and very scanty; sometimes depositing a lateritious sediment.

1595. This disease must ever be considered as one of danger; but the suddenness, and degree of this, will in some measure depend upon the force of the causes, the susceptibility of the parts concerned; the age, the sex, the temperament, and season of the year. In young, vigorous, and plethoric habits, this disease for the most part, is more violent, painful, and rapid, than in people advanced in years, and when the causes act slowly and moderately, it is slower in its march, nor is it marked by so intense a febrile condition of the system; sometimes it is only observable towards evening, though it may eventually prove mortal.

1596. Peritonitis, properly so called, may however be confounded with inflammations to which the substance of the different viscera of the abdomen is sometimes liable; as with the inflammation of the stomach, the intestines, the spleen, the liver, &c. and from which it is almost impossible to distinguish it; but fortunately a mistake of this kind would not be very serious, perhaps in a practical sense, as the curative indications would be the same.

1597. This disease is sometimes so insidious and apparently so mild, that the inexperienced practitioner may be led into an error in prognostic. As a general rule, where the disease is ascertained, the issue should always be dreaded, though it is not necessarily fatal. Where the constitution is good, the proper remedies early applied, and faithfully pursued, the disease may be overcome; but in feeble constitutions, where important time

has been lost, or the case injudiciously treated, it is but too certain to prove fatal.

1598. Peritonitis runs its course with great rapidity in general, especially in females after delivery. For the most part it terminates from the fifth to the tenth day, and rarely exceeding fourteen days. It may, like all other inflammations, terminate by resolution, effusion, by gangrene, or by becoming chronic.

1599. Bichat informs us, that the dissections of persons dying from acute peritonitis, prove that the peritoneum may be inflamed through its whole extent, or in portions, without the organs lying beneath it being affected. In many instances the muscular coat of the stomach and intestines have been found sound, when this membrane itself has been in a state of absolute gangrene. And as a general rule, the traces of inflammation are evident in proportion as the disease may have been more advanced and more intense. Sometimes the vessels are highly injected and red; while at other times, the redness is scarcely perceptible; the blood having escaped by the collateral branches.

1600. Dissections prove the highly phlogosed state of the peritoneum in peritonitis, and thus points out the mode of cure. The first step is to diminish the quantity of blood, by bleeding liberally from the arm, and this to be repeated if the symptoms do not abate. Besides the general bleeding, local bleedings by leeches must be practised, and this as near the seat of pain, when it locates itself, as possible, or when it does not, and the pain and tenderness is general, they may be more diffused over the abdomen—the quantity to be drawn, will always depend upon the activity of the disease, and force of the arterial system; from six to eight ounces may be considered as a common quantity, but must be repeated if the symptoms persevere, and this in quantities adapted to the state of the system.

1601. The bowels should be kept open by castor oil, or weak solutions of the neutral salts, *but not actively purged*. All pressure should be removed from the abdomen; and the most absolute antiphlogistic regimen enjoined, (see p. 214, &c.) the drinks should be gum water, barley water, flaxseed tea, apple water, thin lemonade, &c. The patient should be kept as still as possible, as motion always hurries the circulation, and thus increases the mischief. Some recommend warm fomentations, but we

have never witnessed any marked advantage from them, and they are liable to all the objections we have made against their use in puerperal fever. (par. 1651.) Others have thought much advantage was derived from cold applications to the abdomen, when the system is labouring under high excitement—but of this we can say nothing from our own experience. One rule however should be observed in the temperature of the drinks of the patient; to give them rather less than lukewarm or cold, according to the degree of excitement or the symptoms. Blisters to the extremities are sometimes useful.*

Chronic Peritonitis.

1602. Should the patient live with an acute peritonitis beyond the fifteenth or twentieth day, and have an abatement of the severe symptoms, the inflammation may assume a chronic, or sub-acute form; hence, the acute is not an unfrequent cause of the latter form of this disease. We must not, however, regard this as the only cause, for it sometimes makes its appearance slowly and silently, in consequence of slight, but long-continued irritation, of either a mechanical, or even a chemical cause. Thus, workmen whose employments require long and steady pressure upon the abdomen, as shoemakers, coopers, tailors, &c. are perhaps more disposed to this condition, than those whose labours require no such exertion of the abdomen. But above all, if the observations of Broussais are correct, and we have every reason to believe they are, soldiers are more liable to chronic peritonitis than any other class of people. This arises, he supposes, from several causes; as exposure to cold and moisture; to their frequent bivouacings; the cold stage of intermittents. Great age; feebleness of constitution; effusions into the cavity of the abdomen; may also be causes.

1603. The attack of this disease is always insidious, and, in some instances, remains for a long time concealed, as its invasion cannot be recognised by any distinctly marked symptom. It is, however, to be suspected, or perhaps detected, if by an examination of the patient, we find he complains of a long-standing

* For more particular details, see Puerperal Fever.

tenderness of the abdomen; or of one which can at times be discovered by pretty firm pressure; for it is the character of chronic peritonitis, to be attended by a dull, obtuse pain, and not by an acute sensation. Indeed, we may declare that there is something peculiar in the inflammation of the serous membranes, since it is not always attended by pain; this is remarkably the case with the pleura sometimes, as we have had occasion to remark when treating on pneumonia, as it has proceeded even to suppuration, without the patient complaining of pain.

1604. On this account, we should be upon our guard, after the active stage of the acute form of this disease has passed away, that it leaves not behind a chronic, or concealed inflammation. We must not always rest satisfied with the mere absence of suffering. Sometimes, however, the disease declares itself openly by the presence of a fixed pain, resembling the stretching of a very tender part; this is not attended by either heat or throbbing; the seat of the pain is generally in the epigastrium; and is sure almost to be aggravated by jolts, or violent motion of any kind, as coughing, sneezing, &c.

1605. A slight swelling may be observed in the belly, which is a little elastic, and which increases towards evening. The appetite does not fail in general, and the digestion is not deranged. Vomiting sometimes attends; in the former state of things, it is thought that the peritoneum covering the stomach is not implicated in the inflammation; while in the latter, it is believed that it suffers. Broussais speaks of a feeling in the belly which resembles a ball turning round; and which has a tendency to ascend to the throat; for which he accounts, by supposing it is formed by a portion of the intestines, and the engorged mesenteric glands becoming agglutinated.

1606. One of the most remarkable facts connected with this disease, is the natural beat of the pulse in the morning; but there is a small increase in frequency towards evening; at which time a slight augmentation of heat may be observed, and the cheeks to redden; the breathing is a little difficult, and cough upon lying down, giving rise to a suspicion, that there may be already some effusion in the abdomen. This suspicion will almost amount to certainty, if there be joined to these symptoms œdema, and a sparing secretion of urine. Constipation some-

times accompanies this complaint; and diarrhœa is pretty sure to supervene towards the fatal close of it. Slow as this disease is in its march, it is, nevertheless, when it has arrived to the condition just stated, sure to prove fatal.

1607. But what can we say encouraging of the treatment of this disease? we fear nothing—if the inflammation has absolutely ceased to possess an acute form. Yet it would appear wrong to abandon the patient altogether to the efforts of nature; first, because, however hopeless apparently the case may appear, it is not perhaps absolutely beyond the possibility of recovery; second, because, patients do sometimes recover under the most forlorn circumstances, by the persevering use of judiciously adopted measures. Therefore, we should exert our energies in favour of the sufferer, however desperate the case may appear.

1608. We well recollect a case, in which there was nothing to hope, yet this patient recovered; and we attributed the recovery to the free use of the spirit of turpentine. In this we may have been mistaken—it might have been, and perhaps was, mere coincidence; yet the patient appeared to mend immediately after its exhibition by the mouth, and its liberal external application. Pain was quickly diminished; the diarrhœa soon abated; effusion was arrested; and the patient recovered.

1609. In cases of this kind, therefore, we would recommend the trial of this substance in forty drop doses every two hours, gradually increasing it if the stomach become reconciled to it. At the same time the abdomen should be bathed with it morning and evening, until it irritate the skin sufficiently; and when this subsides, to renew it by fresh applications of the turpentine. Blisters to the thighs perhaps may be useful at the same time. Should these fail, we know nothing beside to commend.

SECT. I.—PUERPERAL FEVER.

1610. This disease attacks the woman almost immediately, or within a very few days after, delivery. It is distinguished by its always being accompanied by a highly accelerated pulse; great soreness of the abdomen, with distention, after a short time, of

this cavity; a failure in the secretion of the milk, should it have previously made its appearance, and its entire suppression if it have not, after the onset of the disease; the diminution or retention of the lochia; constipation of the bowels; the peculiar appearance of the alvine discharges; the freedom from delirium for the most part; and above all, the extinction of maternal feeling. The fatal character of this disease is almost proverbial.

1611. This disease is not unfrequently epidemic in Europe, but it is very rarely so in this country. The only instance of this kind we remember to have met with, is the one recorded by the ingenious Dr. Jackson, of Northumberland, in this state.

1612. The predisposing causes of this disease, are not so evident, as might at first sight be imagined; since all authority declares, that the *circumstances* of labour do not seem to influence its production. The emptying of the uterus by delivery seems to be all that is necessary to this end; and even this, agreeably to some, is not essential to its production, even in the female.

1613. It was supposed by Dr. Gordon, of Aberdeen, that a prophylactic was found in liberal purging by calomel and jalap, the first day after delivery; as the women who were treated in this manner were exempt from the disease, or derived evident advantage from it, though the disease was prevailing as an epidemic at the time these trials were made. But it is evident that Dr. Gordon laid too much stress upon the efficacy of this plan, since were it truly prophylactic, the disease should have ceased its ravages, which was far from being the case. For Mr. Hey, who followed this plan, says of it, "*in every case of accouchement, it was my practice to give a purgative the day succeeding the delivery, which, if it did not prevent the disease, afforded some advantage in its cure.*"*

1614. But we have no good grounds for placing much faith in this method as a prophylactic, since Mr. Hey was constantly acquiring new patients, and deriving perhaps no positive good, from this plan, as he confesses, p. 155, that some of the worst cases in his practice, occurred after an excessive operation of the purgative. That it was occasionally a highly proper treatment,

* Hey on Puerperal Fever, p. 154.

and sometimes a fortunate one in the management of the case, we are every way disposed to believe; but that it ever prevented it, we can hardly imagine. But on the other hand, it may be said to be productive of mischief in some feeble constitutions, by debilitating the woman unnecessarily, and thus perhaps render her more susceptible to the disease. This may be true; but it would seem to be but the exception to the rule; as we are of opinion, that were this disease to show itself as an epidemic, that important time might be gained by this anticipating purging.

Of the Seat of the Disease and its Proximate Cause.

1615. We believe at this moment there is no fact better established, than that puerperal fever consists of an inflammation of the peritoneum. This inflammation is not necessarily confined to any certain portion of this membrane; for every and each portion may be the seat of it. Before death almost always, and sometimes more early in the disease, a large quantity of serum is effused into the cavity of the abdomen. It was believed by Dr. Clarke and others, that there was something peculiar in the constitution of this fluid; this is however denied by Dr. Robert of Marseilles, and also by Schwilgue, as by chemical analysis it yields precisely the same product, as the fluid poured out by the pleura.

1616. Dr. Clarke was anxious to establish a difference in peritoneal inflammation, as this condition might be seated in the uterus, or ovaria, or in the general investing membrane of the abdomen itself. But in this he is not followed by any one we believe at the present day; for we must look upon the peritoneum as a *unit*; and that when inflamed in any one part, the same general symptoms will arise. And also, that every portion of it may become liable to this condition; hence, if inflammation take place at any given point, there is security against its spreading, even extensively.

1617. A want of attention to this circumstance has led most of the writers on this disease into the error of considering the inflammation of the peritoneal covering of the uterus as a disease distinct from puerperal fever, by calling the former an in-

flammation of the uterus. In this there is a great want of precision, for the inflammation of the uterus, as we have defined it, is altogether a different disease.*

Period of Attack and Symptoms.

1618. The period of attack after delivery is variously stated; some, as Hey, fix the time at forty-eight hours; others, as Armstrong, at twenty-four, or thirty hours; again, Clarke says, on the second, third, or even the eighth day; Leake, on the evening of the second, or morning of the third day; Dr. Denman says it is uncertain, &c. Notwithstanding these discrepancies, we are safe to conclude, that it attacks at a very short period after parturition.

1619. Dr. Denman says instances are not wanting, in which it evidently had been forming before delivery or during labour, or it may occur at any intermediate period for several weeks; but that the sooner this happens after labour, the greater the danger.

1620. It is generally; but not uniformly ushered in by a chill; the violence and duration of which, seems to determine the degree of danger. Before the chill, the woman complains of the loss of strength; wandering pains in the abdomen, which fix themselves in the hypogastric region, where an exquisite tenderness is soon perceived. As the disease advances, the whole abdomen becomes affected, and eventually tumefied to an immense degree. Pains are also felt in the hips, loins, or legs.

1621. In consequence of this tenderness of the abdomen, the woman can only lie with comfort upon her back; or if on the side, the body is much flexed. A vomiting of green or bitter matter, nausea, loathing of food, and an offensive taste in the mouth. The lochia suddenly diminish, though rarely suppressed. The milk, if secreted, diminishes; if it have not been secreted, it does not take place. This is one of the most uniform, as well as one of the most remarkable circumstances in the history of this disease.

1622. The urine is passed frequently, and often with pain;

* See Hysteritis.

it is small in quantity, and very turbid. The tongue is furred with a whitish crust in the beginning, but as it advances towards a fatal termination, it becomes dry, brown, and rough. The woman becomes anxious about her situation, and forebodes danger.

1623. The progress of puerperal fever is not uniform; it is sometimes very rapid, at others slower, according to the nature of the epidemic, season of the year, situation, or circumstances of the patient. It has been known to kill in twenty-four hours, and it has continued beyond two weeks, especially if it is about to terminate favourably.

1624. The pulse is almost invariably very quick from the beginning; it is also strong or corded, though never voluminous; at other times it is feeble; the soreness of the abdomen even augments as time elapses; and these signs of inflammation continue for a longer or a shorter period, as the character of the disease may be mild or malignant; or as constitution, or medical treatment may affect it.

1625. The bowels are sometimes obstinately costive, at other times the disease is ushered in by diarrhœa, or this takes place soon after. Dr. Denman says, "there is a peculiarity in this fever which I believe has not been observed or mentioned. It is an erysipelatous tumour, of a dusky red colour, on the knuckles, wrists, elbows, knees, or ankles, about the size of a shilling, and sometimes larger. This is almost always a mortal sign." We have never observed this symptom.

1626. Sweat of a profuse kind sometimes follows the chill; and which in some instances has proved critical; as has also a diarrhœa, but not often. This sweat, when it does not prove critical, rarely affords relief, especially if it be very profuse.

1627. But one of the most remarkable circumstances attending this disease, is the entire extinction of maternal feeling; and it is certainly one of the most unfavourable, though not always fatal, as we have had, not long since, an opportunity to witness. In this case, this want of solicitude for the child, was as strongly marked as we ever had observed; yet this patient recovered, after the union of as many bad symptoms, as could well be united.*

* See case at the end of this Chapter.

Of the Diagnosis.

1628. The characters of this disease are so well marked, that it cannot be well confounded with any other; and therefore may be easily recognised by the following signs:—

1629. 1st. Pain or tenderness in the hypogastric region, occurring after delivery, from the first few hours to several days. 2d. Swelling or tension, after a time, in that portion of the abdomen, where the pain or tenderness is felt. 3d. By these symptoms almost always being followed by a chill or rigour. 4th. By the rigour being followed by reaction, terminating for the most part in a profuse sweat; and this sweat not moderating the fever, or other symptoms. 5th. By this fever being always attended by a highly accelerated pulse; rarely less than one hundred and twenty, and oftentimes one hundred and fifty strokes in the minute. 6th. By the absence of milk in the breasts; either because it has not been secreted, or because the secretion has been interrupted. 7th. By a diminution, alteration, or suspension of the lochia.

1630. The only complaint with which this disease can be confounded, is that which sometimes takes place soon after delivery; namely, a soreness attended by rigour, fever, and pains in the region of the uterus. We have frequently witnessed this situation. This soreness and febrile condition, appear to arise from an unusual sensibility of the uterus, and the onset of after-pains. The following marks will readily distinguish it from puerperal fever:—

1631. 1. After-pains are always alternate, and constantly have three periods—a time of increase, acmé, and decline; and the intervals are always regular, be this longer, or shorter. 2. The pain when caused by after-pains is never so acute, and it is always confined to the lower part of the hypogastric region. 3. There is always more or less discharge of the lochia, during the pain or the contraction of the uterus. 4. The mammæ are not interrupted in their offices, if the pain proceed purely from uterine contraction. 5. If the hand be laid upon the abdomen, during the pain, the uterus will be found hard at one moment, and softer the next. 6. The pulse is never so quick, as when the peritoneum is inflamed; but both these pains may be

united; and when this is the case, the pain arising from the contractions of the uterus, offer no indication, as it is now of minor importance.

Prognosis.

1632. There is no disease, with the exception perhaps of yellow fever, upon the issue of which the physician is so unwilling to pronounce, as puerperal fever. This proceeds from the following causes:—1st. From its very frequent tendency to a fatal result, even under the most prompt and judicious treatment. 2d. From the rapidity of its progress, but little time is allowed for the application and operation of medicine, however early administered. 3d. From the impossibility very often of repairing the ravages the neglect of a few hours may occasion, however faithfully and judiciously remedies may be exhibited: and 4th. From the very often treacherous nature of the disease itself; terminating sometimes in death, when circumstances appear to promise recovery.

1633. These circumstances should teach caution, even to the experienced practitioner. We may particularly caution him against that deceitful amendment, recognised by most writers on this disease, which sometimes takes place as early as the first twenty-four hours; or as late as the third day. In this case the abatement of pain, the diminution of the soreness of the belly, the subsiding of the abdominal swelling, the reduced frequency of the pulse, seem but the prelude to a condition, from which no human exertion can save the patient. Dr. Denman says, “when the abdomen subsides, without being preceded by copious stools, and with a dry skin, it threatens the utmost danger.”

1634. With whatever skill the disease may have been attacked, it is found too often to progress with alarming rapidity. Pain and swelling augment; the pulse increases in frequency, and diminishes in force; respiration becomes difficult; the tongue dry and brown, or not altered, while the face and extremities are bedewed with a cold clammy sweat. The face becomes pale, or partially flushed; the countenance haggard, wild, and expressive of the greatest anguish; delirium; vomiting, sometimes of black matter; involuntary discharges of urine and fæces; death.

1635. The absence of milk in the breasts, and an entire indifference to the fate of the child, must be looked upon as almost certainly fatal, though, as we have observed above, not necessarily so, as we have seen an instance of recovery after both these circumstances were present. If joined to these, there be little expression of suffering, a very quick pulse, and considerable swelling, or this has suddenly subsided, the case must be looked upon as almost hopeless. As all concur, that the danger is almost in proportion to the earliness of the attack after delivery, the circumstance should always be borne in mind, as it may serve to influence the prognostic.

1636. The extent of the abdominal swelling appears to be of more consequence than the degree of soreness or of pain; and when the belly becomes tympanitic, it is sure almost to be fatal. Indeed, Dr. Clarke says, "it has not occurred in my sphere of observation, to see any recover in whom the swelling of the belly has been in any very great degree." p. 133.

1637. Dr. Armstrong observes, that "an excess of sensibility is always to be dreaded; for I have had opportunities of observing, that such patients seldom recover, who are tremblingly alive to every surrounding impression." p. 26.

1638. The favourable signs are—1st. A diminution of frequency of the pulse, with an increase of volume. 2d. A reduction of the swelling of the abdomen, with an abatement of pain; provided the first is gradual, and the latter not sudden, and accompanied by condition first. 3d. Changing position without suffering inconvenience; but jactitation must not be mistaken for it. 4th. The return of milk to the breasts, attended by solicitude for the child. 5th. The restoration of the lochial discharge; provided it had been suppressed, especially if it be of a healthful appearance. 6th. The tongue becoming moist; losing its white appearance, and cleaning at the edges; or if it have been brown and dry, becoming whitish and moist, accompanied by condition first. 7th. If the urine become more abundant, and deposits a lateritious sediment. 8th. If the skin becomes cooler, and moist throughout its whole extent; especially if attended by conditions 1st, 2d, 3d, 4th, 5th; or if a natural warmth return to the extremities, after having been preternaturally cold, accompanied by the signs just referred to. 9th. "A subsidence

of the abdomen after copious stools, and with a moist skin, is a favourable alteration for the patient.”* 10th. If the pulse can be kept under 120 in the minute for the first twelve days, the patient will generally do well; but if the pulse keep very quick after the abdominal symptoms have entirely disappeared, affections of the chest,† and the glandular system, or deep-seated suppurations, may be dreaded.‡

Treatment.

1639. Dr. Armstrong says, “the first stage of puerperal fever is marked by highly inflammatory, the second, by highly typhoid characters; and it has always appeared to me, that the tendency to putridity in the latter, was proportionate to the degree of inflammation in the former.” Dr. Denman declares, “when the fever has remained for a few days, the putrid symptoms, which are usually according to the *degree of the preceding inflammation, advance very rapidly.*”

1640. These observations lead to important practical inferences, as well as settles the dispute respecting the *type* of this disease, which has so long divided the opinions of medical writers—the contingent, or rather consequent condition, being almost always mistaken for the absolute, or primary state of the parts concerned, or the condition of the system at large. It is a rule that should never be departed from in fixing the character of a disease, to commence with the initial state of the system, be the duration of that state, never so short; for it will constantly happen, that whatever condition follows this, will be dependent on the first for its character. And as a general rule also, as declared by Drs. Armstrong and Denman, the *state of collapse* will be in proportion to the degree of the preceding inflammation; consequently, if the one be not subdued, the other will follow as a common consequence: therefore, with a view of interrupting this progress, our whole efforts must be directed, when this is in our power, against the primary condition. For in a disease of such rapidity, violence, and destructiveness, as puerperal fever

* Denman.

† “If any disease has taken its origin, as it were, out of puerperal fever, and been combined with it, it hath been the peripneumony.”—*Hulme*, p. 15.

‡ Armstrong, p. 32.

almost always is, any impropriety committed in the initial treatment, is almost sure to decide the fate of the patient.

1641. From an attentive consideration of the facts and views of others, and our own proper experience, (limited however, we confess, as the disease is extremely rare in this city,) we have no hesitation in owning our belief of its highly inflammatory character, and that it requires the most prompt and active treatment for its relief, if it be seen in its commencement. If this period be lost, the patient may almost be said to be so, also. We shall therefore predicate our treatment upon the assumption just made. And first,

Of Bleeding.

1642. Drs. Gordon, and Armstrong, and also Mr. Hey, have borne strong testimony in favour of blood-letting in that stage, which has been termed with much propriety the "inflammatory stage." They bled largely, and not unfrequently repeat it, in this stage; though it is extremely difficult to say where this ends, and another begins. It is also sometimes difficult to ascertain even the commencement of this complaint, since other affections are introduced by similar symptoms. Thus milk fever, when active, or the ephemeral, called the "weed" or a cold, from exposure, may be mistaken for it—time is therefore sometimes lost, that is highly valuable to the patient. Yet we had, in cases of this kind, better err upon the right side, by treating either of these complaints when ushered in by equivocal symptoms as puerperal fever, than puerperal fever as one of these complaints; especially, when we are warned by a number of cases happening in quick succession, or where it may be about to become, or has really become epidemic.

1643. Dr. Armstrong says, the quantity of blood drawn at once in puerperal fever, should seldom be less than twenty-four ounces, and perhaps never more than thirty. Dr. Gordon directs the same quantity; while Mr. Hey, declares, that, though he found great advantage from the rules laid down by Dr. Gordon, yet they were not infallible, either as to the quantity of blood which was necessary to the cure, or the time within which it should be taken. In this country we are not in the habit

of regulating our bleedings by ounces in severe diseases; we determine the quantity almost exclusively by its effects. For it is not to be supposed, that every constitution will be affected precisely alike; nor that the disease will yield to the same force of remedies in every constitution. Therefore in one case, less than twenty or thirty ounces might answer, while another might require a greater quantity.

1644. As regards the rule by which we have been regulated, in the abstraction of blood in this disease, we have hitherto found it less liable to error, than uniformly drawing a prescribed quantity—and this is, to allow the arm to bleed, until the pulse shows a change; pain abate; fever diminish; and there is a disposition to syncope. These alterations will take place sometimes from the loss of a much smaller quantity of blood, than others; but until this does take place, we could not flatter ourselves that we have made much impression on the disease.

1645. The rule for the repetition of the bleeding, is the renewal of the symptoms which had been suspended or moderated by the previous bleeding—this must not be regulated by the lapse of any period of time as proposed by Dr. Armstrong; but by the recurrence of the distressing symptoms, be this longer or shorter. And this will be very much governed by the powers of reaction in the system. Therefore, when the pulse becomes again too active, the fever renew itself, heat and pain increase, or swelling augment, we should not hesitate to renew the bleeding.

1646. Indeed, as far as we can rely upon our own experience, the state of the abdominal swelling, and the degree of acute pain, without much distention of the belly, are the most certain signs we possess of the continuance of active inflammation, or of the first stage of this disease; and that it is much safer to rely upon these marks than the pulse: because the various conditions of the latter is not so well understood by the inexperienced practitioner. If the symptoms therefore have not abated in a few hours, as we had hoped they would from the previous bleeding, we do not hesitate to repeat it; but not to the same extent, perhaps. Nor do we confine ourselves to a second bleeding, we repeat it, if the disease persist, under the persuasion, that if this remedy do not moderate their intensity, we

know of no other that will; and with this view we abstract more blood, either from the arm, or from the abdomen by leeches. The bleeding, however, must be aided by

Purging.

1647. The necessity of this operation, is almost universally admitted, in puerperal fever, and this in both the first and second stages. It is the governing rule, to order cathartic medicines as soon as the patient has lost blood. For this purpose the more active kind seem to be required. Our method, which coincides with the practice of the gentlemen so frequently named, is to give a few grains of calomel at first, and have it followed in an hour by the following powders:—

R. Magnes. alb. ust.	} āā.	3iij.	Take Calcined magnesia	3 drachms.
Sulph. magnes.			Epsom salt	- 3 drachms.
M. div. in iij.			Mix and divide in 3 parts.	

One of these to be given every hour, mixed in a wine-glassful of lemonade, or sweetened water, until they operate sufficiently.

1648. After the exhibition of the above medicines, the bowels may be kept freely open, either by these powders, Seidlitz powders, or castor oil. Should the medicines appear to be rather tardy in their effects, these good offices may be hastened by a stimulating injection, made of a pint of lukewarm water and a table-spoonful of common salt.

1649. Emetics have been strongly advised in this disease, especially by Doulcet—but we never employ them now; as we are convinced they have been mischievous in our hands, though given as nearly as possible as recommended by this physician.

1650. Blisters to the abdomen have also been extolled; but we have no hesitation in saying we have never seen them useful, and we think we have known them hurtful—they are always inconvenient.

1651. Fomentations are also frequently prescribed, particularly in the practice of the French; but we have ceased for many years to employ them, for the following reasons; first, they are oppressive from their weight, and offensive from the vapour constantly arising from them; second, they expose the woman to

cold, from their wetting the bed, and against which no care can guard; third, they oppress by their heat, and appear always to increase the frequency of the pulse; but above all, fourth, we have never seen them do good.

1652. The spirit of turpentine has been declared by Dr. Brennan, of Dublin, to be almost a specific in this disease. We confess we have never been able to divest ourselves entirely of the prejudices first created upon its being declared to be a remedy in this disease. We are altogether unacquainted, with the proper condition of the system for its exhibition, or the proper quantities for its varying states, though we have given it occasionally with timid hand, with marked advantage, in a case in which nearly all the bad symptoms were united.* As we fail in experience in this remedy, we should suppose it, upon reasoning on its nature, to be proper only in the commencement of the second stage. But here we would forbid stimulants—but is this substance to be ranked under the same head with brandy, wine, opium, volatile alkali, &c.? we think not—for it appears to possess peculiar powers, as we see in burns. Were we then to suggest the use of this medicine, it would be at the period of the conversion of the first stage into the second; and then, in combination with castor oil, thereby forming one of the most active and certain cathartics we know.

1653. Mr. Velpeau,† has lately proposed mercurial frictions in puerperal fever, and has given several very interesting cases, in which he employed this remedy, and apparently with advantage. He however very honestly confesses, his experience to be insufficient at the time he wrote his essay, to determine the precise degree of confidence to be placed upon his plan; though he appears pretty strongly inclined to attach considerable importance to it. The following is his method of using this remedy:—

1654. 1st. To have the whole abdomen smeared with, from two to four drachms of the ointment, every two, three, or four hours. 2d. If the pain and swelling of the abdomen abate, especially if the mouth betray and mark the influence of the mercury upon it, to diminish the quantity to one or two drachms,

* See Diseases of Females, by the Author, p. 447.

† "Revue Medicale," for January, 1827.

and to make the intervals of application longer. 3d. To wash off, with warm water and soap, or with sweet oil, the crust, which the ointment forms upon the skin, that in its future application it may be placed more certainly in contact with the skin. 4th. To continue the ointment, if circumstances warrant it, (that is, if the patient live long enough, or if her system be obedient to its influence,) until either signs of salivation show themselves, or until such amendment take place, as shall render farther perseverance unnecessary.

*Gangrenous Stage, or Stage of Collapse.**

1655. So soon as the pulse increases in frequency beyond one hundred and twenty strokes in a minute, and becomes one hundred and forty, or even more, the system is verging towards the second, or gangrenous stage. At this time the pulse not only increases in frequency, but abates in force, or even in volume. Hic-cough now takes place with more or less violence. The mam-mæ lose their milk entirely, and become more flaccid; and vomiting the drinks almost as soon as swallowed. The tenderness of the abdomen diminishes, and the pain is now obtuse, instead of acute. The swelling of the abdomen increases, and is disposed to become tympanitic. The urine extremely high-coloured, offensive in smell, and very scanty in quantity. If there be lochia, they are very offensive and dark-coloured. A lividity commences on the cheeks and lips. The mouth is dark-coloured, and parched; the tongue is generally, but not necessarily, dry and

* "Gangrene may be considered as a partial death; a death of one part of the body, while the other parts retain their natural power."—Sir Astley Cooper's Lectures, Am. Ed. p. 98. The state of a part here designated, is not precisely what we would wish to be understood, when we describe, "the gangrenous stage of puerperal fever;" therefore, we would wish to employ, precisely the definition which Galen gave of gangrene, which is that condition, "when a part, from violent inflammation, is not *absolutely dead*, but is *about to die*."—Huger. Inaugural Dis. on Gangrene and Mortification, p. 6.

In this state of a part, the previous action or inflammation, exceeded the power of the part to sustain that action, and consequently, there existed a great disproportion between the action and the power. Now it must be evident in such a case, that the only relief that can be expected, is from the reduction of the action to the state of the power.

rough; it requires several efforts to thrust it beyond the teeth; and when there, it is either not retracted until the patient is bidden to do so, or is withdrawn very slowly and reluctantly. The teeth are covered with a mahogany-coloured scurf, and the gums nearly livid. The skin is dry and husky. The respiration hurried and rather laborious.

1656. A tendency to delirium, or manifest forgetfulness of the immediately preceding events. Total indifference to the child and surrounding circumstances. Complains but little; and if interrogated, answers vaguely or contradictorily. The pulse is now rapid, and perhaps indistinct; and the wrists are rather colder than the other portions of the arms. This stage is very evanescent, rarely lasting more than twelve hours; it may perhaps be protracted a little longer by proper remedies; or it may be even shortened by improper ones.

1657. It is this stage which receives the name of typhus; it is at this time that the nature of the remedies are changed by most practitioners; and it is at this period, that this change usually seals the fate of the patient.

1658. The treatment of this stage should be reduced to one of great simplicity and inertness, by withholding all stimuli; but continuing the evacuations gently from the bowels. Maintaining the action from the bowels, is in strict conformity with the theory adopted in this complaint—for the augmented secretion from the mucous surface of the bowels, acts like topical depletion, as it must necessarily diminish the contents of the vessels concerned in the inflammation, and thus permits them to contract; and by contracting, they acquire an increase of power, and at the same time suffer a diminution of action, because one of the unnatural stimuli is in part withdrawn, namely, distention. The mode of treating this stage may be seen more at large, under the head "Typhus," and also under the head of "Continued Fever," which see, Chap. V. pp. 152, 153.

Stage of Effusion.

1659. We are convinced there is an intermediate state of the vessels in all the active diseases, when inflammation eventuates in effusion; that is, there is the stage or state that we have just described, which when it does not retrace its steps, terminates

in "effusion." This stage is one of almost entire hopelessness; the wretched patient must almost necessarily be abandoned to her fate as regards medical treatment; but if comfort of any kind can be administered, it may be given with as liberal a hand as her demands may require. Stimulants, cordials, opiates, may be administered without any unusual reserve, for the disease has spent upon the patient at this time the full force of its powers.

1660. There is something remarkable in the tendency of this disease to gangrene, (in our acceptation of the term, see note to par. 1655,) and from gangrene to extensive effusion. It is this act of effusion that prevents the inflammation from ending in sphacelus, and well accounts for Dr. Clarke not finding "the parts in a state of gangrene," (sphacelus.)

1661. The effusion is not only excessive sometimes, but must be looked upon as almost necessarily fatal. Mr. Hey says, "the mischief which takes place in the cavity of the abdomen, whether by extravasation, suppuration, or gangrene, renders the disease incurable; except, in the two former cases, by some extraordinary efforts of nature, of which Dr. Gordon has related three instances, where the confined fluid made its way by a direct outlet; in two at the umbilicus, and the third by the urethra." p. 166.

1662. This state is marked by the following symptoms: pulse fluttering, and scarcely to be numbered; the belly enormously distended, and tympanitic; cold sweat over the whole of the body, or confined to the face and extremities. The skin upon the hands sometimes is shrivelled, as if they had been immersed in warm water for a long time; repeated chills, without reaction; vomiting, or rather *gulping up*,* a dark brown or coffee-coloured fluid; involuntary stools; sometimes a profuse discharge from the uterus of a sanies or black grume. Delirium, or perfect collectness; the tongue frequently moist, and an attempt perhaps to clean itself; convulsions, (sometimes;) death.

SECT. II.—HYSTERITIS, OR INFLAMMATION OF THE UTERUS.

1663. This disease has almost always been confounded with puerperal fever; they are sometimes blended, yet they may exist

* We know not how to express this involuntary act of the stomach in any other manner—it is the contrary to swallowing; yet it is not vomiting.

independently of each other. Hysteritis may however be divided into two species, namely; 1st, the pure or unmixed; and 2d, the mixed.

1. *Of Unmixed Hysteritis.*

1664. This consists in an inflammation of all or any portion of the proper substance of the uterus, with the exception of its peritoneal covering. This may be caused by violences committed on the uterus, by artificial delivery, the taking away the placenta, external violence, &c. Or it may arise from the too long continuance of its functional powers, in the expulsion of the child, or by causes not readily cognisable; or to the improper exposure to cold, or the sudden check of perspiration, improper regimen, &c.

1665. This affection generally shows itself in a few days after delivery. It usually is first felt in the lower part of the abdomen; sometimes it is a dull and heavy anguish, at other times it is acute and lancinating; but it is always increased by motion or pressure. If this organ be examined externally by the hand, it is sure to be found larger than is common at the same period from delivery, and extremely sensible. The pain is augmented by the occasional contraction of the uterus, and thus producing more painful *after-pains*. These two affections are sometimes confounded, by it being supposed, that the pain is nothing more than after-pains. But they may be easily distinguished from each other by the latter being always alternate; and when the contraction is over, from the woman becoming easy.

1666. In the beginning, there is no swelling of the abdomen, nor is there soreness, as in puerperal fever. Sometimes there is a frequent desire to make water, which is accomplished with pain—at other times there may be a retention of the urine. The urine is high-coloured, generally scanty, and will deposit a late-ritious sediment.

1667. To these local symptoms, others are added; as increased heat, sometimes, but not necessarily, preceded by a chill. Head-ache, flushed face, and oftentimes delirium—in this latter circumstance it differs from puerperal fever. The pulse is full, strong, and hard, but not commonly very frequent, rarely exceeding an

hundred, unless the disease is running on to a fatal issue. The tongue is white, and much loaded; the mouth clammy, and the thirst considerable. The stomach is rarely much affected in the early part of the disease; at least vomiting seldom takes place.

1668. As the disease advances, pain is felt in the back and down the thighs; and sometimes it is severe in the left side. The lochia are to a greater or less extent affected, sometimes to entire suppression; and on this account, it has been considered as the cause of the disease—but this is not so. Yet this condition marks a greater intensity of inflammation.

1669. But notwithstanding a diminution or suppression is not the cause of hysteritis, yet its return is always almost a favourable circumstance, not because it serves to unload the engorged vessels of the uterus, but rather as a demonstration that inflammation is abating, and thus permitting an increased flow from the still patulous vessels.

1670. In hysteritis, the milk is very rarely suppressed, as in puerperal fever, though it is occasionally diminished. Sometimes the functions of the mammæ remain undisturbed through the whole course of the disease. This circumstance is important, as it serves pretty certainly to distinguish this affection from peritoneal inflammation.

1671. The bowels are variously affected, but generally they are confined in the beginning of the disease; or this complaint may be ushered in by diarrhœa; this, however, is very rare; it is sometimes critical.

1672. The symptoms just enumerated may be looked upon as constituting the first stage of this disease, or the stage of active inflammation, which may terminate either by resolution or suppuration. When the disease is about to relent, there is an abatement of the several distressing symptoms; the uterine tumour diminishes both in size and in sensibility; the pulse becomes less frequent, softer, and more open. The skin relaxes, and becomes moist; head-ache and delirium abate, if the latter have been present; the tongue begins to clean itself; thirst diminishes; the lochia return; the urine becomes more abundant, and less high-coloured; and the milk more freely secreted, &c.

1673. But should the disease not have yielded, the inflammation may terminate in suppurations in various parts of the tex-

ture of the uterus, which is almost certain to be followed by death. Sometimes there is reason to believe, that the abscesses discharge themselves in the cavity of the uterus, and escape through the os tinæ.

1674. The approach to suppuration may be feared, if the pulse become more frequent and more irritated; the skin partially, both hot and cold; dry and moist; chills in various parts of the body; dark flushings of the face; the tongue dry and red; the lochia more abundant, and very foetid; in a word, the woman sinks from irritative fever.

2. *Of Mixed Hysteritis.*

1675. Dr. Clarke calls the case mixed, when both the covering of the uterus and its substance are involved in inflammation at the same time. When this happens the disease is almost sure to prove fatal. This combination is always to be feared, so long as the inflammation of the womb itself remains unabated, especially after a vigorous treatment has been pursued. When the inflammation passes through the substance of the uterus and attacks its peritoneal covering, it announces itself, by an increased frequency of pulse, swelling and great tenderness of the abdomen; vomiting; an inability to lie upon either side; a total retention of the lochia, or an excessive discharge of them;* the disappearance of the milk; cold sweats; muttering delirium; a dry, husky, blackish tongue, diarrhœa, &c. The disease is now almost necessarily fatal.

Of the Treatment.

1676. The remedies for this disease, suggest themselves. From its high inflammatory character, we must mainly rely upon bleeding, both generally and topically; and this must be performed as promptly as circumstances will permit, and as extensively as the system will bear; at first, to sickness at least, if not to syncope. And this must be repeated, again and again, if the

* This last symptom we have witnessed lately, for the first time. The case proved fatal; it was caused by the long pressure of a head of excessive size on the margin of the pelvis.

symptoms remain unabated, or but little diminished. Should however the bleedings from the arm have diminished, the force of arterial action considerable, and the symptoms be still urgent, we should abstract blood from the seat of pain by leeches, to an amount that would appear adequate to the exigency of the moment; and repeat this, if the menacing symptoms still persist; for few diseases require such extensive blood-lettings, as pure hysteritis.

1677. To aid the bleeding, purging should also be employed; and this must be persevered in from the beginning to the end of the complaint, the propriety of which is proved, by the pathology of the disease. For this purpose, ten grains of calomel should be first given; and if it do not operate in two hours, it must be purged off by the following powders:—

R. Sulph. magnes.	} āā.	3iij.	Take Calcined magnesia	3 drachms.
Magnes. alb. ust.			Epsom salt	3 drachms.
M. div. in iij.			Mix and divide into 3 parts.	

One of these to be given every hour in sweetened water, or lemonade, until they operate freely.

1678. The discharges from the bowels should be kept up by small doses of calomel, Seidlitz powders, or the sulphate of magnesia, so as to procure eight or ten evacuations in the first twenty four hours; but this should be so managed as not to interfere with the night's rest, if practicable to prevent it. This may be done, if the proper time can be commanded for the exhibition of the medicine—that is, by beginning early in the morning. After the first day, we may give a few grains of calomel at bed-time, and carry it off, if it do not operate without, by a dose of magnesia, or either of the milder cathartics.

1679. Purging is not to be continued; or rather free evacuations from the bowels must not be omitted, because it may be no longer proper to abstract blood—the degree must be regulated by the strength of the patient, but it must not be omitted; for if suppuration take place, and the woman does not die immediately, absorption is best promoted by this means.

1680. Some commend in high terms, various fomentations to the abdomen from the very commencement of the disease—we cannot say we have ever seen the slightest advantage from them

in hysteritis; and we are certain they have done mischief. They increase the heat, they annoy by their weight, and disturb by their wet. Sometimes this complaint is attended by coagula within the uterus, which will necessarily give much additional pain; in this case, (which may be known by the distention of the uterus, and by alternate pain,) we have seen dry warmth very useful. Large bladders of warm water may be also used in this case, as well as the "tansy pancake," as it is called. This is made by mixing flour and water together to the consistence of a batter, and in which is mingled a quantity of tansy; this is fried like a pancake; only made much thicker, say half an inch. When done, it is to be wrapped in a cloth, and applied to the abdomen. But let it be remembered that we have no additional faith in the tansy—it is the recipe for this application; and we employ it when necessary, because we have seen its use followed by relief.

1681. Blisters are also highly commended by certain practitioners; but we think it very doubtful, if they have ever been useful in hysteritis; we therefore never employ them. Diaphoretics are also much extolled; but their power in this complaint must be very limited; for in its commencement, they are certainly inadequate to the state of the disease; and when it is on the decline, they can seldom be necessary. We think, the occasional use of Dover's powders has been useful in ten grain doses, at bed-time.

1682. As great pain attends this disease through its whole course, but especially in the beginning, opium is recommended in high terms by some. As regards our own experience, we think it is in this, as well as in all diseases of high inflammatory action, decidedly hurtful—two objections present themselves at once—first, its constipating effects, and second, its stimulating operation. In combination, as in Dover's powders, it may as just observed, be occasionally useful; or sometimes in the form of an enema,* when pain is great, or where it may be necessary to restrain the action of the bowels.

1683. From all that we have said on the several remedies

* The enema we are in the habit of employing for this purpose, is simply a gill of lukewarm water, and a tea-spoonful of laudanum.

proposed in hysteritis, it will be seen, that our chief dependence is upon bleeding and purging. The treatment proper for the mixed form, will be learnt from what we have said on puerperal fever.

SECT. III.—ENTERITIS.

1684. By enteritis we are to understand an inflammation of *the internal coat of the intestines*. We have emphasized the “internal coat of the intestines,” as Good and Gregory, two of the latest British writers on practical medicine, seem to have confounded peritonitis with enteritis; a mistake of great pathological consequence. The first seems to be at no pains to ascertain, whether the inflammation, which he admits to be present, is situated in the serous or mucous coat of the intestines. It is true he makes two varieties; one, “adhesive inflammation of the bowels;” and the other, “erythematic inflammation of the bowels;” but locates neither, with any certainty. In describing these species, he says of the first, “pain very acute, fever violent; vomiting frequent, and costiveness obstinate;” of the second, “pain more moderate, fever less violent, little vomiting, and diarrhœa instead of costiveness.” In neither of these characters, nor in his specific definition of enteritis, does he point out the seat of the disease, or indicate the tissue involved in the inflammation. Indeed, this appears to be a matter of indifference; since he founds no therapeutical views upon his varieties, though he insinuates, that his first, may be seated in the mucous membrane, by saying, that “it has been well ascertained, that the seat of the erythematic is *sometimes* in the external coat of the intestines; and *it is said* by some writers, that this is the most common seat.”*

1685. From this it would appear, that Dr. Good had either not made up his mind upon the seats of the varieties of enteritis, or that he thought it a matter of no consequence to do so. At this we are not a little surprised; a man of his great erudition and research, could not have been ignorant of the important distinctions made by Bichat of the inflammations of the several

* Vol. II. p. 256, Am. Ed.

tissues composing the body, or have been indifferent to them, after having made himself master of them; especially, as he is not only a practical, but confessedly, a systematic writer. Gregory is less equivocal, but not less faulty in his definition of enteritis, as he locates the inflammation on the external coat; thus confounding peritoneal inflammation with inflammation of the mucous membrane of the intestines; a mistake, in our estimation, of great practical importance. For we have endeavoured to prove under the head of "peritonitis," that the peritoneum may be inflamed, even to the destruction of life, without necessarily implicating the tissue beneath it.

1686. Enteritis, like almost all the other phlegmasiæ, may be divided into the acute and chronic.*

Causes of Acute Enteritis.

1687. The intestinal canal, like any other portion of the body, may become the seat of inflammation, from any of the general causes capable of producing this condition of a part. But besides these, it may have others, which act directly upon it. Such may be poisons, or other acrid substances; the employment, and overdoses of acrid cathartic medicines, as scammony, colocynth, elaterium, gamboge, &c.; highly stimulating potions, as the too free use of alcoholic liquors; mechanical irritations from foreign bodies; great accumulation of hardened fæces; worms; too sudden application of cold, when the body is heated, either to the intestinal surface, or to that of the skin; suppression of accustomed evacuations; repelled eruptions; lying on damp ground, or in damp beds, &c. &c.

Symptoms.

1688. This complaint is sometimes ushered in by a chill of more or less violence; at other times no coldness is perceived; pain in the abdomen of an extremely acute kind, and without any or with very little abatement; this either limits itself to a point, or it is spread over the whole abdominal surface. The belly becomes swelled, and so sensible, that it can bear with difficulty the

* See Peritonitis.

slightest touch, not even the weight of the bed-clothes. Sometimes a sensation of heat is observed in a particular portion of the abdomen; a sensation of twisting is felt about the umbilicus; the patient finds most comfort by lying on his back, and always experiences pain in every attempt to move his position; sometimes he feels momentary relief from lying on his belly; and with a hope of obtaining some abatement of pain from change of posture, he is almost constantly tossing himself to and fro, without finding the relief he had hoped for, and he so much needs, and at the same time subjecting himself to fresh torture, by each change of position.

1689. Sometimes the inflammation is confined to one of the intestines, or even to a portion of one; in this case, the inflamed part usually becomes distended, and an elastic tumour of the shape of the intestine may be seen or felt through the abdominal parietes. Costiveness, nausea, vomiting of porraceous matter, or diarrhœa, now succeed. If diarrhœa supervene, the character of the discharges may vary frequently during the course of the disease; sometimes they will consist of a white or gray mucus; sometimes serous, bloody, yellow, or green, and the discharge is sure almost to be accompanied by a discharge of flatus, cutting pains, or tenesmus.

1690. The fever generally augments for some time, or at least suffers no abatement; insupportable thirst, with dryness of mouth and a bitter taste; disgust for food; breathing hurried; anxiety; watchfulness; pulse small and irregular; head-ache; giddiness; stupor; delirium; hiccup; cold extremities; burning abdomen; involuntary and frequent stools of highly offensive odour, putrid, cadaverous; but little urine and that high-coloured and rendered with pain, sometimes an entire suppression. In all cases the strength fails rapidly, and the patient soon arrives at a hopeless stage; or a favourable change may unexpectedly manifest itself, or it may slowly degenerate into a chronic form. This disease runs its course rapidly, either for a fortunate or for a fatal issue—its duration rarely exceeds two weeks; it frequently terminates in one, or even in a shorter time.

1691. As topical means are highly important in this disease, it is of considerable practical importance to determine as nearly as possible the seat of the inflammation, that remedies may be

applied with a greater chance of success. This is sometimes very much in our power; for by tracing the symptoms to the pathological appearances revealed by dissections, it has been found that different phenomena present themselves, as it may the great or small intestines that are implicated in the inflammation; thus when the mucous membrane of the great intestines is the seat, we find frequent and copious dejections, with distressing tenesmus; when it is the small, we have great nausea and severe vomitings, with a more obstinate constipation.

1692. It may also be well to observe, that the vomiting becomes more frequent and obstinate, as the inflammation may approach the stomach itself; for the intensity of its sympathy with the mucous membrane, is augmented by proximity. A hepatitis may be simulated, when the colon is the phlogosed part; if the rectum be the diseased part, hæmorrhoids may ensue, with a permanent tenesmus, and perhaps strangury.*

1693. Though it is satisfactorily proved, that the tissue covering a part may be exclusively the seat of inflammation, yet it does not follow, that it shall be limited to it under all circumstances—hence, we sometimes find the several structures composing a part, successively involved; thus the mucous membrane of an intestine may be the original seat of inflammation; yet that this condition may be transmitted to the serous, and then a complication of enteritis and peritonitis, may thus be formed; or this may be reversed. Again, when the peritoneum becomes inflamed in consequence of its contiguity or sympathy, with the mucous membrane in enteritis, it may communicate its condition to other portions of itself, and by this means involve the viscera which it covers—hence, any of the abdominal viscera may indirectly become affected.

1694. Experience has fully confirmed these observations; it therefore becomes sometimes a matter of consequence to determine the precise or original seat of the disease, that one affection may not be mistaken for another. Thus, the colon being inflamed may give rise to symptoms similar to hepatitis; as there may be pain and soreness in the right side; but it should be recollected that in this disease, there are many other symptoms

* Renauldin, Dict. des Scien. Med. Art. Enterite.

necessary to constitute hepatitis. That in gastritis, it is the region of the stomach that is painful, vomiting solids and fluids immediately after having been swallowed, &c. In a word, there should be all the usual symptoms which belong to the imposed or secondary disease; and if these be not present, and the signs belonging to enteritis are, we have then the stronger reason to suppose it to be this disease.

1695. We have already remarked that enteritis generally ran its course with considerable rapidity, especially when it was about to terminate either favourably or fatally. That the first may take place, it requires that the parts affected shall not have received a shock so severe as to be beyond the recuperative powers of the system, when aided by the best adapted means. To protect the one, and to secure the other, timely and well proportioned means must be employed; and when a cure is effected, it is by a resolution of the inflammation; if this be perfect, health will be restored; if it be not, the patient may experience for a long time a number of inconveniences of greater or less magnitude; such as an obstinate costiveness, or an habitual diarrhoea; swelling of the belly, flatulency, and a persevering debility.

1696. When death takes place, it is most commonly by gangrene—this termination is usually preceded by a number of well-marked and not easily to be mistaken symptoms. Pain ceases suddenly, however violent it may have been previously; the extremities become cold, and the wrists especially; cold sweat; hiccup; vomiting of dark matter, convulsions sometimes, and death. Renauldin says, cures have taken place even after the gangrene of a portion of the intestine.

1697. There is a third termination of enteritis; its becoming chronic by the abatement of the inflammation, but not by its entire extinction, in due season. This only takes place however where the inflammation has successively passed through the several tissues which compose the intestines, and the peritoneal or serous coat throwing out coagulable lymph, and thus producing adhesions with each other by the formation of a false membrane. Or ulceration may take place, and thus form a communication between the bowel and abdomen.

1698. When enteritis is about to become chronic, a slow fever commences; it is preceded by frequent and slight chills, which

are always succeed by heat and dry skin, that generally augment towards evening. The pulse is frequent and small; there is almost always a dull pain in the abdomen, &c. together with all the symptoms almost laid down for chronic peritonitis, which see, page 532.

1699. Examinations after death, distinctly locate the disease, and also declare its nature. The mucous membrane is found to be its seat, by being inflamed, and very red in consequence of the increased size of the sanguineous capillaries which enter into its structure. Sometimes patches of extravasated blood; and sometimes the peritoneal coat is also found involved, especially when the mucous membrane is highly inflamed; in this case, we find layers of coagulable lymph spread upon this membrane. The intestine is generally found thickened, and very black, in consequence of the extravasation of venous blood, which is sometimes mistaken for a gangrene of the part. Gangrene, which also happens, as we have said, (par. 1696,) may be distinguished from this extravasation, by the lividity of its colour, and the facility with which its continuity is destroyed. When gangrene has produced openings into the abdomen, we find a quantity of fæcal matter within this cavity, which distinctly points out the nature of the communication between these two parts.

1700. In making up our minds upon the probable event of acute enteritis, we must constantly keep in view the nature of the causes which have produced it; regarding poisons, acrid substances, intus-susception, and strangulated hernia, as the most dangerous causes; and consequently the termination of the disease that either may have produced, is less frequently favourable than from other causes. If the disease be secondary, or metastatic, the prognosis may be more favourable, as the disease with which the intestine has sympathized, may be capable of cure, and thus relieve the other.

1701. The violence, or moderation of the symptoms, will also enable us to form an estimate of the danger; for in proportion to the intensity of these, will be the risk. A diarrhœa is more favourable than constipation; especially if vomiting accompany the latter; for the former may be looked upon, if not too severe, as rather useful; and not absolutely bad if the stools be

even bloody. Enteritis is more manageable when it confines itself to the mucous membrane of the large intestines, than when the inflammation occupies the small intestines, and involves their external or peritoneal coat.

1702. The cessation of pain without adequate cause; or the abatement of symptoms; the smallness and inequality of the pulse; cold sweats; sharp, acrid, thin, black stools; or discharging them involuntarily; great swelling of the abdomen; hiccup; dry tongue; delirium; loss of vision; fainting, &c. must be looked upon almost necessarily as fatal symptoms. While, on the contrary, we may regard a diminution of the pains, both in frequency and violence; sinking of the tumefaction of the abdomen in a gradual and regular manner; stools becoming less frequent, and less fetid; increase of urine; thirst lessening; and strength rather renewing; as favourable, and promising a happy issue.

Treatment.

1703. The treatment of enteritis should consist in attempts to remove inflammation, and assuage pain.

1704. The first is to be done by the free abstraction of blood from the arm; nor need we be sparing, as it is the only means by which we can make an impression upon the disease. We cannot declare in round numbers the quantity to be abstracted; it must be permitted to flow until a sensible alteration takes place in the pulse—that is, until its force is so much abated, as to seem to flutter under the finger. This in certain constitutions happens very soon; but rather from idiosyncrasy, than from the absolute effects of the bleeding independently of this peculiarity, and before it would seem that the quantity drawn can have effected a favourable change in the inflamed part. If this be so, we should stop the bleeding, and permit the patient to recover himself, before we repeat this operation; for in such constitutions we have constantly observed, that the same advantages were obtained from this approach to syncope, as if this condition were the result of a large quantity of blood—therefore, we are not to be regulated by the measurement of the blood, but by the effects its abstraction may have upon the circulating system.

1705. We must, however, in either case again have recourse to the lancet so soon as the system again reacts, if pain be not moderated, or if it shall again become severe. In inflammations of the bowels, the continuance of pain seems to be a better direction for the farther loss of blood, than the pulse; and this is true, whichever tissue may be diseased; we have very constantly acted upon this principle for the last forty years. For we were very early taught the value of this rule, by being placed in a neighbourhood where dysentery was sure to be rife every autumn; and where we saw for several years consecutively, at least five hundred patients annually in this complaint.

1706. We were directed to this mode of practice, first, from the pathology of the disease; second, from finding it almost the only remedy that afforded relief; and third, from observing that many died, when this remedy was not sufficiently used. For it should be constantly kept in mind, that there is no portion perhaps of the system, that sustains violent inflammation so ill, or that succumbs so speedily under it, as the alimentary canal.

1707. In aid of the general bleeding, we should direct the most determined antiphlogistic regimen—all food should be prohibited; and nothing but the most bland articles of drink should be employed—these should consist of barley water, rice water, gum water, weak slippery-elm bark tea, toast tea, or flaxseed tea. We are aware that the friends of the patient often become clamorous for food upon such occasions; but a deaf ear should be turned to every importunity; for compliance, is but sealing the fate of the patient. Ice water, and ice itself are often found highly grateful, as well as decidedly useful; especially where there is vomiting or much nausea; for thirst can be gratified by a very small bulk of fluid, without incurring the risk, that filling the stomach constantly exposes the patient to—for it should be an invariable rule, where the symptoms just named are present, not to put much of any thing into the stomach.

1708. The bowels should be opened, by small and repeated doses of castor oil, or by either of the neutral salts, in divided portions; these may be aided by injections of any of the mucilaginous teas; depending upon their bulk, rather than upon their stimulus for their operation. If diarrhœa attend, it is found useful to give the castor oil as suggested above, unless the stools

are watery and acrid, and their discharge attended by much effort, and flatulency. In this case the mild injections in small quantities may be exhibited every two or three hours with advantage—thin starch or arrow root, answer extremely well for this purpose. Though we have directed gentle purging, from a conviction of its usefulness, we nevertheless condemn in the strongest terms, active purging; especially when produced by the more active and acrid of the cathartics—we therefore unhesitatingly disapprove of this part of the treatment of enteritis, as laid down by Dr. Good. The French condemn this practice altogether, at this moment—at least such as belong to the physiological school; this we look upon as ultra-theory, as well as ultra-practice, and is perhaps, as reprehensible as the purging plan.

1709. In this entire proscription of cathartics, it seems to be lost sight of, that as powerful an irritant is left within the bowels, if it be not carried off by the employment of laxatives; and that this acrid mass accumulates in proportion to the tardiness of the bowels. We look upon several of the affections of the alimentary canal, as having their origin in the inflammation or irritation of its mucous membrane, (or its follicles,) as diarrhœa, cholera, and dysentery, and in the treatment of which, almost all experience is in favour of mild cathartics, or the more simple laxatives—who has not seen diarrhœa put a stop to, by a single dose of castor oil; cholera suspended by a few minute doses of calomel; and dysentery arrested, by a repetition of the milder eccoprotics? If this be true, what have we to fear from the judicious selection, or the proper use of, these remedies in enteritis?

1710. Leeching in this disease, is a powerful auxiliary; and should be resorted to, again and again, if pain continue; the part of the abdomen to which they are to be applied, must be directed in some measure by the pain itself—choosing such places in which it is most intense, in preference to a more diffused application of them. Their bites may be encouraged to bleed by the application of a piece of fine flannel, wrung out of warm flax-seed tea, to the punctured surface.

1711. When hæmorrhoids attend, or it is the large intestines that are inflamed, the French practitioners recommend in very high terms the application of leeches to the anus—from our own experience, we can say but little of their efficacy when used to

this part; as we have not been able to get the patient to submit to it but in one instance; in this case it appeared to be very useful.

1712. We have thought that much comfort and advantage has been derived from the occasional use of the warm bath when the weather has been warm—when cold, we have feared to recommend it, lest the process should not be conducted with a caution sufficient to protect the patient against injury from its employment.

1713. Opium should be entirely forbidden during the active stage of enteritis—we fear much mischief has been done by an unguarded use of this drug; attempting by it to overcome a pain, that can only be relieved by the lancet. But after due depletion has been performed, it may be had recourse to with advantage in the form of an enema—we direct a gill of flaxseed tea, or thin starch, and from forty to sixty drops of laudanum to be administered at bed-time, or even during the day, if the pain be great, the pulse sufficiently reduced, and the bowels open.

1714. Of the treatment of chronic enteritis we can say nothing that is encouraging—a pro re nata treatment is all that can be resorted to; namely, the occasional use of opium; keeping the bowels open by the gentlest means; diluent and mucilaginous drinks; a well-regulated diet, suited to the digestive powers of the stomach, or its peculiarities, and the total disuse of all ardent, or fermented liquors, is the sum of our means we believe, in this almost always fatal disease.

1715. We have said nothing of blisters in our history of the treatment of enteritis—we omitted them, because we have never been satisfied of their utility in any instance; and our impression decidedly is, that they are hurtful in every active inflammation of the membranous tissues of the abdominal viscera.

CHAPTER XXII.

DYSENTERY.

Character and Symptoms.

1716. WE understand by dysentery, an inflammatory affection of the mucous membrane of the large intestines; this is attended by a frequent and irresistible desire to go to stool, accompanied by violent inclination to discharge the contents of the rectum, without a corresponding ability; the effort for the most part, ending in the expulsion of mucus, principally. This may be tinged sparsely, or nearly altogether, with blood—when the tinge is sparce, it is generally produced by a few drops of blood more or less pure—if the whole evacuation be stained, it is by the colouring matter diffusing itself pretty generally through the mass. When this happens, the discharge loses the appearance of pure mucus, and strictly resembles, what it is commonly compared to, the coloured “scrapings of guts.” Sometimes there will be a small quantity of fæces of a green and curdled appearance accompanying the discharge; at other times, a very small quantity of mucus, and a considerable proportion of pure blood.

1717. These discharges are always preceded by severe, cutting pains; and attended, and followed by tenesmus, to a greater or less extent—as a general rule, the greater the tenesmus, the more frequent the disease, and the ability less, to effect a discharge. In this case the evacuation is very small in quantity; and consists chiefly of mucus, or only of a little pure blood. The efforts are at times so extremely powerful and repeated, as to exhaust the patient very much; his face will often be covered with sweat, or he may even faint. When the tenesmus is very violent, it seems to destroy the power of the bladder to discharge the urine, a retention therefore of it, occasionally takes place, and very much augments the sufferings of the patient. The lower part of the abdomen is generally hard, rather tumid, and always more or less tender to the touch. The stomach is sometimes

nauseated; at other times, vomiting attends; the back for the most part is extremely painful; the patient however, most commonly lies upon it, with his feet drawn up. The skin is commonly hot and dry; at other times preternaturally cold, especially the extremities; the tongue is generally covered with a white fur, while its margin and tip, are oftentimes red. The pulse, accelerate, contracted, and tense, and always manifesting more or less fever; though it is declared by some, that dysentery is sometimes unattended by fever—but we have never seen this in genuine dysentery, though we have frequently witnessed only a very slight degree of it; thirst always; and sometimes insatiable. The stools have a peculiar odour.

Diagnosis.

1718. This disease cannot well be mistaken for any other; its characters are too strongly and peculiarly marked, to need our dwelling upon its diagnosis, though Fournier and Vaidy have run a long parallel between it, diarrhœa, cholera morbus, and hæmorrhoids. But the severe suffering; the frequent and urgent calls to the pan; the mucous, bloody, sparing discharges; their peculiar odour, together with fever, will readily distinguish this affection of the bowels from every other, without our descending to farther details.

Nosological Position and Pathology.

1719. Dysentery has been placed properly by Pinel, among the inflammations of the mucous membranes—for multiplied dissections prove, that this complaint owes its origin to an inflammation of this membrane of the large intestines, and it has rarely been found to transcend their limits.* Observation also proves, that this inflammation in the great majority of cases is confined

* In certain cases of dysentery, "*black vomit*" has attended; my friend Dr. Physick and myself saw two instances of this kind in two children, one five, the other seven years old—one died on the fifth and the other on the sixth day of the disease. In these instances, an inflamed stomach, similar to that producing yellow fever, complicated these cases.

to this tunic; and, that neither the muscular, nor peritoneal coats are involved in the mischief.

1720. It has been almost uniformly supposed, that the bowels were ulcerated in dysentery, especially, when accompanied by bloody discharges; all the older writers, from Hippocrates downward, have declared this condition essential to it. It was not until Morgagni's splendid work was before the public, that the faith in this opinion was shaken, as he cites many authorities, who declare they have frequently seen ulcerations in the bloody flux. But Morgagni mentions but a single case of this kind; we have therefore every right to conclude, he did not meet with them, or he would have mentioned it. Broussais makes no mention of ulceration, except when this disease is chronic; and Fournier and Vaidy, declare, that in twenty years experience and research in a public hospital, where they witnessed dysentery in all its forms, that they found ulceration to be extremely rare; and never scarcely, but when this disease was in chronic form. Bayle and Cayol, also say, that ulceration is not the ordinary result in dysentery, properly so called.

1721. Dissections show that the mucous membrane of the large intestines, and sometimes, though rarely, a part of the small, are found red, or brown; somewhat thickened in their whole extent, and rough. This rough surface is besmeared with a glairy, or purulent matter, or a bloody sanies. This appearance has led some, not well skilled in post mortem examinations, into a belief that the whole of the mucous membrane was deeply ulcerated. But if the process recommended by M. Cayol be followed, this error will be quickly corrected. He directs, that this matter should be gently scraped by the back of a scalpel, and the intestine washed in plenty of water; we will then see that the substance which was taken for ulcerations, will detach itself and disappear. It is however acknowledged that a true ulcer may occasionally be discovered here and there; but as they do not appear to be in proportion to the violence, or extent of the previous inflammation; and as others have never met with these ulcerations, even in persons who have died of violent bloody dysentery, it is fair to conclude, that ulcerations are not the essential cause of this disease.

1722. There appears to be something peculiar in the œconomy

of the intestinal mucous membrane, while labouring under certain conditions, or under certain states of inflammation. For in chronic diarrhœa, which we cannot but think is maintained by a sub-acute form of inflammation, ulcerations are frequently met with, especially in portions in the cœcum, rectum, and in the sigmoid flexion of the colon; sometimes, though rarely, in the last convolution of a small intestine, but never in the duodenum. From this it would appear, that the intensity of the inflammation does not direct the formation of ulcers, since it must be acknowledged to be much more intense in dysentery, yet where they are rarely found, than in the chronic inflammation of a long-standing diarrhœa—they are particularly common in the diarrhœa which attends the last stage of phthisis pulmonalis, agreeably to Bayle and Broussais.

Causes.

1723. Dysentery may be sporadic, endemic, or epidemic, as is proved by many authorities; and it assumes some difference in type if we credit these authorities, as it may appear in the one or other of these forms. It is more common at the last of summer or in autumn than at other portions of the year. It attacks all ages and sexes; being however more fatal to females and children than to males.

1724. This disease may be caused by a sudden suppression of perspiration, as passing suddenly from a warm atmosphere while in a state of perspiration into a cold one. Hot and humid atmospheres also act as remote or predisposing causes. High or mountainous, as well as very low situations, are liable to dysentery; and certain soils appear to dispose to the endemic form, as it constantly happened that this disease first appeared in the limestone part of the soil in Abingdon township, Montgomery county, during the five years residence of the author in that neighbourhood. He also has had occasion to observe the same prevalence of dysentery in parts of Centre county of this state, (Pennsylvania.)

1725. The neglect of cleanliness has been a fruitful source of dysentery, especially in the army. Fournier says, they "received into the hospitals, soldiers encrusted with excrement and

dust." Unwholesome food has also been assigned as a cause of this disease. In epidemic dysentery, a peculiar disposition of the air is the reputed cause; but this can be aided by unwholesome aliment, drinks, and habitations, as with troops in camps, &c.

Is it Contagious?

1726. This disease has been looked upon by many as contagious; we have been very attentive to this question ever since our commencement in business; our opportunities have been ample, as well as frequent; but in no one instance have we had reason to believe it to possess this quality; an epidemic disease has been mistaken, we are certain, for a contagious disease, in many of the reputed instances, of this complaint having appeared throughout a community.

Terminations.

1727. Dysentery may terminate in health, in another disease, or in death; our prognostic must be founded, therefore, upon its approach to one of them.

1728. When our remedies have been successful, we find an abatement of severity in the symptoms, which mark this disease. Fever abates; pain diminishes; the calls to the chair become less frequent; tenesmus is appeased; the evacuations assume a natural complexion; the bloody and mucous discharges disappear; the strength renovates, and convalescence ensues.

1729. This happy termination, however, is not always permanent; errors in diet, or improper exposure, will, and too often does produce, a return of this formidable complaint; and this at a time when the powers of the system are still far from being restored—when this happens, the patient quickly pays the forfeit of his life, or a conversion into another disease takes place, which leaves him a poor choice of evils; either a more or less speedy death, or an endless disease. It therefore behooves the patient to pay the strictest regard to regimen, clothing, and exercise. The first should be mild, and chiefly consist of vegetable substances, as rice, in its various forms, tapioca, arrow root, &c.; and this should be continued for some time, or until

pain has entirely ceased, the evacuations discharged without blood or mucus, and without tenesmus; and these of proper consistence. The strength should above all be consulted; for if this does not accumulate in a proper ratio for the quantity of food taken, and the apparent freedom from disease, all is not right—there is some lurking mischief, which should as early as possible be detected.

1730. For this purpose, the evacuations should be examined, the urine inspected, and the pulse, especially towards evening, be carefully consulted; and if the first be not healthy in their character, the second too abundant and pale, or too sparing and high-coloured, and the third irritated, we may be certain that convalescence is not about to be firmly established. The patient should be again put upon the moderate use of the vegetable jellies, of rice, tapioca, the demulcent drinks, &c. and the bowels should be freely opened by castor oil, or rhubarb. This diet should be persevered in, and the bowels kept free, until a change of the circumstances for which they were ordered, takes place. And if these unpleasant conditions be removed, the patient may again gradually resume a more generous diet—a little chicken-water or beef-tea, the soft end of a few oysters, or a soft boiled egg, may be added to the other diet. His drink should still be the same as before; that is, as during his disease; or he may take toast-water, or some mild syrup and water; but liquor of no kind.

Convalescence.

1731. A patient escaping from dysentery, cannot be too careful about his clothing; this should consist of materials rather warmer than is necessary for health; but above all, he should not fail to wear flannel next his skin. It is idle for him to rebel against this direction, by saying he “never wore flannel in his life”—there never was before a necessity perhaps for it; or if there was, and he neglected, he should not compound for one error, by pleading the commission of another. He should be careful not to overheat himself, and have perspiration suddenly checked; he should avoid all damp places, and never permit his feet to remain cold—a change of air may be highly im-

portant, especially if he cannot enjoy proper and well directed exercise at home.

1732. Exercise must be looked upon like any other remedy—it may be improper in quality, and excessive in quantity. It should be performed in the open air, in dry and properly selected weather; and its degree should never exceed the quantity of strength the patient may have to spare—for it then amounts to fatigue, and fatigue is injurious.

Conversion into other Diseases.

1733. Should a favourable termination of dysentery, be realized only in part, the acute may be changed into the chronic form, diarrhœa, dropsy, &c.

Chronic Form.

1734. Chronic dysentery may arise from the recuperative powers of the system being unequal to the entire restoration of the parts involved in the acute stage of the disease; this may happen from a feeble condition of the one, or the excess of the other. The constitution may have sufficient power to prevent immediate death, though it may be insufficient for the establishment of health. Or it may take place from errors in diet; suppression of perspiration; the improper use of stimulants, &c.

1735. This form is rarely attended by manifest fever, though we believe the pulse is always more or less irritated; the patient continues without an increase of strength; the appetite is weak and oftentimes whimsical; spasms of greater or less frequency are still felt in the bowels; frequent dejections, and more or less tenesmus. The patient is very susceptible to cold; is listless, and desirous to maintain a horizontal position; and when he lies, he folds himself up into as small a compass as possible. Fournier says, that patients of this kind, “hide their heads beneath the bed-clothes;” he says this is characteristic, and that every physician of experience will recognise at first sight a patient of this kind, by the squat position he assumes in his bed—we have never observed this.

1736. The countenance is sad, pale, or yellow; and the whole of the forearms and hands become covered with an earthy-looking crust; this never fails but to be a bad sign. The skin is dry, and rough to the touch; the lips and gums are without colour; the face becomes œdematous sometimes; the patient continually wastes; the dysenteric odour is even stronger than in the acute; indeed, it becomes almost insupportable. The pulse is feeble, slow, intermittent, with evening exacerbations sometimes; the belly is hard, but not painful; the urine is brown, scalding, and passes off with difficulty; the feet and legs swell, and eventually become hydropic.

1737. Fournier observes that the chronic dysenteric patients, are in several respects like the phthisical; namely, that "they preserve their senses, and yield themselves to the formation of projects, that would require a long life to fulfil; also like the consumptive, they have an inordinate desire for opium; and of which they will support enormous doses." Eventually lientery takes place, and carries off the patient.

Pathology of Chronic Dysentery.

1738. Dissection shows in these cases that it is the mucous membrane that chiefly suffers; it becomes thickened, rough, ulcerated, and covered with pustules.

Terminations and Complications.

1739. Dysentery may, and very often does end, in death; this takes place either from the inflammation terminating in gangrene; or from the severity of pain, or the intensity of fever, the vital powers become exhausted; or death may ensue simply, from the effects of the particular fever with which it may be complicated. For in some parts of the world it may be joined, agreeably to many authorities, to "adynamic, ataxic, or typhus fevers." In this country, these complications are rare; indeed we have never seen such a combination; that is, as either of these fevers joined to dysentery, and having an origin independent of the condition of the mucous membrane of the intestines itself. The dysentery in many instances doubtless, has in its

course assumed apparently these conditions, like all other diseases of the febrile kind of high action, when the first stage has been neglected, improperly treated, or when its force was beyond the protecting powers of the system to resist it with success. Yet, notwithstanding this, we must insist that, in this portion of our country it has been uniformly inflammatory, as far as our observations have extended. The danger therefore of dysentery, will, *cæteris paribus*, be in proportion as the fever accompanying it shall depart from a pure inflammatory fever. But to return:—

1740. When dysentery terminates in death, it is as we have already observed, sometimes by gangrene of the intestine. When this is about to happen, several changes take place in the general symptoms—pain ceases suddenly; the pulse becomes slow, small, and unequal; delirium, if it had existed, ceases, and the patient, as in yellow fever, thinks himself well, and nearly the same symptoms take place as in enteritis, which see, par. 1696. Termination by gangrene however, is far from being as frequent as has been declared by some writers, especially Starck, who says all that die of this disease, die from gangrene. Now, modern pathologists do not confirm this assertion; for many, as Broussais, Cayol, Bayle, Fournier, Vaidy, &c. deny it. When gangrene does take place, death is generally produced more rapidly, than when this happens from febrile irritation.

Prognosis.

1741. Dysentery may always be considered as a disease of severity; and as one dangerous in proportion to the intensity of the febrile, and other symptoms. Fournier says, that this disease is sometimes without fever—this he calls “simple dysentery,” and considers it free from danger. We cannot pretend to judge how far this may be true; as we have never seen a *dysentery*, as we said before, unattended by fever, though we have known this to be slight. In our estimation then, it may be looked upon as one, if not at the moment absolutely dangerous, yet as constantly liable to become so, as there is no security against an aggravation of symptoms, and this sometimes from apparently small causes. Errors in diet; improper treatment;

imprudent exposure, or an unusual susceptibility of the system, may at any moment cause an alarming increase of disease.

1742. When dysentery is epidemic, the danger may be increased by the character of the fever with which it may be accompanied; for in proportion as this fever may be dangerous in itself, will be that of dysentery.

1743. Evacuations accompanied by purulent discharges, is always a bad sign, as it announces the suppuration of the mucous membrane. Or if the evacuations be very frequent, very offensive and cadaverous, very thin and black; or if they be discharged involuntarily, or if *living* worms make their escape in the bed, the prognosis is very bad. Hiccough is also a bad sign; and if the mouth be covered with aphthæ, it is sure almost to be fatal.

1744. If after severe suffering from pains in the abdomen, and these attended by violent fever, they should cease suddenly, we have reason to fear that gangrene has taken place. Or if the evacuations have the appearance of bloody water, or like the greasy water in which meat has been boiled, the danger is extreme. If there be excessive thirst, it is also bad.

1745. Hiccough in an advanced stage of the disease is always unfavourable, though not so in the commencement of it. The discharge of a hard or concrete mucus, resembling a membrane, and which gives rise to a belief that the internal coat of the intestine has been thrown off, is by no means a fatal symptom. The same may be said of the little masses, supposed to be bits of flesh, that are occasionally rendered in dysentery. Fournier says they are nothing but consolidated blood, portions of which have been retained in the intestine. He also says, that pimples around the nose and eyes indicate a long and dangerous disease.

1746. On the other hand, if the fæcal evacuations should become consistent, the disease may be considered as having very much diminished, and that an approach is making towards convalescence. If fever abate; if thirst slacken; if pain gradually subside; if tenesmus moderates; if the evacuations become less frequent, with an increase of genuine fæces; if the skin relax, and be disposed to moisture; if the patient lay straighter in bed; if the urine be sufficiently abundant, and deposits a sediment, and the tongue begins to clean, we may generally pronounce a

considerable amendment. It may be well to remark, that the appearance of *pure* blood, even in considerable quantity, is not to be looked upon as unfavourable—indeed, we have thought in several instances where it was pretty abundant, that it afforded much relief, as it seemed to act like a leeching to the inflamed intestine.

1747. If to these be added tranquil sleep, an increase of muscular strength, and a return of a natural and moderate appetite, we may with considerable safety pronounce the patient out of danger.

Treatment.

1748. We have said, that we had seen much of dysentery, and that it had constantly in this portion of our country, presented the character of an inflammatory disease; and that this obtained in the beginning, in all instances within our recollection, and by a reference to our common-place book, to a greater or less degree. This character continues to present itself at this moment in the several instances we have now under care; nor have we heard of any contrary statement, from any of our friends—we have declared, that post mortem examinations make the proximate cause of dysentery to consist of an inflammation of the mucous membrane of the large intestines; and consequently, that its treatment will consist in a strict antiphlogistic plan.

1749. Bleeding is almost constantly necessary in dysentery; and if there are cases in which it is not required, or that it is improper, they offer but exceptions to the rule, either from the mildness of their character, or the peculiarity of the type of fever, which accompanies this disease. As regards the first exception, we have certainly met with cases in which the circumstance mentioned existed, and we did not bleed—but in such instances, the pain and tenesmus were inconsiderable; more or less fæces constantly presented themselves in the evacuations; the fever was very slight, and the bowels easily evacuated by very mild cathartics, or gentle laxatives. In such cases, it is generally sufficient that a dose of castor oil, be given during the day, and a moderate quantity of laudanum at night, aided by a properly regulated regimen. And as regards the second, or peculiarity

of type of the fever, if it be such as will not bear the lancet, it certainly should not be had recourse to. But do not let us be deceived upon this point, by mistaking the character of the pulse, a risk every way likely to be run, as perhaps there are no other affections of the system, besides those of the alimentary canal, in which the pulse is so uncertain a guide to the inexperienced. For if the bounding, full pulse, that attends the pneumonic and some other affections, be taken as the guide for bleeding in dysentery, we should rarely or never bleed in this disease; for such a state of the arterial system is seldom or never found to attend the affections of either the intestines, stomach, or abdomen.

1750. Pain, tenesmus, mucous discharges, their urgency and frequency, heat of skin, acceleration of pulse, and thirst, are to be our therapeutical guides. If much pain attend, it can only arise from the intensity of inflammation; nor can the other enumerated symptoms have any other cause; but above all, the entire constipation, that almost always takes place when this disease exists in any force, calls imperiously for the abstraction of blood; nor is there any other single means but it capable of affording the necessary relief. We therefore without hesitation have recourse to it, whenever it is thus called for; nor are we very sparing as regards quantity in some instances, being certain, that any quantity this side of positive effects, will be of little service.

1751. By positive effects we would wish to be understood, an abatement of pain, a diminution of the heat of skin, a reduction of the pulse, paleness, and even nausea, when the symptoms are urgent. We repeat the bleeding, and have recourse to leeching, as directed for enteritis, (par. 1710.) In a word, the general treatment is so precisely similar, that it is unnecessary to repeat it here.

1752. In dysentery, however, the employment of laxative medicines is more imperiously called for than in enteritis, especially where the constipation is complete—that is, where no *fæces* show themselves. The *ol. ricini*, or castor oil, is almost the only laxative, when the stomach will bear it, that can be advantageously employed. This should be given in small and repeated doses, until *fæces* appear in the evacuations—and this should be made to take place, if practicable, three or four times in the twenty-four hours.

1753. The active cathartics should never be employed; for ample experience in the commencement of our treatment of dysentery, has satisfactorily proved their inexpediency—for the constipation is never removed by them, but at the expense of the revolt of the stomach, and an increase of pain, and an aggravation of every other symptom. The French practitioners proscribe them altogether in this disease, as they do in enteritis—but we do not hesitate to use them; and for the same reasons we gave for employing them, in that disease.

1754. It sometimes happens that the castor oil cannot be taken, or it will not be retained, if taken; when this obtains, we generally substitute the sulphate of magnesia and the tartrate of antimony, with much advantage.*

1755. Should pain, tenesmus, and fever continue, bleeding or leeching should be again resorted to; *bleeding*, if with these symptoms the heat of skin be considerable, and the pulse still active; *leeching*, if these two last do not obtain. Tenesmus is one of the most troublesome symptoms that attends this disease; in some instances an almost constant nismus is kept up by the rectum, urging the patient to frequent, but unavailing efforts to discharge the contents of the bowels; producing at the same time, a sensation as if the whole of the intestines were escaping. These efforts are so often repeated, that the patient becomes exhausted by their pertinacity, sometimes obliging him to rise from twenty to eighty times in the twenty-four hours. Zimmerman says he has seen patients go two hundred times in the same period. Leeching the anus is highly useful in this case.

1756. It is every way important, that this irritation should be allayed as quickly as possible; and for this purpose, besides the remedies just proposed, we must have recourse to opium, in some shape or other. Laudanum, or a watery solution of opium, given as enemata, is the best generally. The laudanum answers

* R. Sulph. magnesia	-	-	℥j.	Take Epsom salts	-	1 ounce.
Tartrate antim.	-	-	gr. j.	Tartar emetic	-	1 grain.
Manna opt.	-	-	℥j.	Flake manna	-	1 ounce.
Succ. lemon.	-	-	℥ss.	Lemon juice	-	½ ounce.
Aq. fervent.	-	-	℥viij.	Hot water	-	8 ounces.
f. sol. et colat.				Make a solution, and strain.		

A table-spoonful every hour or two, until it procure stools.

very well in common; but we have known the rectum so much inflamed, and so completely deprived of its natural and protecting mucus, as to be unable to bear the stimulus of the alcohol contained in it. In this case the watery solution answers extremely well. From three to six grains of opium, as the patient may require, must be dissolved, or well rubbed with two or three table-spoonsful of hot water, and then strained through a cloth; to this, an equal quantity of rich mucilage of gum Arabic, flaxseed tea, arrow root, or starch, must be added, and given at bed-time as an enema. Should laudanum be found to answer, a tea-spoonful may be administered in the same way. Should it be returned quickly, and without abating the irritation, it may be repeated in half an hour or an hour.

1757. Sometimes, the enemata are rejected almost as fast as given, without affording the slightest relief; when this happens, we have found, that by giving the laudanum with a solution of the acetate of lead, that they would be retained better. The solution may be made by dissolving ten grains of the acetate, in a common-sized wine-glassful of water; to this the laudanum must be added, and given as an enema. We have occasionally found a small suppository, of six or eight grains of the solid opium, to answer extremely well.

1758. It must however be borne in mind, that opium is not to be used in any form, until the pulse be sufficiently reduced to bear it—that is, the same rule must be observed, as in any other inflammatory febrile affection. The plan, then, of treatment, consists in the due abstraction of blood, so long as pain continues, and the pulse will bear it; in gently moving the bowels by laxatives, and relieving pain by opium. Advantage is sometimes found in warm applications to the bowels—as flannels wrung out of warm water, brandy, or whiskey. We have occasionally witnessed relief, from having the abdomen bathed with the spirit of turpentine.

1759. We cannot guard with too much care, the diet and drinks of the patient; they should be the same as in enteritis; for there is no disease in which errors of diet incur a severer penalty; nor none, in which so much mischievous vulgar error prevails; in proof of this, we need only mention, the almost universal administration of "*mutton broth*;" this pernicious sub-

stance is in almost universal use among those who attempt to treat the disease themselves; and it is too frequently admitted as an article of diet, by some medical men.

1760. Blisters to the abdomen have been highly recommended by some—our own experience is against their application to this part—we have found advantage from their application to the inside of the thighs, when tenesmus has been very severe, and after the proper reduction of the pulse.

1761. After fæcal stools are procured with facility, the danger for the most part is over, or certainly very much diminished; but when these cannot be provoked, the danger augments, and gangrene, with all its horrors, is certainly impending—but beware how you stimulate—for in no case is it more true, that we must not stimulate, because we cannot deplete, than in dysentery. In this condition of things, we must mainly rely upon the restorative powers of the system; avoiding at the same time most carefully, every thing like active treatment, as it would certainly interfere with this power.

1762. The chronic form of this disease permits but little beyond a *pro re nata* treatment—keeping the bowels free by mild laxatives, and a mild vegetable, or mucilaginous diet; the shunning of all stimulating drinks or medicines; and the occasional and judicious use of opium, will perhaps comprise every thing advantageous in our power. If fever of any particular type complicate dysentery, it must be treated agreeably to its character—at least as far as the state of the bowels will permit the appropriate treatment.

CHAPTER XXIII.

DIARRHŒA.

1763. By this we understand a too frequent discharge of the feculent contents of the bowels without tenesmus. The great variety of appearance in the matters discharged, has rendered it proper to divide this disease into several species; and first, of

SECT. I.—THE FECULENT DIARRHŒA.

1764. Whatever is capable of increasing the peristaltic motion of the bowels, or even perhaps a portion of them, may occasion the disease in question; hence the frequency of this complaint.

1765. This increased action of the bowels, in this species of diarrhœa, may be occasioned both directly, and indirectly.

1. *Directly.*

1766. By improper or irritating substances being carried into them; as food of a bad quality; or too much of that which may be good, when taken in improper proportions.

1767. The stomach not being able to digest its contents, the bowels become stimulated by the ill-subdued food urged into them, and make an effort to dislodge it as quickly as possible, by increasing their peristaltic motion; hence, their contents are rapidly and successively transmitted through them, and occasion what is called the feculent diarrhœa. Or it may be occasioned by the presence of bile in the duodenum; this bile may be either in too great quantity, or it may be highly depraved in its quality; and may in either condition so affect the peristaltic motion, as to produce diarrhœa.

1768. This is the most simple form of diarrhœa; and it very often effects its own cure by the profuseness of its discharge: but should it not, a dose of magnesia, if there be any evidence

of acidity, or castor oil, or rhubarb, if there be none, will almost always be sufficient for this purpose. Should it not, it may be repeated, but followed by an appropriate dose of laudanum at bed-time, should the fever not be considerable.

1769. Should there be much nausea, or many efforts to puke, it will always be best to cleanse the stomach, as these symptoms are almost sure to arise from the presence of a portion of whatever substance may have been offensive. For this purpose, we have ever found calomel, in proper doses, the best possible remedy; for it is almost as certain to cause puking under such circumstances, as a medicine decidedly possessing emetic properties, and this without the inconvenience of the latter remedy. The dose of calomel for the adult may be eight or ten grains.

1770. This complaint should never be neglected; especially at such seasons of the year, as are most favourable for its production; namely, during the excessive heat of summer, or when the weather becomes cool in the fall; for when not attended to, it is apt to degenerate into a habit, and to be of extremely difficult removal.

2. *Indirectly.*

1771. Diarrhœa may be induced by the bowels sympathizing with some other part; as with the skin, upon a sudden check of perspiration; the application of cold to the surface of the body; or by the improper use of the cold bath. With the brain, from agitation of mind, particularly that of anger and fear.

1772. When diarrhœa is produced by indirect agency, especially cold, it will frequently continue, even after the cause which produced it is removed. This kind is rarely accompanied by pain unless fever be excited; in which case the bowels suffer sometimes very much; the skin is often very hot and dry; considerable thirst, and white tongue. There is almost always mucus mixed with the fæces in such cases.

1773. This case is treated very much like the former, except where pain and fever attend; then castor oil is the best remedy. This should be given in ounce doses, every two or three hours, until it operate freely; or until the oil is observed to pass through the bowels with the fæces. If considerable pain continue after the

operation of the oil, the warm bath may be used most advantageously. If perspiration be excited, the fever will quickly pass, though the tormina of the bowels may remain.

1774. Should this be so, an injection with a proper quantity of laudanum may be given. This plan of purging, bathing, and giving laudanum, must be continued as the symptoms may indicate, until the disease ceases.

1775. During the whole management of diarrhœa the strictest regard must be paid to the diet, and drinks of the patient. The former should consist of either of the diluted jellies of rice, tapioca, sago, or arrow root; the latter should consist of thin flax-seed tea, barley water, rice water, gum Arabic water, or an infusion of the slippery-elm bark.

1776. We are aware, that many are opposed to the use of laudanum in the early stages of diarrhœa; but we think they are too indiscriminate in the rejection of this remedy. We are ourselves adverse to its administration, where the bowels have not been freely opened by the exhibited medicine; where there is fever; or where there is no pain; but where neither the want of due purging, nor fever make a contraindication, we almost always give a few drops at night, and especially if the patient be very restless, or in pain. We are persuaded we very much abridge this complaint by this plan; and most certainly prevent its running into a chronic form, after we have removed, as far as in our power, the exciting causes of the disease.

1777. During the continuance of this disease we strictly forbid animal food, or animal juices under any form. No solid food whatever should be given during the existence of this complaint; and every kind of liquor, whether fermented or distilled should be peremptorily forbidden.

SECT. II.—OF THE BILIOUS DIARRHŒA.

1778. In this species the fæces are loose, copious, and of a bright yellow, or green; and the bowels are stimulated to inordinate action, by an overcharge of bile either vitiated, or not. The influence of a hot sun upon the actions of the liver, is well known to every body; and it is familiar to common observation, that after a spell of very warm weather, even the healthy

evacuations give evidence of its rapid formation, and sometimes of its abundant absorption. Thus the fæces are observed to be loaded with bile, and the urine to be deeply tinged with it.

1779. During our summers, the action of heat is both uniform and excessive; the liver feels its influence, and is forced to an inordinate secretion of bile, which being suddenly and rapidly poured into the bowels, stimulates them to an excessive action, either by quantity or quality, or both, and thus the "bilious diarrhœa" is produced.

1780. This action of the bowels, as in the species just considered, sometimes relieves them of their stimulating contents, and will by this means effect their own cure—hence this species, like the other, may be ephemeral; and is not more formidable than the feculent species, unless the formation of bile goes on almost indefinitely; or that fever is provoked.

1781. The plan of treating this form of diarrhœa, will suggest itself; the bowels must be evacuated of their contents; and that by the remedy which so decidedly and successfully exerts a controul over the actions of the liver; namely, calomel, in small, but repeated doses, until, from the change in the appearance of the evacuations, it is judged the purging has been carried sufficiently far; that is, when a little of the mucus of the bowels appear in the stools.

1782. At night, in the absence of fever, the motion of the bowels should be tranquillized by a proper dose of laudanum—preferably by injection if practicable; if not, it must be given by the mouth. Should the complaint reappear the next day, the calomel may be repeated, but at longer intervals, but only in sufficient quantity to procure a decided evacuation; this should again be followed by the anodyne, and so on until the disease disappear.

1783. The diet and drinks should be the same as before recommended; except, that rennet whey answers an admirable purpose, both as nourishment and drink, in this species of diarrhœa.

1784. If fever attend, more purging will be required than if it be absent; but after the bowels have been properly evacuated

by the calomel in the beginning, castor oil, or rhubarb and magnesia, should be used.

1785. If we can place any reliance upon the accuracy of our own observation, we can with much safety declare, that beef tea or any other diluted animal extract, has uniformly been attended with bad consequences, in the commencement of almost all affections of the bowels; and this from a two-fold action. 1st, it is too stimulating when applied to the surface of the irritated bowels; and 2d, in affording too much nourishment for the febrile condition of the system. We therefore make it a first, and positive direction, that no animal substance of any kind, or in any shape, shall be given in diarrhœa, even in its most simple form, when attended with bilious discharges; and we positively prohibit liquor of every kind.

1786. But we must not be understood to forbid all nutritious substances to the patient; this we do not do; but we are very particular, both as regards quantity and quality, when nourishment is permitted.

1787. It may be proper to observe, that in the species of diarrhœa we are now considering, we have not made as some have, (Good, &c.) yellowness of the evacuation essential to it—we very often see them of various shades of green, from the bright grass-green, to the bottle or black-green; this is sometimes accompanied by a frothy top, or the whole mass looking spongy, resembling very much the green production on the top of stagnant water; at other times, it is of pitchy darkness, and tenacity. Where the last is observed, it has always been preceded by a pretty obstinate fever, which does not usually yield until these black evacuations come away.

1788. Much injury has been sustained by mistaking green bile for acidity, and administering the cretaceous mixtures, so as to arrest the discharge suddenly; authors abound with cases of cholera, convulsions, fever, &c. arising from this cause. It therefore becomes very important that the one should not be mistaken for the other. But we shall have occasion to revert to this subject presently.

SECT. III.—OF MUCOUS DIARRHŒA,

1789. The evacuations consisting of, or containing, a copious discharge of mucus. This species is commonly produced by a sudden check of perspiration, or the sudden application of cold to the surface of the body and feet. We have seen it follow in two instances, in children, the improper use of the cold bath.

1790. Fever rarely accompanies this complaint, in its milder forms; and it is of easy management in general; but sometimes we have known it very obstinate. The remote causes should not be repeated, if possible to prevent their reapplication; if it proceed from cold bathing, it must be discontinued; and if from atmospheric cold applied to the body, additional clothing must be resorted to, &c.

1791. The bowels should be gently purged by castor oil, and its operation followed in the evening by a suitable dose of laudanum. This plan must be pursued daily, until the bowels are relieved; or they may be purged by rhubarb and magnesia during the day, and followed as before directed by an anodyne in the evening. The diet should consist of such articles as have been already directed; and the patient take freely of an infusion of slippery-elm bark, or gum Arabic water.

1792. Dr. Good condemns the use of purgatives in this species of diarrhœa, but upon no good ground, that we can perceive—our experience is decidedly in favour of the plan just proposed. He would certainly employ laxatives in dysentery, to which it bears a pretty strong analogy, as far as regards effects and appearances; only in the mucous diarrhœa, there is in general no vascular excitement, and therefore most probably no very active inflammation, though certainly considerable intestinal irritation; whereas, in dysentery, more or less always attends. Dr. Good certainly would evacuate in catarrh, to which he says it has “a striking resemblance.”

1793. He and others recommend in this affection, or in any “other looseness produced by a sudden chill upon the surface, small doses of ipecacuanha, with or without opium.” We have used this prescription at night, and we think with evident advantage; but it should not be given in the day, unless there is

considerable pain, and then only, after an evacuation of fæces has been procured.

SECT. IV.—CHYLOUS DIARRHŒA.

1794. This form consists of chylous or milky evacuations. It would appear that there is a deficiency of bile in this disease, as the dejections are not tinged with this substance—consequently, this complaint would seem necessarily to be accompanied by some derangement of the hepatic system, either positively or accidentally. The liver may not be in a condition to secrete this fluid abundantly, or its flow into the intestines is by some means or other impeded.

1795. In treating this complaint, whether it be pretty suddenly induced, or it follow a diarrhœa, we have always prescribed for the condition of the stomach, and we may safely say, we have generally succeeded. We should withhold almost all food from the stomach, that its weakened powers need not be longer overtaxed. We therefore confine the patient to small quantities at a time of rennet whey or gum Arabic water—nothing else is permitted. We endeavour to restrain the passages, by an anodyne injection, of full power, at night; and give during the day minute doses of calomel—say a grain every four hours, with the fourth or sixth of a grain of opium. We persevere in this treatment for a few days, unless the calomel urge the bowels too much; in this case, we diminish the quantity of calomel, and increase that of the opium.

1796. We have seen the most decided relief from this plan; and by giving the stomach very little to do, it becomes reconciled to its duties, and fulfils them after a little while perfectly.

SECT. V.—LIENTERIC DIARRHŒA.

1797. “The rapid passage of the nearly unchanged aliment through the bowels, constitutes this species of diarrhœa.” With children, it sometimes follows the other species of diarrhœa, and dysentery perhaps oftener. It is not accompanied by much acute pain, though the child appears uneasy after eating; but is immediately relieved by an evacuation, which is perceived to con-

sist of the food a little while previously taken into the stomach. This complaint rarely comes on suddenly, and it may exist in different degrees. When a tendency to this complaint is first perceived, it should be instantly attended to, for it is one of those affections, that rarely if ever cures itself.

1798. It generally commences during the chronic state of diarrhœa, by showing perhaps, that some one article of diet only has passed the bowels unchanged.

1799. This complaint seems to be seated altogether in the stomach itself, and owes its existence to the great irritability of this organ; for so soon as the food is lodged in it, it makes efforts, by an increased peristaltic action, to discharge it, and the intestines transmit it with equal speed to their extremity, there to be discharged. Dr. Good suggests that "the gastric juice may not be secreted in proper quantity, or with proper qualities;" this may be, but it is not sufficient to account for the phenomena; for this happens precisely in dyspepsia, but dyspepsia is not attended with lientery.

1800. We have been in the habit of treating this disease very much after the manner of "chylous diarrhœa," to which it has a very strong resemblance, in the rapidity with which the food is passed through the tract of the intestinal canal; and it would seem to be but an excess of it—in the one, the stomach digests to a certain extent, but confessedly imperfectly, as the ill concocted mass is hurried from the stomach into the intestines before it can be properly elaborated. In the disease in question, it tarries a still shorter time, and for the most part passes with little or no change.

1801. We have found this disease, generally speaking, to be a manageable one, when sufficiently early attended to; but when suffered to run on to the last stage of debility, little or nothing can be done; it but too generally proves fatal, as it for the most part takes place in feeble and worn out constitutions, that have been exposed to the effects of hot climates, or after chronic dysentery or diarrhœa.

SECT. VI.—OF THE CHRONIC FORM OF DIARRHŒA.

1802. The several species of diarrhœa already treated of, may run into a chronic form of very difficult management, as well as of great danger; 1st, by neglect; 2d, by the continuance of the remote and exciting causes; or 3d, by improper treatment.

Of the Treatment of Chronic Diarrhœa.

1803. Every body has experienced the difficulty of removing a diarrhœa, after it has taken on a chronic form. This arises from several causes: 1st, because the hepatic system is now involved with the intestinal, in maintaining this complaint; 2d, because the stomach and bowels, independent of the condition of the liver, are seriously affected by either inflammation, ulceration, contractions, or inter-susceptions; 3d, because the influence of habit is added to the original disposition, to too frequent dejections.

1804. When the first cause of difficulty prevails alone, the disease for the most part is of pretty easy management; the symptoms, here, may consist of too frequent discharges, of a green, slimy, or curdled appearance; with loss of appetite, nausea, sometimes vomiting, and of increasing emaciation; the skin almost always dry, and very warm where covered; the urine scanty and high-coloured; the thirst great; and the disposition fretful, whimsical, or sluggish. Three indications here present themselves: 1st, to alter the nature of the actions of the stomach, bowels, and liver; 2d, to abate the frequency of the discharges; and 3d, to restore the lost strength of the parts immediately concerned, and the system in general.

1805. The first indication must be fulfilled by freely emptying the bowels by castor oil, rhubarb, or calomel; and then by giving small doses of calomel, that is, from a half to a grain, morning and evening, with three or four grains of prepared chalk, and from a fourth to an half a grain of ipecacuanha, and as much opium. The second must be attempted either by small doses, say four or five grains, three times a day, of rhubarb, or by the cretaceous mixture. At night a sufficient quantity of lau-

danum by the mouth, or by injection, should be given, to keep the bowels quiet until the morning.

1806. Nothing heating or stimulating should be given either as nourishment, or as drink; and every species of liquor, animal food, or broth, must be prohibited if there be the slightest evidence of fever. The diet must consist only of such articles as the stomach can best manage, as milk and water, gum Arabic and water, very thin arrow root, sago, or tapioca; rennet whey, barley water, or rice water. Nothing solid of any kind should be given. The occasional use of melted butter is found sometimes highly advantageous in every state almost of chronic diarrhœa. It is made by pouring boiling water on a lump of perfectly sweet butter in a tea-cup, and stirring it until it is melted; a tea-spoonful is skimmed from the top, and given several times a day.

1807. The third indication may be fulfilled by the proper use of diet—permitting the use of weak broths, without vegetables being boiled in them, with the exception of rice; but even this must be strained from them before they are given. A soft-boiled fresh egg may after a while be given; or a little well-boiled rice, with sugar, very fresh butter, and a little nutmeg, may be made to follow from time to time.

1808. Where there is chronic inflammation, the disease must be considered not only very far advanced, but highly dangerous. Here we shall find the pulse is very much accelerated; pain will be experienced by pressure upon the abdomen; the skin will be hot and parched; the evacuations extremely frequent; a disposition to tenesmus; or the evacuations may be sparing, slimy, very watery, or bloody, though frequent; the thirst be excessive; and the pulse dry, red, and tender. All these symptoms, or the greater part of them, will attend chronic inflammation of the mucous tissue of the intestines.

1809. The indications here, are, 1st, to abate the local inflammation; 2d, to change the nature of the secretions of the liver and bowels, and to allay the irritation of the intestines; 3d, to diminish the frequency of the discharges; and 4th, to restore lost strength.

1810. The first indication must be attempted to be fulfilled by local depletion by leeches; by the occasional use of the warm

bath; by blisters on the abdomen or thighs. The second, by the exhibition of the calomel in alterative doses; and by small, but repeated doses of castor oil. The third, by the occasional use of laudanum enemata, when they can be retained; or by its exhibition in small, but repeated doses, by the mouth. And the fourth, by proper diet, as above proposed; by exercise; and by change of air, or climate.

1811. In this and in the subsequent stage, it may be proper to observe, that nothing but rennet whey or weak gum Arabic water, should be given as nourishment, and even these in very small quantities.* Thirst is best slaked by toast water, given from time to time.

1812. When this disease is still more advanced, and has been of long continuance, we have a right to suspect, what has been but too often proved by dissection to happen under such circumstances, contractions, ulcerations, and intus-susceptions. We have no diagnostic symptoms for these conditions of the bowels; and if we had, it might be justly doubted whether the knowledge of them would lead to any valuable practical end. We fear that in these cases, no other plan can be pursued, but a temporising one; for it is to be presumed, that every effort has been made during the previous stages of the disease to arrest its progress.

1813. Habit sometimes perpetuates the discharges from the bowels; this cause may be suspected when the evacuations occur at nearly stated periods of the day; when they are not continued through the night, and when the digestion goes on well, and the stools look natural. Children from the long continuance of diarrhœa, and those of sufficient age to feel a sense of shame, and especially those who have been schooled into good habits in re-

* We are persuaded, that one of the most operative causes against recovery, in every bowel complaint, is the too frequent exhibition of food, both proper and improper; especially during its active stage. The fear of weakness leads incessantly into error, on this subject; and neither reason nor experience is capable of destroying this absurd and dangerous practice. Every body would at once acknowledge it to be, not only preposterous, but even cruel, to place an additional weight upon the shoulders of a man who was staggering under the load already laid upon them; but they would think it right to do what is equally absurd and cruel to the stomach, by forcing upon it a fresh quantity of food, when it has not power to dispose of that which it had previously received.

gard to their evacuations, are always sure to obey the first impulse or warning the bowels give, that a discharge is about to take place, and by this means no doubt have provoked an evacuation, which a little self-command might have checked. By this means almost all influence over the sphincter is lost, and the discharge is maintained from habit.

1814. Laudanum we have found the best remedy for this kind of diarrhœa, especially when combined with prepared chalk; it should be given as frequently as the state of the bowels would seem to require—that is, given immediately after each evacuation, and directing the patient not to obey the desire as long as they can possibly resist it.

CHAPTER XXIV.

RHEUMATISM.

1815. DR. SCUDAMORE defines rheumatism, a “pain of a peculiar kind, usually attended with inflammatory action, affecting the white fibrous textures belonging to muscles and joints, such as tendons, aponeuroses, and ligaments; the synovial membrane of the bursæ and tendons; and nerves; occasioned by variable temperature, or by direct cold or moisture.”*

1816. He divides this disease into two species, “acute and chronic;” the former he subdivides into “the acute, and sub-acute.”

1817. The *acute* is thus characterized, “pain with inflammation of the ligaments of the joints, and usually those of the larger joints; or of tendons and aponeuroses; of the sheaths of tendons; of bursal membranes; and of nerves; aggravated by motion; for the most part attended with external redness of a bright red colour; and with fever which has exacerbations, and sometimes distinct remissions; with copious partial perspirations, commonly

* Treatise on the Nature and Cure of Rheumatism, &c. p. 11.

of an acid odour; and high-coloured urine, depositing abundantly lateritious sediment."

1818. The definition just given is certainly comprehensive, and much more satisfactory than that of Dr. Cullen—yet, it must still remain doubtful, whether the seats of the affection, are strictly represented by those laid down in the definitions; as it seems that almost, if not every, structure is occasionally the seat of rheumatism. While on the other hand, the morbid changes produced by rheumatism, even where it has been both long-continued and severe, have not been in general so unequivocal, as always to point out this inflammation as the cause of them; as the muscular fibres, the bones, &c. are said to be liable to this disease.

Symptoms.

1819. This disease, like other phlegmasiæ, is usually ushered in by a sensation of cold, and sometimes by a chill of some continuance; we once knew it to continue for more than an hour, and was supposed to be the forerunner of an intermittent; at other times, slight and repeated shivering mark its commencement. The heat which succeeds the coldness does not always extend over the whole body—we have known it to be confined to the upper portions of the body, or such as were nearest to the source of circulation, while the feet and legs have remained cold, though portions of these parts afterwards became the seats of the affection. At other times a general soreness or rigidity of the whole muscles of the body would announce the complaint, especially in those who are liable to the disease. We have known head-ache, and a deranged state of the stomach to be the forerunners of rheumatism; sometimes nausea and vomiting of a bitterish acid fluid, would accompany the head-ache, &c. this would especially happen when this disease has been provoked by some little excess in eating or drinking.

1820. Soon after these premonitory or constitutional symptoms show themselves, some one portion of the body, to a greater or less extent would become affected with pain; and as the lower extremities are more liable to these attacks than the other parts of the system, the ankles and knees are generally selected for the

local affection. Pain, swelling, and redness now show themselves; and the degree of either appears to depend, according to Scudamore, upon the tissue involved. "If the bursæ be the seat of inflammation, there is considerable swelling, but scarcely any discoloration of the skin, and sometimes not the slightest alteration in this particular. If the tendons and ligaments be affected, there is more or less redness of the surface, which is usually of a vivid colour, and is often in patches. When the tendons are inflamed, their sheaths are excited to increased secretion, and they are found distended." p. 20.

1821. The hips, thighs, or back, may also be the primary location of rheumatism, and from either it may extend with more or less rapidity to other portions of the body, or it may confine itself to the part it originally seized. The attack may be more or less sudden, or more or less extensive and severe. We remember a highly respectable clergyman, in the year 1792, from a very sudden check of perspiration, after being much heated by severe bodily exercise, becoming in a few hours immovable in his bed; for every portion of the body participated largely in the affection. Or it may attack a single portion of the body, and have to follow it, nearly a similar disability to move. Villeneuve, says he saw a joiner suddenly seized with lumbago, which rivetted him to the spot, being incapable of any kind of motion.*

1822. Fever, to a greater or less degree, becomes fixed; it has remissions, but rarely intermissions—the remission for the most part, does not take place until towards morning, and after the patient has passed a wretched night; for pain is commonly in proportion to the degree; or rather perhaps in this acute form, it may be said that fever is in proportion to pain; and this pain, is constantly found to be worse at night. The occasional increase of pain in rheumatism, is in various degrees, but is almost always fluctuating from one extreme to another; sometimes sudden and lancinating like an electric shock; at others, pulsating, obtuse, and gnawing, as if "the flesh were torn from the bone by dogs," &c. For the most part, the articular portions of the limb, when a limb is the affected part, is more painful than the

* Dict. des Scien. Med. Vol. 48, p. 484.

other portions, and oftentimes it is confined to it. It is always increased by attempts to move the limb or joint. Sydenham has remarked, that the pain increased sometimes after the fever had abated. Some have thought that women suffer more than men in attacks of rheumatism; and that this disease in hot climates, suffers no abatement of intensity.

1823. The pulse in rheumatic fever is almost always hard and full in the beginning; but the hardness diminishes, as soon as sweating takes place—it may then be said to be soft, owing perhaps to the greater fulness or dilatation of the artery. There is generally, a peculiar quickness in the stroke of the rheumatic pulse, which is not always combined with frequency—we have a patient at this moment, in which this peculiarity exists in a remarkable degree, and this took place as soon as the perspiration became profuse.

1824. The heat of the skin is almost always increased; or rather it seems to keep pace with the fever. It is pretty equally diffused over the body, though rather greater in the affected parts. The heat is of a peculiar character; it is sharp and burning; and resembles the sensation of heat given by a hot fire; nor is it diminished by sweat breaking out, as in ordinary autumnal fevers; nor does the patient, except in a very few instances, feel the least relief, however profuse, or long-continued this may be. Indeed, in some instances it seems, that the patient is not much relieved until these sweats diminish, or cease altogether; they therefore cannot be looked upon as critical; and certain it is, as we have often had occasion to observe, that little or no risk is run, by occasional exposure of the body to the air, during this period.

1825. When rheumatism exists with any intensity, there is always more or less swelling takes place in the parts affected—this is more remarkable however in the smaller, than in the larger articulations; hence we find the hands and feet more swelled than the ankles, knees, or elbows. This swelling is said to arise from a sudden effusion of lymph, or serum in the cellular membrane; and is thought to afford relief. This may be so, when the swelling is occasioned by the pouring out of serum, but not so when lymph is yielded; for we have seen every symptom aggravated after swelling has taken place. The first may

be known, by the part retaining the print of the finger when pressure is made; while the latter is firmer and is elastic. It seems to require a more exalted state of inflammation to pour out lymph, than to effuse serum.

1826. Acute rheumatism is almost always attended by redness in parts affected; but this is not constant, nor is it always equal in intensity. Much of this however will depend upon the severity of the case, the parts affected, and the degree of swelling. If the internal inflammation be great, the skin will be proportionably involved, unless the disease be very deep-seated. For we have seen an entire limb from the hip to the toes, severely affected by rheumatism; on the thigh there was no discoloration, nor was there any on the thick part of the leg; but the hip, (immediately over the trochanter,) the knee, ankles, and toes, were very red. If the parts affected be but thinly covered, by other structure, there will almost always be redness, as about the knee, and ankle joints, &c. and the swelling may be very great; in which case the redness may be prevented by the distention.

1827. One of the most remarkable features of rheumatism is its liability to metastasis; though much less so than gout. It rarely happens, that the acute form, remains stationary as regards the affected part during the whole progress of the disease; nor can we by any process of reasoning, or deduction from cases, anticipate when this is about to take place, or what part it will select for its new habitation; for it is not regulated by proximity, size, nor similarity, though structure may have some influence—but this is by no means constant. In the case alluded to above, we say the translation was made to the opposite limb and precisely to the same extent. In this case, the lady found the change to be complete in the course of a night—and the newly besieged limb, was more painful, than the one from which it was transmitted, at the moment the change began. And what may be considered remarkable in these changes, is, that the intermediate parts suffer no inconvenience during the translation.

1828. We have noticed, that fever of more or less intensity, always accompanied the acute form of rheumatism; this for the most part gradually increases, with the increase of the local affections. We have also observed, that the pain was severer during the night, than in the day, for a remission is pretty sure to take

place, towards the morning. This fever, however exasperated, is never, as far as we have observed, attended with the same extent of disturbance of the system, as from the same apparent degree of fever, of the intermittent or remittent form. It is nevertheless evident, that it is attended almost always, with pretty strongly marked gastric alterations; thus thirst, white tongue, loss of appetite, and constipation, are very constantly present.

1829. Delirium is a rare attendant as far as we have observed in this disease; the intellectual faculties, may however occasionally suffer, more or less; there is usually great anxiety, with almost an entire loss of sleep, or a constant watchfulness, that does not seem to arise altogether, from the continued existence of pain.

1830. Respiration is never directly affected, (that is, the lungs themselves do not appear to be a seat for rheumatism,) but it may become so, in consequence of the disease fixing itself upon the intercostal muscles, or diaphragm. We have seen respiration almost suspended when this affection has fixed itself on either of these parts, from a sudden metastasis.

1831. The secretions from both the skin and kidneys are sometimes much increased; sweat, we have remarked, is oftentimes very abundant in rheumatism, without being critical, but in very few instances. Its smell is acid, and peculiar; so much so, as almost to characterize the disease. The urine is for the most part red in the beginning, and not very abundant, while the sweating continues to be profuse—it however rather increases as the disease advances; but when upon the decline, it deposits a lateritious sediment. The urine is sometimes very dense, and very high-coloured; resembling a mixture of blood and urine; but we have never seen this but upon two occasions; once in a female, and the other in a male—in both instances they appeared to be critical. In the female, the region of the kidneys was the seat of the disease; in the male, it extended over nearly the whole body. It has been remarked by a number of authors, that the face has, in many severe cases, a peculiarly greasy, and shining appearance.

1832. It seems to be pretty generally agreed, that a natural condition of the skin, that is, a freedom from huskiness, and an

exemption from sweat, is an essential condition to recovery. If with this change in the state of the skin, there should be a corresponding alteration in the pulse and tongue, the first becoming softer, smaller, and less frequent, and the latter clearing; if the urine should lose its intensity of colour, and should deposit freely; if pain abate in severity, and increase in constancy, we may conclude that convalescence is about to take place sooner or later. We say sooner or later—for there is no disease which leaves the system in so uncertain a condition, as regards recovery, as rheumatism.

1833. For though the favourable signs just enumerated may take place, there is no security they will continue; for the slightest exposure, errors in diet, or without any appreciable cause, the whole of the distressing symptoms may return in a moment, and involve the patient anew in serious disaster. Or he may have for a great length of time, transient pain; or permanent stiffness to contend with.

1834. This disease, notwithstanding its painful severity, is rarely fatal; we have never witnessed a single instance of death when it preserved its original locations, though we have seen much danger from its metastasis to some important part, and once death, when it flew to the heart. And within a few days we saw it attack this part so suddenly and violently, as to threaten immediate death; respiration was nearly suspended, and the action of the heart so impeded, as to cause the most serious, and justifiable alarm.

Predisposing Causes.

1835. Many causes have been enumerated as giving disposition to rheumatism; as hereditary conformation; constitution; temperament; age; habits of life; profession, &c. &c. It is difficult however to understand how some of these causes contribute to this end; while others would appear to be sufficiently obvious; for instance, of hereditary conformation, as a predisposing cause, we can know but little; for, as Dr. Scudamore justly observes, from it “inferences can be drawn only from general reasoning, observations, and facts, and not from positive demonstration, therefore we cannot pronounce it with certainty to be a cause.” (p. 35.) While it appears plain, that a robust and vigorous con-

stitution, and certain habits of life, may do so; for the first seems *naturally* to dispose the system to take on inflammation from the application of almost any *exciting* cause; and it seems equally plain, that the same disposition may be *artificially* created by the second. And though we do not exactly understand, why youth on the one hand shall give to a certain extent an immunity to this disease, or that age on the other shall increase the liability, we are yet obliged to acknowledge it to be a fact, if any reliance can be placed upon the observations of writers upon this subject.

1836. Thus, Chomel says, that of seventy-three patients in "l'Hopital de la Charité," affected with rheumatism, thirty-five were from fifteen to thirty years of age; twenty-two from thirty to forty; seven from forty-five to sixty; seven were above sixty; only two before fifteen, to wit, one of eight, and the other of nine. Bichat attempts to account for this, by saying, in early age the fibrous system is soft, while in old people it becomes more and more dense. Dr. Heberden says, "the rheumatism has appeared as early as in a child only four years old, and I have seen several afflicted with it at the age of nine years."* And Dr. Davis, in his dispensary report, says, that "at the end of March, and in the beginning of April, several cases of acute rheumatism were admitted, in children of three, four, five, six, and seven years of age, and upwards."†

1837. Dr. Scudamore thinks, that predisposition "to acute rheumatism, is from fifteen to thirty; and to chronic, from thirty to sixty"—but this certainly has many exceptions. And he also observes, "that whatever causes induce debility, either generally or partially, predispose the body to rheumatism." He also enumerates local injuries, as dislocations, strains, or contusions; an unhealthy state of the digestive organs, sex, season of the year, &c.

Exciting Causes.

1838. The same author insists that, "variable temperature, experienced either generally or partially, is the only exciting cause of rheumatism;" and, that "this happens through the me-

* Commentaries, p. 400.

† Medico-Chirurg. Rev. Oct. 1827.

dium of moisture, or of cold air alone; or more especially of both conjoined, operating upon the whole body, or in part, according to the particular susceptibility of the patient; and according to circumstances of exposure, and insufficient protection in clothing. In common language, we use the term cold; but this is of relative signification; and the cause of injury consists rather in the influence of variable temperature, than of absolute cold upon the body when wholly in a state of relaxation. For example, exposure to the night air after much perspiration from dancing; a stream of cold air upon some part of the body when placed in a hot room, especially if the skin be relaxed; for in connection with this state of the surface, the several textures beneath are more readily disturbed in their functions; and we may reasonably argue that rheumatism is produced, not from the mere suppression of perspiration, but from the disturbance in the economy of the cutaneous circulation, which is quickly communicated to the fibrous textures, or synovial membranes, or nerves. Any check (reduction?) to the temperature of the skin, so permanent, that healthy reaction does not take place, may be considered as an application of cold, calculated to excite rheumatism." p. 43, &c.

1839. In nothing relative to disease, is the opinion of medical men more concurrent than that *cold* in some form or other, is the exciting cause of rheumatism, and it is now also pretty generally agreed, that it is the fibrous tissues that become the seat of this affection. The fibrous tissues comprehend the articular capsules, or synovial membrane, the ligaments, the aponeuroses, the sheaths of tendons, the tendons, the periosteum, the pericardium, the dura mater, the sclerotica, &c.; to which may be added, agreeably to Burdin, (Dict. des Scien. Med. Vol. 48, p. 480,) "the stomach, the intestines, the bladder, and the uterus, each of which shows a white fibrous tissue, and which may become secondarily in these organs, the seat of rheumatism." The latter organ, namely, the uterus, we are certain becomes very frequently the *primary* seat of this disease. We have seen it follow abortion in a number of instances from the exposure of the feet to wet; and we regard dysmenorrhœa as a periodical rheumatism, affecting the uterus, during the menstruous secretion. The degree of cold, or its greater or less application, may

in some measure determine the seat of this affection—thus the more superficial fibrous tissues may be the ones affected by moderate exposure, while a longer continued, or a more intense degree of it, may penetrate farther, and reach the same kind of tissues, that are deeper seated.

Proximate Cause.

1840. It appears, that the *proximate cause* of rheumatism is a phlogosed state of one or more portions of fibrous tissue; and that, “when many of the ligaments and tendons are inflamed, high constitutional irritation arises, as also does fever. Next in order, the tendons excite this sympathy, those, namely, that are confined in sheaths; for tendinous fibre, and aponeurotic expansion, may be inflamed without much disturbance of the constitution; as we observe in the most painful lumbago, or in the form of complaint commonly called stiff-neck. Redness of the surface appears almost exclusively when the superficial ligaments and the sheaths of the tendons are affected. Bursal inflammation is seldom accompanied with discoloration of the skin. Pain is felt most acutely accordingly as the parts affected are deep-seated, and abates very much in proportion as swelling occurs.”*

Diagnosis.

1841. Rheumatism can only be confounded with gout; yet, the peculiarities of each disease are so obviously marked as to render discrimination sufficiently easy. The following schedule of the diagnoses of these diseases, is taken from the “Dict. des Sciences Med. Vol. 48, Art. Rheumatism.”

Predisposing Circumstances.

RHEUMATISM.

Youth to ripe age, either sex, sanguine temperament, constitution robust, laborious professions, poverty. Not evidently hereditary, predisposition not innate.

GOUT.

Mature and old age, men, nervous temperament, constitution irritable, opulence. Commonly hereditary, predisposition innate.

* Scudamore, p. 55.

Exciting Causes.

Rapid changes from heat to cold moisture, perspiration suddenly suppressed, gross living, exertion, compression—all agree, that the sudden application of cold is the direct cause.

Sedentary habits, perspiration slowly diminished, nutritious and stimulating food, abuse of ardent liquors, coffee; enervation from the pleasures and pains of the mind—not excited by cold.

Seat.

Fibrous and muscular tissues; the great joints; rather superficial, occupying a large surface, a variety of places at the same time. Parotids frequently affected. The first attack, its seat uncertain.

Synovial capsules, or at least the white portions of the articulations, not sensibly extending to the muscles; the small articulations. Deep-seated, concentrated, never attacking the whole of the articulations, and successively. Parotids never affected. First attack generally limited to the big toe.

Invasion.

Sudden, without disturbance of stomach, for the most part.

Preceded by perversion and disturbance of the digestive powers; diminished or augmented appetite; disturbed sleep; loss of energy.

Symptoms.

Pains in different parts of the body, but especially the joints, and especially when acute; pain spreading, dull, and squeezing, (comprimante,) pain and swelling coming on together; redness, if any, rather pale. Cessation of pain not followed by complete relief. A moderate power to translate itself to other parts.

Pains chiefly in the articulations of the great toe, returns regular or irregular, the appearance or non-appearance, at the fixed periods, or the premature disappearance, is followed by various lesions of the internal organs, and especially the stomach; pain pricking, shooting, dragging; swelling succeeding pain; redness deep, resembling erysipelas. Cessation of pain followed by great relief; great disposition to metastasis.

Duration.

First attack often very long: an attack rarely lasting less than four days.

First attack not long: sometimes only twenty-four hours.

Metastases.

Seldom, and slow. Rheumatism rarely quitting the articulations and muscles, to take possession of an internal organ, especially when it is acute.*

Frequent and sudden. The gout abandoning its common seat, to fix upon the viscera, especially those of digestion.

* Dr. Scudamore says, "it is in a remarkable degree the disposition of rheumatic inflammation *quickly* to change its seat; and the abatement of sufferings

Relapses.

An attack happens often, without being followed by a second. The returns are hardly ever spontaneous; they are commonly provoked by new exposures to the primitive cause of the disease. These returns are at uncertain intervals. Rheumatism is sometimes epidemic.

A second attack almost always takes place a few years after the first. The returns are without provocation; they generally increase in frequency, duration, and intensity. They are often periodical. Gout is never epidemic.

Species.

Acute rheumatism—chronic much more frequent.

Common gout—asthenic much more rare.

Prognostic.

Radical cures sufficiently frequent. Affections produced by metastasis, not very dangerous.

Radical cure, rare and difficult. Metastasis to the internal organs, often fatal.

Appearances after Death.

Gelatine and albumen in the muscular and ligamentous meshes.

Swelling of the articular extremities; concretions in the articulations.

Prognostic and Metastasis.

1842. Rheumatism is rarely fatal, especially when it continues in its original seat, and confines itself to the external parts of the body. When this disease becomes dangerous, it is by its change of place, as this may be to some important or vital part, as the brain, stomach, or heart; and though of rare occurrence, it nevertheless occasionally takes place. More or less danger always arises from the change of place of the

in one part, does but prepare the way for other parts to be similarly affected. This transfer of the symptoms takes place with surprising quickness; and with more frequency of change than in the gout." p. 22. This statement has a little surprised us, as it is certainly not agreeably to our own observations, nor of most others who have treated of this subject. That rheumatism is disposed to metastasis we have admitted; but we think it only remarkable, because, there is no other disease but gout, that is so strongly marked in this particular, if we except the occasional transfers of erysipelas. It may, however, be remarked, that this disposition to change, is more frequent in some habits, than in others. We have two patients, who rarely have an attack of rheumatism, without experiencing a metastasis; while we have many that have never experienced it.

rheumatic inflammation; for though the newly-occupied place may not be of vital importance, there is no certainty that it will remain there; for whenever it takes on this erratic disposition, we have no security against subsequent wanderings; and the danger will then be in proportion to the intensity of the disease before it moved, the value of the organ it may visit, and the degree of injury it may inflict there.

1843. Metastasis may take place without any evident cause; we have seen this happen when the blame could not attach to any known circumstance. At other times, it has been driven from its original location, by the sudden application of cold to the body, or from the improper use of topical remedies, for it is the acute rheumatism that is most liable to change its situation, and it is for this form, that cold, and repelling applications are most frequently made.

1844. Parts that are debilitated, or over-excited, are the most certain to incur the shock of metastasis. Villeneuve says, that the brain has become the seat of invasion after the use of opium. A knowledge, therefore, of this disposition to change seats in rheumatism, and our entire inability to foresee when this may take place, should always make us careful of our prognosis, in severe, and especially, in unsettled cases.

1845. Dr. Scudamore says, "in ordinary cases, therefore, of rheumatism, our prognosis relates to the duration of the disorder, and probably there is no disease in which, as to this point, we can give a less certain opinion. The favourable circumstances are, early relief from the active treatment which may have been employed; the inflammation keeping its station very much in the parts first attacked; absence of delirium, and the constitutional irritation not intense; perspiration being general and moderate, and giving relief, instead of being partial, profuse, offensively acid, and seeming merely to occasion exhaustion; the pulse keeping within the range of 100 or 110 in the minute, and being free from hardness; the tongue not very foul; the stomach not affected with urgent sickness, nor the bowels with painful irritation; the urine in the course of ten or fourteen days, losing its deep red appearance, depositing at the bottom of the vessel a laiteritious sediment, and by degrees becoming altogether clear, the

alvine discharges in the course of the same time, losing their unnatural foetor and dark appearance."

1846. "The threatenings of a protracted disease, will be shown in the reverse of this picture; and more especially when the transfer of inflammation and pain quickly takes place from one part to another, again and again visiting the same parts, and being unmanageable in treatment." pp. 65, 66.

Of the Treatment of Acute Rheumatism.

1847. Unless some peculiar epidemical constitution of the air shall have imposed a character upon this disease, it will always be found to be inflammatory, and to have imparted to the sanguiferous system, sooner or later, a high degree of action; hence the full, and resisting pulse, that is always observed, until sweating takes place or has continued some time. In no disease, perhaps, is the antiphlogistic plan, more distinctly called for, than in acute rheumatism, when the local irritation is sufficient to call into action the circulatory system; nor in none, wherein relief so tardily rewards exertion. To what this may be owing, is perhaps difficult to point out—yet it would appear to depend, upon the parts involved in the disease, rather than to a mistaken plan of treatment.

1848. The disease obviously consists of inflammation of the fibrous tissues; the œconomy and anatomical characters of which, demonstrate how little they are under the controul of the general circulation; requiring great abstractions from it, before they can be made to feel the effects of the exhaustion; and hence, the little relief that is afforded, by even great losses of blood, when compared with these operations for disease, in several of the other structures of the body.

1849. However important the true pathology of disease may be ultimately, we are obliged to confess, that it does not always and immediately provide us with remedies, that are either certain or prompt in the removal of them. It nevertheless points out the class of remedial means, which is always the first step towards the discovery of specific, or appropriate agents; and after these are suggested, it must be left to a well-directed ex-

perience, to determine the value of the respective, or individual article, or articles, that may exert the happiest influence over the disease for which they were prescribed. For it is not enough to the removal of disease, that we become acquainted with its proximate cause; for every tissue appears to have its own laws, or mode of action; and when these are deranged so much, as to become disease, it will require, some specific agent, or general power, the mode of action, of which shall be in opposition to that of the deranged structure.

1850. Thus, we see inflammations of the various textures, or even inflammations from various causes, removed in many instances by apparently opposite means; for stimulants and sedatives, as they are called, exert an analogous ultimate influence, upon parts labouring under phlogosis—hence, blood-letting and bark; the preparations of lead, and the nitrate of silver; cold water, and the spirit of turpentine, are found in their turn to remove it. What particular advantage is to proceed from the exact knowledge of the pathology of rheumatism, remains yet to be determined; for so far, none has followed, if we except the broad general acknowledgment, that it is an inflammatory disease—but none has resulted from the concession, that the fibrous structures are the seat of it. It is true, it has perhaps explained, why particular organs shall become the seat of this disease, when from certain causes it changes its location; and this, is the extent of its usefulness up to the present moment. But do not let us despair of obtaining the most satisfactory and useful, practical hints from this knowledge; for the laws of sympathy, and counteraction, are still but imperfectly developed; and though at this moment, we may be unacquainted with the speediest and most certain means of subduing this peculiar inflammation, we are nevertheless possessed of general remedial agents, that contribute with tolerable, though tardy certainty, to relieve it.

1851. The constitutional symptoms of acute rheumatism, declare it to be, an active inflammation; pain, swelling, and discoloration, are its common attendants—pathological research, has determined its seat with considerable certainty to be, in the fibrous tissues; and experience has shown the necessity and eventual value, of the antiphlogistic plan of treatment above every other hitherto proposed. Yet all who have treated this disease

by this plan, are forced to acknowledge, that it is slow in its operation, as well as uncertain in its relief. Now whether this want of success in combating *rheumatic* inflammation, (for we believe it is entitled to this distinction,) is owing to anatomical arrangement, and therefore perhaps insuperable, or from our not having yet discovered its counter-agent, remains to be determined, and consequently, we can only for the present, use such remedies as experience seems to decide to be the best; and of these bleeding both general and local, claims our first attention.

Of Bleeding.

1852. Bleeding to be successful in rheumatism, must necessarily be governed, by the same general principles as regulates its employment in other cases. And to render it efficient, or to prevent it from becoming hurtful, the name of the disease must be lost sight of, and its employment always determined by the state of the system—that is, by the force of arterial action; the degree of relief; the intensity of pain; the state of the skin, &c.

1853. When the arterial system is highly excited; when the pulse is tense, or even very full, and only somewhat resisting, we should employ this remedy sufficiently freely, to insure a more moderate state of the circulation, and a reduction of the force of the pulse. But in doing this, let it be remembered, as Dr. Scudamore very justly observes, that “it may be laid down as a principle, that as relating to the local inflammatory action merely, that it is not an agent in which we should place our confidence; for it disappoints our expectation of relieving the pain of the disease, unless as the pain and local inflammation may be connected with the true inflammatory diathesis.” p. 69. In nothing is the young, or inexperienced practitioner, more certainly disappointed, than in the want of power of blood-letting, over the agonizing pain of acute rheumatism—for on it he had placed much reliance, because every thing seemed to demand its employment, and every thing to promise success.

1854. We have known this failure of blood-letting to produce relief, to engender a belief, that it must be an improper remedy in acute rheumatism; and that stimulants were alone indicated. We once saw death nearly ensue from this error; and the patient

had to compound for it, by the loss of the use of one hand; as the wrist, and the joints of every finger of that hand had become ankylosed. Let it therefore not be imagined, that because the abstraction of blood does not produce immediate relief, that it is not the proper, ~~and~~ even an important remedy; at least, let it be viewed as one, that will diminish danger, if it does not suddenly overcome suffering.

1855. In some few instances we have seen remarkable relief afforded by this remedy, whenever it was employed; and when this happens it should be resorted to, when pain becomes aggravated, and febrile excitement renewed, be this several times in the twenty-four hours. While on the contrary, we should withhold the lancet, when it fails to mitigate suffering, or to diminish arterial action—for we have seen this happen when both seemed to call unequivocally for the use of the lancet. Indeed, in a few instances, we have thought that this remedy seemed to increase the rapidity of the circulation, without perceptibly diminishing the force of the pulse. We have thought, that blood-letting was constantly less successful, where profuse sweating was accompanied with great heat of skin; and on the contrary, that it was pretty sure to afford relief, whenever the skin was hot and dry. In some few constitutions, blood-letting seems but to increase the irritability of the heart.

1856. Though we do not employ bleeding expressly to mitigate pain, we nevertheless, use it, that other remedies may effect this; for without blood-letting, in most instances, where the general system has been roused into sympathy, it is the only remedy that can pave the way for the employment of opium. In this climate it may be well to observe, blood-letting can be used to a greater extent, than in most of the European countries; and therefore, the apprehensions expressed by many of the writers of those countries, namely, that blood-letting is of doubtful efficacy to say the least, will not apply to this disease, in this country.

1857. On this account, we cannot agree with Dr. Scudamore, that even extensive blood-letting, necessarily induces a chronic form of this disease, though a chronic form may follow its employment; for before we admit this, it would be well to ask, what the situation of the patient might be, were it not liberally

employed—a condition we are disposed to believe, even worse than chronic rheumatism. Therefore, in such cases, we believe, nay we may say we are sure, that the chronic form was not *induced* by the bleedings; but that the bleedings were only *capable* of reducing the inflammation to the sub-acute, or chronic form—if this be so, it only proves the inadequacy of the remedy, and not its hurtful quality. That it is unavailing sometimes, as we have stated above, we are free to admit—but these are perhaps but exceptions to the general rule. We think it therefore on every account the safest plan, to draw blood from the arm, so long as intense suffering, and an active pulse call for it; for if we should fail to subdue inflammation by it, and thereby fail to diminish pain, we nevertheless so far reduce arterial action, as to make the employment of narcotics, or sudorifics, if called for by the state of the skin, available.

1858. But a period almost constantly arrives in acute rheumatism, if proper depletion has been premised, where local bleeding may be put in requisition with much advantage; but this period must be permitted to arrive before it be resorted to, if we would expect the full benefit of this mode of abstracting blood. For there is truly a *local bleeding point*, as well as a blistering, or a sweating point; which if not observed, will very much diminish the efficacy, if not altogether destroy the usefulness of it. Therefore, that leeching or cupping may be auxiliary to general bleeding, the force of arterial action must first have been abated by the latter.

1859. We may then with much advantage have recourse to local bleeding, if pain, tenderness, and redness continue, provided the force of arterial action is sufficiently abated to render it available. For it is a fact, sufficiently well established to justify the declaration, that neither leeching nor cupping are in the slightest degree useful, so long as the pulse is very active and tense. Why this is so, it may be difficult to explain. May it not be, because the capillaries remain engorged, so long as the larger vessels continue to be filled? and that they will only yield their contents when these vessels make a demand upon them, from becoming comparatively empty?

1860. Be this as it may, the fact is certain, that no advantage is derived from leeching or cupping, until after the arterial tone

is diminished. Nay, we think we have seen it mischievous sometimes, but certainly unprofitable, until after this time. If circumstances then require the farther abstraction of blood, and it does not appear, that advantage can be gained, or that it would be imprudent to abstract it from the arm, we may resort to topical depletion; regulating the quantity to be abstracted by the exigency of the case. It is usual to apply the leeches upon the part affected; we are disposed however, to doubt the propriety of this; for we think we have seen more certain good derived, when they have been placed around the margin of the pained part. The after-bleeding of these animals should be encouraged by covering the wounds with cloths wrung out of hot water; and they may be repeated, *pro re nata*.

1861. The same may be said nearly, of cupping; the cups should be applied at some distance from the pained or inflamed part, unless the pain be deep seated. There are two kinds of cupping, the wet and the dry. The first is where the scarificator is employed; and the second where it is not—each has its advantages. The scarificator and cups should be used, whenever it is desirable to abstract considerable blood; that is, from five ounces, to fifteen or twenty; if less than this be wished, and it is an object to produce irritation without a great expenditure of blood, the dry cupping answers admirably; for it serves the double purpose of taking so much blood from the capillaries, and of producing vesication; for dry cupping should almost always be carried to this extent; and this will be effected by the cups remaining attached for about three quarters of an hour. It requires for the most part, that the scarifications should be crossed by the instrument, when a considerable quantity of blood is wanted; and sometimes, when the cups are applied to parts that do not yield much blood; as the lower part of the back and abdomen.

1862. As regards the choice of leeching, or cupping, much will depend upon the part affected, and the age of the patient—leeching, generally is best, near the smaller joints, and head, especially in very young subjects; while cupping answers better near the larger joints, to the chest, between the shoulders, the back, and when the pain is deep seated.

1863. As much of our success in the treatment of rheumatism will depend upon the reduction of inflammation; and as this

will very much depend upon the proper use of remedies, and especially, blood-letting, it becomes important that we do not withhold the lancet too early, or employ it unnecessarily. Experience has constantly shown, that the pulse, as regards its activity, or volume, does not always call for the farther abstraction of blood from the arm—we have already said, that this, in certain cases, was not only unavailing, but injurious; therefore, it will require nice observation in some instances to determine where it must be employed, or when it must be suspended. We have in another place laid down Laennec's rules upon this subject, and to which we now refer, (see par. 1305,) remarking, however, in addition, that blood-letting is never advantageously carried to the same extent in rheumatism, as is found necessary sometimes in pneumonia, pleurisy, or in dysentery. Yet we think it proper to refer to Laennec's discrimination, lest the pulse betray us into error on this point.

1864. We should also guard against being led into mistake upon this point, from the appearances of the buffy coat upon the blood. This led Sydenham astray, but which error he corrected subsequently. And, though we strongly advocate the loss of blood in acute rheumatism, and especially in robust and plethoric habits, to a certain, and even considerable extent, we never shall call the attention to the appearance of "*size*," as a justification for its repetition; for we know from experience, that this form, or state of blood, will continue sometimes far beyond the period at which it would be proper to abstract more. The young practitioner must therefore be upon his guard, not to fall into the error of those who have made this circumstance their guide. And in acute rheumatism, as in every other active disease, attention should be paid to the age, constitution, epidemical influence, and location of the patient.

Purging.

1865. Purging, however useful, is not always eligible in rheumatism; not because it is not always an important auxiliary to bleeding, but because the extreme helplessness of the patient sometimes renders it very inconvenient and painful; and for these reasons cannot always be employed with advantage. But when this objection does not obtain, purgatives should be re-

sorted to almost daily; or until the more violent symptoms have suffered abatement.

1866. For this purpose we almost always begin with a few grains of calomel, purging it off with neutral salts alone, or combined with magnesia. Say, for an adult, ten or twelve grains of calomel, and proportionably less for young subjects; giving after it, at the end of two hours, the above-named medicines in divided doses until they produce ample catharsis. We have also given with much advantage a solution of the sulphate of magnesia, or Epsom salt, in lemonade, with a small quantity of the tartrate of antimony.*

1867. Dr. Scudamore says he has "been much pleased with the effects of a draught composed of the carbonate of magnesia, carbonate of potash, sulphate of magnesia in small doses, tartarized antimony, lemon juice in fit proportion to neutralize the carbonate of potash, and the acetum colchici, with some agreeable distilled water and syrup. The draught may be taken in effervescence or otherwise. The addition of the tartar emetic is exceedingly valuable; for my increasing experience with this medicine convinces me, that it is one of the most useful remedies which we can employ for the removal of inflammatory action; and in proportion as we use it with judgment, so do we diminish the necessity of using the lancet." p. 92. "Upon the first administration of the tartar emetic, it usually sickens to the degree of causing vomiting; but this effect is useful, and it is surprising how quickly the stomach accommodates itself to this medicine. The maximum and minimum doses of tartar emetic, which I usually employ in the combination just spoken of, are one grain, and one-eighth of a grain; and of the acetum colchici, a drachm and a half, and half a drachm." p. 93.

1868. If we have reason to suspect any hepatic derangement; or if the alvine evacuations are bilious, the calomel should be repeated, from time to time, so long as these conditions may require it. When these causes for the exhibition of calomel exist, we believe it would be vain to attempt their relief by any other

* Take 1 ounce of Epsom salt,

1 grain of tartar emetic,

Dissolve in eight ounces, or half a pint, of hot lemonade—when cool, give a table-spoonful every half hour, until it operate freely.

medicine; and we entirely agree with Dr. Scudamore, that this plan should be continued until the stools assume a natural appearance; after this the more gentle purgatives may be substituted.

Diuretics.

1869. It has always been found useful to encourage the discharges from the kidneys; this is sometimes well promoted by the purgatives; but we have found nitre in form of the antimonial powders, with or without the calomel, as may be judged best, (see par. 341,) highly useful in the more active stage of this complaint; and when this is abated, the vinous tincture of the seeds of colchicum in thirty or forty drop doses every four hours, answer exceedingly well. But the first of these medicines need not be continued after the urine becomes sufficiently abundant, and deposits a lateritious sediment; though its farther employment may be useful towards the reduction of inflammatory action, if the stomach do not revolt. The tincture of colchicum may be persevered in as it exerts an influence over the rheumatic action beyond any medicine with which we are acquainted.

Sudorifics.

1870. It becomes rarely necessary in acute rheumatism to employ this class of remedies; for we have remarked above, that a dripping skin is no uncommon attendant upon this disease; but at the same time it affords less relief than any other evacuation. Yet it occasionally happens, that this state of the skin does not take place when it might be useful; or, that it has been checked by some means or other, to the aggravation of the existing symptoms; in this case, minute doses of the tartrate of antimony, in the neutral mixture, will answer exceedingly well. For this mixture see par. 341.

Of Opium.

1871. An anxiety to relieve pain, very often leads to the too early use of opium in this disease. In some instances this produces an evident aggravation of every symptom, while in others it causes very serious mischief. Opium, like blisters, is very rarely neutral in its effects—it either does good or harm; great

caution is therefore required in its administration. We have in many places inculcated the necessity of attending to the state of the system, before it is given, and in rheumatism this must not be lost sight of; it requires a well-subdued pulse; a freedom from particular determination to the head; a moist skin and tongue; open bowels; and a certainty that it does not from idiosyncrasy constantly disagree with the patient, before it can be exhibited with advantage.

1872. In some instances, and these are not very unfrequent, it is found, that opium in the ordinary forms will disagree with the patient—when this happens, it is always unfortunate for the patient, and he is deprived of the important aid of this valuable drug. Common laudanum must not however establish the rule upon this point, as it will very often disagree, while other forms of opium may be given without inconvenience; thus the black drop, the denarcotized laudanum or opium; the acetate of morphia, or morphia, may be used, when the common opium or laudanum cannot. On this account, it is proper to yield to the humour of the idiosyncrasy, rather than attempt to force it. Thus we may give fifteen drops of the black drop, thirty of the denarcotized laudanum, or a grain of the denarcotized opium, or the sixth of a grain of morphia, or its acetate, with great advantage, when the patient cannot take the common preparations.

1873. When opium is admissable in rheumatism, we exhibit it at bed time, in the form of Dover's powder, (see par. 244,) provided the skin be not dripping—if the skin be too moist, we have often found much advantage in combining it with colchicum.* Dr. Scudamore recommends its use in the day when

* R. Potassæ carbon.	gr. cvij.	Take Carbonate of	
Suc. citric, (recentis)	℥ij.	potash	108 grains.
Mist. camphoræ	℥ijss.	Fresh lemon	
Liquoris opii sedativ.	℥iss. ad ℥ij.	juice	2 ounces.
Syrupi tolutan.	℥ss.	Camphorated	
Antim. tartarisat.	gr. j. ad gr. ij.	mixture	3½ ounces.
M. fiat mistura.		Sedative liquor	
		of opium	1½ to 2 drachms.
		Syrup of tolu	½ ounce.
		Tartar emetic	1 to 2 grains.
		Mix.	

“Of this mixture, one, two, or three table-spoonsful should first be taken, ac-

pain is severe. He says, "if all the indications of treatment are correctly fulfilled, we may also, with every propriety direct an opiate dose during the day, when pain is urgent." For this purpose, he recommends the opium to be combined with a neutral mixture and camphor,* which may perhaps exalt its virtues. When opium disagrees in every form, it is sad for the patient; especially where pain continues after the inflammatory symptoms have disappeared. In such cases, we have to rely chiefly upon the colchicum; Dr. Scudamore combines it with the camphorated mixture, and gives it every six or eight hours—we are in the habit of giving it every three hours without the camphor.

1874. Opiates are given in enemata sometimes, with great advantage; and by these means, the unpleasant effects experienced by their exhibition by the mouth, are sometimes entirely obviated—when laudanum is exhibited in the form of an enema, we must treble the ordinary dose; it should be mixed in two or three ounces of lukewarm water. Should the peculiarities named above exist, it will be well to try the other forms of opium, as recommended above, when it was to be taken into the stomach. It is almost unnecessary to repeat, that during the whole course of treatment, a strict antiphlogistic regimen must be observed.

Local Applications.

1875. Much serious mischief is oftentimes done, by ill-timed local applications. We can scarcely be too severe in our reprehensions of stimulating embrocations, liniments, and plasters, that are so frequently resorted to in acute rheumatism; they should one and all be proscribed as worse than useless. We know of but one application in this complaint, that is decidedly successful in almost certainly and quickly abating pain, and from

ording to the degree of pain; and a dose should be repeated every hour or two, till relief is obtained."

* R. Tinct. vin. sem.

colchici gt. xxx. vel xxxx.

Thebaic. de-

narcot. gt. xxv. vel xxx.

Sacch. alb. ℥ss.

Aq. font. ℥j.

M.

To be taken at bed-time.

Take Vinous tincture of

colchicum seeds 30 to 40 drops.

Denarcotized lau-

danum 25 or 30 drops.

White sugar ½ drachm.

Common water 1 ounce.

Mix.

which no evil so far has followed its employment—this is warm sweet oil. The affected part must be bathed, (not rubbed,) with it frequently, if pain continue, and it is oftentimes truly surprising to see with what suddenness it affords relief.

1876. Another error is very often committed by local means—namely, keeping the part too warmly covered; flannel, and other woollen substances are made to surround the part, with a view it is said of producing perspiration. All such applications must be prohibited in acute rheumatism; as they only torment the patient by increasing the heat; the part should at most be lightly covered; and when it is very hot it should be exposed to the air.

1877. We have seen however much relief from the application of carded wool, when all fever has been removed, but pain still remaining. Flakes of carded wool must be made to cover the afflicted part, and kept in their place by surrounding them with the oiled silk, (like that used for hat covers,) and this secured by properly adjusted bandages. If this application act kindly, the covered portion will be excited to even profuse perspiration; but if this do not take place in half an hour, it will not succeed by giving it more time—in this case, it should be removed. But if on the contrary, perspiration ensue, much relief will be experienced, and the wool soon become saturated with moisture. When this happens, the wool must be changed, and its place supplied by a fresh application of it—it will therefore require two dressings of this article to be at hand. The wool that has been removed must be dried before the fire, and carded anew when it becomes matted.

1878. Blisters we never employ in acute rheumatism; at least while the disease maintains its first position—if a new part be occupied by metastasis, we are sometimes under the necessity of using them, either to the part departed from, or to the new location. We have already remarked upon the disposition this disease occasionally has to shift its ground, and when it does to some internal organ, it is almost always fatal. One of its most frequent seats when it makes this change, is the heart, and produces pericarditis, which see. Dr. David Pitcairn, in 1788, agreeably to Dr. Wells, was the first to notice the connection between the organic lesions of the heart and rheumatism; his

observations have since, been amply confirmed by a number of observers, and are now generally acknowledged—at least, that acute rheumatism and pericarditis have a common cause, very frequently. Dr. Scudamore has selected a number of interesting cases, to which we refer the inquiring reader; as also to Dr. Johnson's work on the Influence of the Atmosphere, &c.

Sub-acute or Chronic Rheumatism.

1879. Dr. Scudamore is of opinion, that a state "intermediate between acute and chronic rheumatism," is frequently met with. He says, "the essential character of sub-acute rheumatism is, that its attack is either partial, or so limited in degree, that the constitution is not affected with much sympathetic fever; and it frequently happens, that, notwithstanding there is great local suffering, no general fever is present. Either bursa, tendon, aponeurosis, ligament, or nerve, may be the texture affected, and we often find that one kind of texture only is the seat of the disease at the same time." p. 161.

1880. Notwithstanding the opinions of this highly valuable practitioner on the difference between sub-acute and chronic rheumatism, we cannot find it necessary or proper to make the distinction, especially as no practical good appears to be derived from it. We think it a good rule to refuse distinctions that are not justified by pathological changes in the involved parts, or that do not require a difference of treatment; if we do, it is almost sure to confuse the young practitioner, and lead him to an uncertain and vacillating treatment. For these reasons, we would merge these names, and call the affection either sub-acute or chronic—we, however, prefer the former, as it in some degree leads to the pathological condition of the disordered part.

1881. The sub-acute rheumatism, must be looked upon as a minor grade of the acute—in this state, (the sub-acute,) the system sympathizes feebly, or not at all with the affected part, be this bursa, tendon, ligament, aponeurosis, &c.; yet there exists inflammation, agreeably to Dr. Scudamore's own showing, in whatever part may have become the seat of the disease. For the only possible difference that we can perceive in these varieties, (for they are nothing more,) is the degree of inflammation;

thus Dr. S. acknowledges, that as regards distinction "between the sub-acute and chronic, the limits are narrow; and in many instances, it would be difficult to determine which of these terms would be most descriptive of the diseased action." p. 337. Again, "by chronic rheumatism, I intend to designate that form of the disease which is wholly unattended by constitutional fever, and *scarcely marked* by any signs of local inflammatory action; for *in proportion to the existence of such signs, the term sub-acute would be the more appropriate appellation.*" p. 338.

1882. From this it is evident, that the sub-acute, and chronic rheumatism, are but one and the same affection; differing but in the degree of local inflammation; and that their treatment does not vary in any greater degree than as the treatment of one intermittent or a pleurisy may differ from another; and it is the *tact*, which experience, and well-disciplined observation gives, that makes one practitioner superior to another, by enabling him, *sur le champ*, to accommodate the nature and force of his remedies, to the state of the disease. One intermittent, or a pleurisy, may require twice as much bark, or depletion, as another; yet the variation in the mode of treatment, does not change the nature of the diseases.

1883. For these reasons we can only acknowledge, the acute, and the sub-acute, or the chronic, (if the *term* please better,) forms of rheumatism; for we must insist, that pain in a particular part, and this aggravated by motion, by changes of the weather, or other causes, must necessarily arise from inflammation of more or less activity; and that, until the part be freed from this inflammatory condition, it cannot recover. Besides, Dr. Scudamore admits, that chronic rheumatism appears as the original form of the disease, in persons who have passed the middle period of life; and from hence we conclude, that though from the diminished sensibility of the tissues involved in this disease, they are less disposed to "inflammatory action," they are not exempt from it; for to what other cause shall we attribute the anatomical changes which take place sometimes in this disease, if they be not produced by inflammation; of this kind, both Dr. Scudamore and Morgagni furnish several details, as happening to the parts occupied by this "sub-acute or chronic inflam-

mation"—we know of no other cause capable of such effects. We think then we have every right to conclude, that sub-acute, (or chronic,) rheumatism, consists of a low inflammation of the serous, or white vessels, of the bursæ, tendons, &c. &c.

Treatment.

1884. From the peculiar grade of inflammation, which constitutes the sub-acute rheumatism, it very seldom happens that a vigorous treatment is necessary, or even proper—yet cases do occur, in which it becomes essential to the cure, that active means should be used. The rule which we have laid down upon several occasions, namely, that the name of the disease is of no moment; that it furnishes no absolute indication; and consequently is not to govern our therapeutical views, should constantly be kept in sight in the treatment of this affection. The state of the system must always be first attended to—we must determine the grade or quality of the pulse; ascertain the condition of every other portion of the system; especially, the state of the skin, the bowels, the biliary secretion, and the several viscera of the body, before we make up our plan of treatment. For notwithstanding the rheumatic inflammation has not called the circulatory system into sympathy, there may be other causes that have—therefore, were we to disregard this condition of the arteries, however unconnected it may be with the affection we are about to prescribe for, we should not only fail to cure the rheumatism, but should run the risk of doing serious mischief to other portions of the system, as certainly as if the excitement was produced by the rheumatic inflammation.

1885. It will therefore follow, though general bleeding may very seldom be required in sub-acute rheumatism, yet it may occasionally be absolutely necessary to the cure; not perhaps because we think it will directly abate the local inflammation, but because it is essential to the cure, that the too vigorous condition of the pulse be abated, that other remedies may be safely and efficiently employed. Therefore, whenever the state of the system is such, that it cannot bear stimulating remedies, without rousing too much excitement, they should never be used, however beneficial they might have been, had this condition not been present; and it is to this want of attention to the state of

the system, that we may mainly ascribe the failures in the treatment of chronic diseases. For it should constantly be borne in mind, that this form of rheumatism, especially in people advanced in life, who have been free livers, or have been much exposed to changes of climate; will often be complicated with affections of some one of the viscera, or other structures of the body, which will alter the usual indications for rheumatism. Thus, the liver, the spleen, the kidneys, the lungs, may be diseased; which will give a new complexion to this complaint. Or there may be mental excitement, or great nervous irritability; there may be local inflammation, as ophthalmia, or glandular derangement, as scrofula, &c. In all such instances, care should be taken to ascertain the influence of either of these conditions upon the circulating system, before the prescription is made for the sub-acute rheumatism, if we hope to be successful in the treatment. In Dr. Scudamore's work upon rheumatism, there are a number of valuable cases illustrative of this point, and to which we refer the reader.

Cupping and Leeching.

1886. Of these remedies, we have already spoken at par. 1852 to 1864. We may only observe in addition, that we have found great benefit from them, where there was no great evidence of "increased vascular action," except what might be inferred from the intensity of pain, and the inability to suffer the motion of the part. In very obstinate, or rather in very long standing cases, where the location of the disease is limited to a small extent, and the suffering great, we never fail to employ one of these remedies, and we think always with advantage, especially if the part can be easily covered by the carded wool, a few hours after the operation.

Local Applications.

1887. There are very many substances highly extolled for their virtue when applied to the pained part in this complaint—we have very little confidence, however, in any of them, except as mere temporary applications; their effects are too evanescent for permanent benefit, and too uncertain for the most part, for

temporary relief. The best, we believe, are the rubefacients; and the best of these, perhaps, are the spirit of turpentine, mustard, and Cayenne pepper. We have, however, found the most prompt and decided advantage, from a liniment composed of equal parts of sweet oil, laudanum, and vitriolic æther, when the pain fixes itself in the muscular tissues—the part is to be bathed with it every hour or two, until it procure relief; and it is astonishing sometimes to see, with what speed it removes those sudden and painful attacks, that follow exposure to cold. Blistering has rarely been successful in this form of rheumatism, unless repeated perhaps several times. Dr. Scudamore recommends, “as a soothing plaster, equal parts of the emplastrum opii and ceratum saponis; and if the pain be severe, we may resort to the higher power of belladonna, and in the same way.” p. 374.

1888. Of the various baths recommended, as the warm, vapour, and sulphureous, we can say nothing positive, evidence being so contradictory upon this point, as to leave their powers altogether undecided—every practitioner must judge for himself upon this point of practice.

1889. A number of other remedies are recommended for the sub-acute rheumatism, as mercury, sarsaparilla, guaiacum, arsenic, nitre, bark, sulphur, and colchicum. Of mercury we can say very little in its favour, unless the disease has had a venereal origin; and even then it has not proved successful but in combination with either sarsaparilla or guaiacum, or both. The sarsaparilla has occasionally been highly useful, in the recent, sub-acute rheumatism, especially when this has been the secondary form; that is, where the acute has terminated in this way. The compound syrup of this root, as prepared by Carpenter, is not only a very convenient, but a very efficacious form of this medicine; and when combined with an eighth of a grain of the corrosive sublimate, its virtues become very much exalted.* The

* When the sarsaparilla is used alone, an ounce to an ounce and an half should be used daily. The form of decoction is the best—an ounce sliced or bruised, with half an ounce of liquorice-root bruised, should be simmered in three half pints of water down to a pint—when cool, strain it—a wine-glassful every two hours.

guaiacum,* in form of the volatile tincture, is much and deservedly esteemed in this complaint, when given in sufficient doses, persevered in duly, and when there is not the slightest preternatural excitement in the arterial system. Arsenic, in the form of Fowler's solution, in six or eight drop doses, three or four times a day, has been found highly serviceable sometimes—we think, however, that it is most useful when the disease seems to obey a periodical movement. Nitre has also been highly extolled in acute rheumatism, especially by Dr. Brocklesby, who gave it in fearful doses in this disease.† Of its utility in very large doses in the acute or active stage, we can say nothing from our own experience, though we have employed it frequently and pretty largely in the sub-acute, and particularly where it has seized upon the large joints. In some instances it has afforded entire relief, after many other remedies had been employed unsuccessfully; and we think it rarely fails to afford relief when it even fails to effect a cure. It is most successful in young and middle aged subjects. Bark we have never derived the slightest advantage from. Sulphur, in small doses, and persevered in, has been found occasionally highly serviceable in long protracted

* The tincture we employ is a little different from the officinal preparation; we will therefore subjoin the formula.

R. Pulv. gum guaiac.	-	-	℥iv.	Take Powdered gum guaiac-			
Pulv. pimento	-	-	℥j.	cum	-	-	4 ounces.
Carbon. sodæ	-	-	℥ij.	Powdered allspice			1 ounce.
Sp. vin. ten.	-	-	℔j.	Soda	-	-	2 drachms.
			Dig.	Proof spirit	-		1 pound.
							Digest for several days.

When about to be used, add the volatile spirit of ammonia in the proportion of two drachms to six ounces of the tincture—from one to three tea-spoonsful three or four times a day in sweetened milk, or Sherry wine.

† We use nitre in the following manner:—

R. Sal. nitre	-	-	℥j.	Take Saltpetre	-	-	1 ounce.
Sp. vin. camph.	-	-	℥j.	Camphorated spirit			1 ounce.
Aq. font.	-	-	℔iss.	Water	-	-	1½ pound.
			f. sol.				Dissolve.

Of this, a wine-glassful is to be taken three or four times a day—if it disagree with the stomach, let the quantity be reduced—and let the first dose be taken an hour after breakfast.

cases.* Colchicum has been alternately lauded and condemned in this disease; our own experience declares in favour of it, especially in the commencement of the sub-acute, and in the subdued acute forms, and in females. Thirty to forty drops of the vinous tincture of the seeds should be given every four hours—it may be continued with advantage for some time, provided it does not sicken or purge too much.

NOTE.—We beg the reader to correct an error, which was not perceived until too late, by changing the prescriptions attached to par. 1873 for each other; that is, the one at the foot of page 613 to be removed, and to take the place of the one at the foot of page 614; while the latter, is to take the place of the former.

CHAPTER XXV.

GOUT.

1890. In treating of this disease we shall confine ourselves very much to practical considerations; leaving the speculative parts to the management of those who treat professedly of it.

1891. This disease has received its name from a hypothetical view of its cause; namely, a distillation, or afflux, guttatim, of a particular humour, in the part affected; which is worthy, Gilbert says, of the barbarous age in which it originated. The Greeks called it arthritis, because it is wont to attack the joints; while Dr. Cullen named it podagra, because he thought the seat of regular, or idiopathic gout, was in the foot.

1892. This disease has been divided into four species:—1. *Podagra regularis*, or regular gout. 2. *Podagra atonica*, or atonic gout. 3. *Podagra retrograda*, or retrocedent gout. 4. *Podagra abberans*, or wandering gout.

1. Regular Gout.

1893. In this form the inflammation attacks the joint most commonly of the great toe; is of sufficient intensity, or vivid-

* Sulphur well washed, or the milk of sulphur, is to be mixed in syrup of any kind—a tea-spoonful of the mixture to be taken morning, noon, and evening.

ness; and after having continued a certain time, (about two weeks,) gradually disappears; the patient recovering his usual health, or fancies it even improved. It is generally agreed, that Sydenham's description of this complaint is so complete in all its parts, as to leave nothing to be desired on this head; he himself having been subject to it four-and-thirty years.

1894. He says, "*the regular gout generally* seizes in the following manner; it comes on a sudden towards the close of January, or the beginning of February, giving scarce any sign of its approach, except that the patient has been afflicted, for some weeks before, with a bad digestion, crudities of the stomach, and much flatulency and heaviness, that gradually increase till the fit begins; which is preceded for a few days by a numbness of the thighs, and a sort of descent of flatulencies through the fleshy parts thereof, along with convulsive motions; and the day preceding the fit the appetite is sharp, but preternatural. The patient goes to bed, and sleeps quietly until about two in the morning, when he is awakened by a pain, which usually seizes the big toe, but sometimes the heel, the calf of the leg, or the ankle. The pain resembles that of a broken bone, and is attended with a sensation, as if water just warm was poured upon the membranes of the part affected; and these symptoms are immediately succeeded by a chilliness, shivering, and a slight fever. The chilliness and shivering abate in proportion as the pain increases, which is mild in the beginning, but gradually more violent every hour, and comes to its height towards evening, adapting itself to the numerous bones of the *tarsus* and *metatarsus*, the ligaments whereof it affects; sometimes resembling a tension or laceration of those ligaments, sometimes the gnawing of a dog, and sometimes a weight and coarctation, or contraction of the membranes of the parts affected, which become so exquisitely painful, as not to endure the weight of the clothes, nor the shaking of the room from a person's walking briskly therein. And hence the night is not only passed in pain, but likewise with a restless removal of the part affected from one place to another, and a continual change of its posture. Nor does the perpetual restlessness of the whole body, which always accompanies the fit, and especially in the beginning, fall short of the agitation and pain of the gouty limb. Hence num-

berless fruitless endeavours are used to ease the pain by continually changing the situation of the body, and the part affected, which, notwithstanding, abates not till two or three in the morning, that is, till after twenty-four hours from the first attack of the fit; when the patient is suddenly relieved."

1895. "And being now in a breathing sweat, he falls asleep, and upon waking finds the pain much abated, and the part affected to be then swelled, whereas before, only a remarkable swelling of the veins thereof appeared, as is usual in all *gouty fits*." After this he observes, that the other foot becomes affected, which relieves the first, provided there be much pain in the second foot; and what is usually termed a *fit of the gout* is made up of a number of these small fits. The common period of a fit in healthy constitutions is about fourteen days.

1896. During this period the urine is scanty, and high-coloured; depositing "a kind of red, gravelly sediment." Loss of appetite, chilliness towards evening, and a general uneasiness attends the whole fit. When the fit is about to terminate, a violent itching seizes the foot, especially between the toes, and the skin desquamates. The fit over, the appetite and strength sooner or later return, as the fit may have been more or less severe; and the next fit may be sooner or later in its recurrence; "for if the last fit proves very violent, the next will not attack the patient till the same season of the year returns again."

1897. This is the history of a fit of regular gout; but its course and symptoms may be changed by bad management, or by its long continuance, and then becomes the atonic gout of Dr. Cullen.

2. *Atonic Gout.*

1898. This is attended with atony of the stomach, or some other internal part. The accustomed inflammation of the joints may not take place; or take place very transiently; or become fugitive, alternating with indigestion, or other marks of atony. When this takes place it forms the

3. *Retrograde, or Retrocedent Gout,*

1899. Of the same author. This may have been attended with the usual inflammation of the joints, but not in its usual

degree, or with usual pain; but this suddenly abates, while some internal part becomes the seat of the affection. And when the gouty diathesis produces inflammation in some internal part, it constitutes the third variety, or the

4. *Misplaced Gout.*

1900. In this variety the articular inflammation and pain are absent, and evidences of this affection are exhibited in other portions of the body.

1901. It is no absolute security against the other forms of gout, that it has observed a regular shape previously, as many causes seem capable of producing the aberrations above named; as the powerful operation of the predisposing causes, which may be any thing capable of producing debility, irregularities in diet, indulgence in acescent drinks and food, passions or emotions of the mind, improper treatment, &c. But for the most part, in good constitutions, the gout observes a periodicity, which however may differ in different individuals; some will not have a return of it but at the intervals of years; others more frequently, and some very often.

1902. As age advances, and as the paroxysms may have been more or less severe, or more or less frequently repeated, will be the reduction of strength, and the alteration of the natural and healthy functions. The stomach and the extremities seem principally to suffer; the first by indigestion, and the latter by stiffness, and chalk stones,* which sometimes ulcerate the skin which covers them.

Proximate Cause.

1903. Of the proximate cause of gout, many opinions have been formed; some sufficiently probable, others absurd, and all possibly wide of the truth. We shall not enter therefore into their enumeration, as none have appeared satisfactory to us. One circumstance we think however we may insist upon, namely, that the inflammation accompanying gout, (whether it consist of

* These articular products have been examined by Vauquelin; they are found to consist principally, 1st, of the urate of soda; 2d, a small quantity of the urate of lime; 3d, the phosphate of lime; 4th, a fibrous animal matter.

this or not we cannot say,) is peculiar, or *sui generis*; this, the whole phenomena of the disease seems to prove; as the production of chalk stones, the peculiar pain, its duration, and its sudden disappearance, as well as its translation to other parts, &c.

Diagnosis.

1904. Gout cannot be well confounded with any other disease than rheumatism; we have, in treating of this latter disease, run a parallel between them. And in addition to the diagnoses there laid down, we may add the following: 1. Gout is evidently, in many instances, hereditary* and constitutional; rheumatism is never hereditary, though it may be constitutional. 2. Gout is excited many times without any evident cause; rheumatism requires the application of cold, or some other agent. 3. Gout is, (perhaps,) invariably preceded by forewarnings, that decidedly herald the attack, such as flatulency, languor, indigestion; rheumatism has no such premonitions. 4. Gout generally attacks the smaller joints; rheumatism usually assails the larger. 5. Gout is always attended by a peculiar shining redness; rheumatism is not, or but rarely, and then it is much more diffused. 6. Gout very frequently produces chalk stones; rheumatism, strictly so called, perhaps never.

Predisposing Causes.

1905. The imputed predisposing causes are numerous, but all of them are not well ascertained. Excesses of every kind, in eating and drinking, idleness, or deficient exercise, particular drinks, as the thin acid wines, lemonade or punch habitually indulged in, cider and beer, &c. &c.

Exciting Causes.

1906. Gout very often shows itself without any apparent exciting cause; this may especially happen at the periods at which it is wont to return, from some inscrutable law of the system as

* Dr. Scudamore's inquiry into the hereditary nature of gout, renders it probable, that it is not perpetuated so frequently by this cause as has generally been imagined, as the cases from hereditary cause exceed the acquired by only one-third; yet it may be said with the strictest propriety to be hereditary in many instances.

regards this disease; but it may be provoked to return at unaccustomed times, by long watching, long fasting, excessive fatigue, grief, passions or emotions of the mind, especially anger and grief. It may also be provoked by mechanical causes, as sprains, and pressure from tight shoes or boots. We once knew a severe attack produced in a gentleman, by jumping from his carriage instead of descending by the steps.

Prognosis.

1907. Of the prognosis of gout little need be said, as it is seldom or never dangerous, when its attack is regular, and maintains its position in the extremities. But as constitutional disturbance is almost always excited, it may happen, that this is rather excessive, and that the degree of fever may become a cause of alarm. If this happen, the prognosis will almost be the prognosis of fever; therefore, when this befalls a good constitution, if there be a clean tongue after it has been otherwise, a return of appetite, evacuations natural, the skin soft, the urine throwing down a lateritious sediment, a subsidence of arterial and nervous irritation, a diminution of the local inflammation and swelling, we may look upon the case as about to terminate, and that favourably.

1908. The unfavourable signs are, unusual disturbance of the alimentary canal, a feeble or exhausted constitution or system, fluctuation in the pained parts, disposition to metastasis, inquietude of mind, &c.

Pathological Changes.

1909. The most remarkable pathological derangements in the parts affected by gout, are anchyloses of the smaller joints, thickenings of the various fibrous structures surrounding them, and the depositions of chalky concretions, and occasionally the same kind of product is discovered in the bladder.

Treatment.

1910. We scarcely dare to talk of the cure of gout, whether it be hereditary or acquired. The most we can aspire to, is to diminish the intensity of suffering by proper means during the

paroxysm, and perhaps to mitigate the violence or abridge the duration of subsequent attacks.

Purging.

1911. During the paroxysm, "patience and flannel" are generally recommended as the only resources; but experience amply proves the value of other means during this period. Among these, purging appears the most useful, though so formally prohibited by Sydenham. When this is determined on, a few grains of calomel should be given, followed in two or three hours by two or three tea-spoonsful of magnesia, provided the calomel has not operated previously; and the farther use of cathartic medicine should be recurred to, if the pain and febrile irritation continue. We are aware that this plan has been objected to as injurious, because it is declared, that gout is an effort to expel something morbid, it should not therefore be meddled with. Upon this point much remains to be proved; and it is rarely safe to rely upon theory, when experience is in opposition to it. It must however be borne in mind that purging is only recommended during the intensity of the paroxysm, for upon its decline we do not think it so useful; not because we fear a recal of the disease,* but because it does not appear to hasten convalescence, if the bowels have been amply emptied by previous purging. And in this respect, gout appears but to follow the course of every other acute disease. Besides, it is well known that a paroxysm of gout is much relieved, or is found not unfrequently to terminate, by some of the affections of the bowels, as cholera or diarrhœa; and that constipation is sure to aggravate as well as prolong the fit. For this practice, the authority of Hippocrates, Musgrave, Cheyne, Scudamore, and others, might be cited; but perhaps the effects of the "Eau Medicinale," colchicum, hermodactyle, &c. the powers of which to relieve this disease have long been acknowledged, may be looked upon as additional evidence of the good effects of purging during the fit of gout.

1912. Dr. Scudamore speaks favourably of a similar composi-

* Dr. Heberden is of opinion, however, that a purge given at the close of a fit of gout, will recal it.—*Commentaries*, p. 37.

tion to that recommended for rheumatism, (par. 1867.) If this have any advantage over the cathartics in common use, it must, we presume, depend upon the colchicum that enters into its composition; and we are disposed to believe, that it is a useful addition, especially in the commencement of the paroxysm, as the efficacy of this medicine in checking gout, when given in the commencement of the fit, seems to be generally admitted.

Emetics.

1913. Emetics have also been employed for the relief of gouty paroxysms—of their efficacy, we can say nothing from our own observation. The usefulness of emetics in gout is by no means as well established as that of cathartics, though formerly they were in considerable use. We are of opinion, however, they can only be distinctly useful where gastric embarrassment may exist—when this is evident, a few grains of ipecacuanha may be given, perhaps with advantage. Rush, Scudamore, and Small, are among those who have recommended them, in modern times.

Bleeding.

1914. Let our pathological views of gout be what they may, one thing will be acknowledged by all, that it presents much variety in different constitutions, age, sex, season of the year, location, &c. and consequently remedies must be suited to the particular state of the system. In every other disease, the state or force of the arterial system must always be kept in view, if we hope to prescribe with advantage to our patient—the same observance is not less necessary in gout; for in this country, this disease often requires depletion from the blood-vessels. This may be done from the arm, in cases of high excitement,* and

* Dr. Rush informs us, that in one case, he took away sixty ounces of blood; and in another thirty ounces, (Works, Vol. II. p. 257.) Dr. Rush says that bleeding in gout, lessens pain; prevents congestions, and exhaustion, and shortens the duration of the fit, (Ibid.) Dr. Heberden says, "one person was bled, by his own direction, in every fit of the gout for six and thirty years; and bleeding was a frequent practice with another in the agony of the paroxysm, which it always abated so as to bring on a sound and refreshing sleep without any manifest ill effect."—*Commentaries*, p. 45.

from near the part, when the disease attacks the larger joints and the local inflammation is very considerable. We once witnessed an instance of this kind, in a plethoric, active young man, who had unexpectedly brought on a fit of the gout, from over-exercise in shooting. It attacked the ankle-joint, from which the inflammation spread nearly to the toes and half way of the calf of the leg; the pain was exquisite; so much so as to deprive him of all power to move the limb, and to rob him of all rest. Forty leeches were placed on the outer margin of the redness, with marked advantage and relief; after this, the fit ran its usual course without more than ordinary trouble.

1915. In recommending the abstraction of blood in gout, we do not offer it as a constant remedy in this disease; we only insist that where inflammatory action runs high, this mode of depletion is as proper in gout, as in any other affection. There are cases doubtless in which this operation is not required; and others in which it might be hurtful; but this is precisely the case with almost every other disease. Hitherto, we have seen nothing in this disease, that forbids it to be treated upon general principles, unless perhaps it be the employment of cold to the part, as recommended by Kinlake. We once knew a permanent affection of the stomach produced in a first attack, by evaporating from the pained part, vitriolic ether—it very quickly relieved the gouty symptoms, but this was followed by severe colics, which continued to return occasionally for years—the gout never returned to the ankle again.

Opium.

1916. We believe the practice of administering opium in any form in gout, is now very much abandoned, as the principle which should regulate its use, is better understood. It is natural to seek relief, under such intense suffering as a paroxysm of gout produces; and nothing in speculation bids fairer to afford this, than opium; but unfortunately for the afflicted, this expectation is not found to be realized by experience at the wished-for moment, nor in the hoped-for degree. But this failure, in many instances at least, has arisen from the proper condition of the system not being selected for its exhibition, rather than from any pathological incompatibility; for we are certain there is a period

in the fit, that this medicine proves kind, especially when combined with the colchicum—and this period is, when the inflammatory action is well subdued, and not before. We are in the habit of giving at bed-time, and occasionally at other times, if pain require it, the following draught, with much advantage.

R. Tinct. opii acet.	gut. xx.	Take Acetated tincture of
Tinct. vin. è sem. colch.	gut. xxxx.	opium or black drop 20 drops.
Sacch. alb.	- 3ss.	Vinous tincture of
Aq. font.	- 3j.	colchicum seeds 40 drops.
M.		White sugar - ½ drachm.
		Water - 1 ounce.
		Mix.

1917. Of the other narcotics recommended by several of the British writers, as the cicuta, hyoscyamus, stramonium, belladonna, &c. we can say nothing in this disease; for upon other occasions, they have never failed to disappoint the hope, that they might possess an advantage over opium.

Sudorifics.

1918. We have never found sudorifics answer any valuable purpose in gout, and therefore never specifically prescribe them—indeed, we have thought they have rather exposed the patient to inconvenience, than to have afforded him relief; though we confess we have seen ten grains of Dover's powder act very kindly, when a dryness of skin, and watchfulness rather than severe pain, has kept the patient awake. In a word, sudorifics do not appear to be more efficacious in their operation in gout than they are found to be in rheumatism.

Diuretics.

1919. A fit of gout has many times terminated by a copious discharge of urine; it has therefore been supposed, that this class of medicines must be useful in this complaint. However natural the suggestion, diuretics have as far as we have observed, but a limited influence upon the active part of a paroxysm of gout, though we have never witnessed any unfriendly consequences to arise from their exhibition. The mode by which this disease finishes its career, or rather the evidence that it almost always presents us, that it has done so, (namely, the urine throw-

ing down the lateritious, or brick-dust sediment,) would seem to encourage a belief, that diuretics are necessary in this complaint. But it should be remembered, that we can neither force nor solicit the kidneys by diuretics, to imitate this apparently critical peculiarity in the urine, however desirable this might be—for it is an inimitable process of nature.

1920. As a general rule, we are therefore of opinion, that the only really valuable and certain diuretics, are such remedies as will most certainly abate the violence of the inflammatory action of the system; and these are found to be purging, and occasionally blood-letting. For when the febrile tumult is calmed, pain abates; and the urine shows, that the gouty excitement, is about to relent; but a mere increase of this fluid, proves no such crisis to be at hand, be its quantity never so abundant.

General Remedies.

1921. But nothing perhaps proves the want of general success in the regular treatment of gout, more than the almost universal search for a prompt, or rather a specific remedy for its relief. Many have been the nostrums, purporting to be infallible cures; but like almost all the remedies of this class, they have proved *infallible in every case, except the individual one, in which their power is put to the test.* We must not, however, resist the evidence in favour of the “Eau Medicinale,” though we have never ourselves prescribed it; its celebrity throughout Europe in this case, forbids entire scepticism. In this country, its employment hitherto has been limited; nor are we exactly in possession of the opinions of the physicians of America, respecting its powers; yet sufficient is known, to excite an anxiety, to become acquainted with its composition. Many conjectures have been made upon this point—but none, we believe, on which reliance should be absolutely placed. It has been said to consist of the nicotiana, gratiola, veratrum, elaterium, colchicum, &c. &c.

1922. This medicine acts with great promptitude we believe, always; and sometimes, with unprofitable violence. It purges with great activity; vomits violently; sweats profusely; or runs off by urine, copiously, and this followed, by a great loss of muscular power. But during this varied, and severe discipline, it

is said, the pain abates, and the swelling of the joint subsides with such rapidity, as to leave the patient perfectly relieved. But notwithstanding this favourable report, we find many, who declare it to be useless, and others that it is dangerous.

1923. My friend Dr. Chapman is almost the only practitioner in this city, who has experience in the use of the "Eau Medicinale." He informs us he has tried it "in five or six cases of gout of different forms, with almost constant success." In a paroxysm of podagra in which he used it, he says, long before nausea or purging commenced, "there was a marked mitigation of pain, and a corresponding degree of composure, resembling very nearly, the state induced by an anodyne."*

1924. Dr. Chapman adds, "whether the repeated use of this medicine has any tendency to impair the tone of the system, and thereby aggravate the mischief it is intended to remove, I have not sufficient experience to decide." He however knew one instance in which it had been used occasionally for many years, in which vigorous health was preserved.†

1925. Analogy of effects, has led to a belief, that colchicum is the basis of the "Eau Medicinale;" whether this is so or not, remains to be determined; it certainly appears to manifest considerable controul over the gouty paroxysm, and by a similar three-fold operation; namely, cathartic, diuretic, and sometimes emetic effect. Dr. Scudamore extols the following draught:—

R. Magnesia,	gt. xv. vel xx.	Take Magnesia,	from 15 to 20 grs.
Sulph. magnes.	} āā. ʒj. ad ʒij.	Epsom salt	} each from 1 to 2
Acet. Colch.		Vinegar of col-	
Aq. font. q. s. f. haust.		chicum	
		Water, sufficient to make into a draught.	

This may be repeated several times a day if necessary.

Local Applications.

1926. Many local remedies have been proposed for the relief of a gouty paroxysm; but none we believe is yet discovered, that is both effectual and safe. Our own confidence in them for this reason, is extremely limited; there are but two, so far as we

* MS. Lectures.

† Ibid.

have witnessed, that are both innocent and effectual; but the latter advantage it must be confessed, is not constant. We mean local bleeding as directed above, and warm sweet oil. From both these, we have witnessed occasionally the kindliest effects; and without the slightest risk.

1927. Blisters disappoint; vapour and tepid water are uncertain; evaporating lotions are sometimes mischievous, (see par. 1915;) escharotics painful, without corresponding utility; and cold water now and then hazardous, notwithstanding the high encomiums, and ingenious reasoning of Dr. Kinlake to the contrary. Dr. Heberden says, that "the great Dr. Harvey, as I have been told by some of his relations, upon the first approach of gouty pains in the foot, would instantly put them off by plunging the leg into a pail of cold water." He, however, adds, "I do not recommend Dr. Harvey's example as proper to be imitated, though it is known he lived to a good old age."* This practice is as old, even as Hippocrates, in one form or other. We confess we have never had resolution to recommend this course to any of our patients; not from simply reasoning upon this subject, for this should never be put in direct opposition to experience; but because experience has unquestionably furnished a number of disastrous cases, where trial was made of this remedy. This practice was much canvassed in the London Medical and Physical Journal; to which we would more particularly refer, were the work at hand, to enable us to do so.

1928. When the paroxysm is about to decline, we have seen much comfort derived from the carded wool, and oil silk, as recommended for rheumatism. (See par. 1877.)

Regimen during the Fit.

1929. From what has been said on the general nature of gout, it may at once be inferred, that an antiphlogistic regimen should be strictly observed throughout the whole course of the disease. We are aware, that the contrary plan is recommended by some, and followed by many; we have no right, nor do we pretend to interfere with these predilections, as the penalties attached to such choice, are all their own. We mean only to caution the

* Commentaries, p. 49.

young practitioner against the influence of authority, and the seduction of example, when they are opposed by reason, and well-directed observation. Besides a regimen strictly antiphlogistic, the patient should observe rest of body, and court tranquillity of mind—shun all irritation, and invite quietude, and abstraction, both physical, and moral, though Dr. Heberden says, “I have known several, who instead of nursing a beginning gout with warmth, and repose, have used the utmost resolution and exertion in moving and exercising the limb, which they found themselves gradually able to do more and more, till at last they recovered its perfect use, free from any feelings of pain, and without any manifest ill consequences.”* These facts, however, are to be received, for no more than they are worth; for they only prove, that there is different degrees of this disease; and one, so slight, as to be overcome, by moral courage, and physical exertion.

1930. But let us not be understood as recommending “flannel,” because we apprehend, that mischief may arise from “cold water.” Hitherto we have never had good reason to believe that the slightest advantage could arise from keeping the parts hot. We perfectly acknowledge the truth, of the judicious Heberden’s observation upon this point. “Those who choose to invite the stay of the gout, and are afraid of disturbing its repose by any motions of the affected limbs, often add very unnecessarily to the difficulty of moving them, by the quantity of flannel in which they are wrapped up, even in the hottest weather. I never could see any reason for adding at all to the usual covering of the limb, unless its extraordinary tenderness, or the severity of the weather, might make a very little more necessary to keep off the sensation of cold, so disagreeable to a part which is swelled and in pain.” p. 50.

Atonic Gout.

1931. We have already partially defined the atonic gout, (see par. 1898,) to which we shall now add, that in constitutions liable to this form, that it never regularly, or but very rarely, shows itself to be a local affection of the extremities, like the re-

* Commentaries, p. 49.

gular gout. It may, however, at some one period, have shown a disposition to regularity; but either a feebleness of constitution, or some improper treatment, may have alienated it from its legitimate location. In consequence of this, it forsakes its inflammatory form, and assumes various ill-defined, but still cognizable shapes.

1932. The stomach is the part, that most frequently suffers from this form of disease; this declares itself by the loss of appetite; indigestion; nausea; vomiting; acrid and sour eructations; heartburn; pain; spasms; flatulency, &c. To these, or to some of them, costiveness, diarrhoea, tormina, and windy stools, may be added; and not unfrequently, great lowness of spirits, or an anxious watching of every rising sensation, with the most gloomy forebodings, and palpitation of the heart, especially after eating.

1933. Or its seat may be the brain; then there may be headache; tic douloureux; vertigo; apoplexy; palsy. In a word, it may affect any of the viscera; each of which will discover characteristic symptoms, when under the influence of this morbid diathesis.

1934. For the most part, however, we have to contend with gastric affections; the nature of these are so various, and so multiplied, that no regular history can be given of them, nor any especial plan of cure laid down. The principal indications however, are to restore the impaired tone of the stomach; and to counteract unpleasant symptoms, as they arise.

1935. The first is attempted to be answered by tonics, both vegetable and mineral; of the first, the bitters stand foremost. This class of tonics, are, however, not altogether without their disadvantages; for they become injurious, when too long persisted in, in whatever degree their selection may be varied. Gentian, chamomile, quassia, columbo root, &c. have each been found useful for a period, after which they either cease to make a favourable impression, or become, from their stimulant quality, hurtful. The mineral tonics are less exceptionable, and perhaps more efficacious; besides, having less injury to follow a long perseverance in their use. The various preparations of iron are the best; and especially when occasionally combined with ginger.

1936. The occasional distressing symptoms above enumerated, are to be met by their appropriate remedies; but as they al-

most always arise from a redundancy of acid, and this generated, or if not generated, at least increased, by errors in diet, the most scrupulous care should be taken to guard against such mischievous aberrations.

1937. To relieve the acid condition of the stomach, and by this means abate, (at least in most instances,) the severity of sickness, heartburn, flatulency, colicky pains, &c. the antacids should be employed, *pro re nata*. Sometimes magnesia or magnesia and rhubarb are the most eligible; this obtains where costiveness exists; at others, the vegetable alkalies, or the carbonate of ammonia will be best—the former where no lowness of spirits attend, and the latter, when this prevails. But for constant use, the “alkaline solution, from wood ashes,”* appears to answer best; but for this to be useful, it must be persisted in for some time, aided by a well-regulated diet.

1938. Of the diet of such patients, it is difficult to speak with precision, or minute detail; for much must be left to the habits and condition of the patient. As a general rule, it should consist chiefly of the animal foods found most easy of solution; as beef, mutton, venison, rabbits, turkeys, chickens, partridges, pheasants, oysters, and soft boiled eggs. All aceseent substances should be carefully avoided, especially vinegar, lemonade, wine, cider, beer, &c. Supper of no kind should ever be indulged in; and the best drink is plain water, or very weak brandy and water, if water alone be found to disagree. But notwithstanding every attempt to define rules, much must be left to the idiosyncrasies of patients.

1939. The body should be carefully and warmly clad; especially the feet and legs—all exposures to cold, wet, or damps, should be diligently shunned.

* This solution is made by burning upon a clean hearth, young, green hickory wood. When reduced to ashes, a vessel of any size is to be two-thirds filled, if the hot embers be used, (which is best,) if the cold, half filled; as much boiling water is to be poured upon the ashes as will fill the vessel, adding previously a large table-spoonful of clean soot, to every quart of the water. This must be stirred by a piece of wood, several times a day, for four or five days, and then permitted to settle. Of the clear *lixivium*, from a wine-glassful to a gill must be taken half an hour after each meal, or at any other period, at which acidity is troublesome.

Retrocedent Gout.

1940. We have said, (par. 1899,) that this form of gout may have been preceded by inflammation of the joints; but not in the usual degree, or with the usual pain; but that this suddenly abates, while some internal part becomes the seat of the affection.

1941. When gout shifts its ground, we cannot determine, *a priori*, where or on what part it may fix itself, as no viscera is secure from its visitations. The stomach, as in atonic gout, becomes more frequently its seat; producing therein the most exquisite pain, and giving rise to the most imminent danger; so much so sometimes, that death ensues in a short time after its invasion. The most excruciating agony, and the most frightful spasms, are the principal phenomena presented by this change of place of gout. And so wayward is it sometimes, that it forsakes the stomach and attacks the brain with almost the rapidity of lightning. We occasionally attended a lady, who was subject to this form of gout; in her, we have known it seize upon the stomach with the most frightful violence; after continuing there for fifteen or twenty minutes, it would without any apparent cause mount to the brain, and in an instant excite ravings like a maniac. While here, we have seen handfuls of hair deracinated from the head, with the most frantic gestures, and every other extravagance that characterizes madness. This state of things however would not be more permanent, than when the stomach was the seat of its power; for with equal speed it would leave the brain, and return to this organ, there to renew its fearful operations. In this manner it would continue for hours to vacillate between these parts, each time renewing the phenomena above detailed. But what was the most astonishing in these frequent and rapid metastases, was the apparently entire integrity of the parts, the instant this Proteus would forsake them.

1942. In another case, we witnessed as remarkable, but not as sudden metastases to the heart, the lungs, and, (from the seat of pain,) to the colon; in this instance the brain did not participate in these translations.

Treatment.

1943. When the stomach is the part affected, we are sometimes obliged to resort at the same moment, to very opposite modes of treatment. With one hand we are liberally abstracting blood, while with the other, we are administering opium, (in some form or other,) ether, brandy, &c. Nor must this plan be called empirical or contradictory, since it is justified by experience. For in the case of the lady above mentioned, it was always resorted to, and always sooner or later successful. We therefore do not hesitate to recommend this seemingly discordant practice. The cases in which Dr. Rush bled so liberally, (par. 1914,) were of this kind, and come in to corroborate the practice.

1944. In addition to these means, we should never fail to employ as promptly as possible after bleeding, the most powerful and active of the rubefacients, as mustard, spirit of turpentine, Cayenne pepper, or the water of ammonia, as well to the lower extremities, as to the region of the stomach. Indeed, so efficient have the latter remedies sometimes been, that we had reason to believe, from the promptitude of their action, and the suddenness of the relief, they were chiefly instrumental in removing this complaint.

1945. It must however be borne in mind, that when the stomach is assailed with this gouty violence, much of its susceptibility is destroyed, and to compensate for this loss, we must very much increase the quantity of our remedies—three or four-fold doses are sometimes required under such circumstances.

1946. It must also be recollected, that the pulse, if not well understood in this disease, might much mislead the judgment. The lancet might be proscribed, when the condition of the patient imperiously demanded its use; we must therefore not permit ourselves to be deceived by its simulating weakness—the depressed pulse is almost always the attendant on this form of gout. Nevertheless, it must be admitted, that this disease may attack patients, under circumstances in which it would be improper to bleed. But as these cases cannot be distinctly stated, we must leave much to the judgment of the practitioner who may

have charge of the case. Much information however may be derived from taking into consideration the period and force of the disease; the habits, age, and constitution of the patient; the probable power of the system to react after bleeding; temperature of the skin, &c.

1947. Should the bowels be confined, or even not freely open, a few hours before the attack, a stimulating injection should immediately be given; and if it do not operate speedily it must be repeated.

1948. When gout is translated to other parts, the disorder is to be combatted upon general principles, and by remedies that would be appropriate did it arise from any other cause; recollecting always the very great utility of rubefacients to the extremities. Purging becomes of the first consequence in metastasis of gout, when seated elsewhere than in the stomach; and even when here, it must be employed as soon as its condition will permit the use of cathartic medicine, without running the risk of neglecting the fulfilment of a more pressing indication, namely, the relief of pain.

1949. In colic from gout, we have much reliance on the early use of castor oil, and stimulating enemata; and these followed, after proper alvine discharges, by an enema of laudanum*—we have already remarked that an anodyne enema requires three times the quantity that would be exhibited by the mouth, be this what it may. A similar treatment is required when the kidneys are the seat; but in addition we may employ local bleeding, and the warm bath with much advantage. We have sometimes seen

* Dr. Chapman warmly recommends the use of the volatile tincture of guaiacum, in chronic, gouty colic; and we may add, that our own experience is much in favour of its efficacy. We have also seen the most decided advantage from the use of the following prescription, first recommended to our notice by our friend Dr. Physick:—

R. Sp. tereb. rect.	-	-	℥vj.	Take Rectified spirit of		
Ol. menthæ	-	-	℥ij.		turpentine	6 drachms.
M.					Oil of mint	2 drachms.
					Mix.	

Of this, twenty or thirty drops is to be taken morning, noon, and night, in a wine-glassful of sweetened water. This is to be persevered in for some time; and by which we have seen the most decided relief afforded, in a number of cases of flatulent colic, of gouty origin.

this affection removed instantly by thirty drops of the spirit of turpentine, taken as soon as pain has been felt in the part.

Misplaced Gout.

1950. As it is agreed by all writers that the extremities are the natural seats for gout, the name of "misplaced" has been given to that species or variety that locates itself in any other portions of the body. Previously, however, to its fixing itself elsewhere than on the extremities, it is known to wander sometimes to several parts of the system, without tarrying long at either—when thus whimsical, it is called the "erratic gout."

1951. The misplaced, like the retrocedent gout, is never uniform in its selection of parts to fix upon; it may be the head, the heart, the stomach, the intestines, or the kidneys. Dr. Chapman informs us, that he met with a case in the Alms-house, in which it repeatedly attacked the penis of an old man, occasioning a painful priapism.

Treatment.

1952. As this species of gout is virtually the same as the retrocedent, it must be treated upon the same general principles as should govern us in the management of the latter—recollecting, however, that it is an inflammatory transposition, and is to be treated by the antiphlogistic means already recommended. At the same time bearing in mind the importance of inviting it to its proper seat. For this purpose, we know no application so certain as a pair of blisters to the ankles—we learnt this from a gentleman who for very many years had been subject to this form of gout, and from which he suffered much, until he could seduce it to the feet by these means, and in which he said he had never been disappointed. It has not, however, been so uniformly successful in our hands, though we think it more certain than any other that we have tried.

1953. It unfortunately happens with patients liable to this misplacement of gout, that they entertain notions of their own upon this point—they think this irregularity depends upon debility, and especially of the stomach. Under this impression they take the most stimulating articles, to "drive it from this organ;" than which many times, nothing can be more unfortu-

nate, especially with the plethoric, and with those liable to determinations to the head.

1954. We, however, do not deny, but that gout may attack those who have feeble or exhausted constitutions, and in whom phlogosis may not appear, or at most but very slightly—it may therefore become necessary under such circumstances, to pursue a more cordial treatment, and to recommend a more generous regimen; but these cases should be carefully discriminated, before a stimulating plan of treatment is vigorously adopted.

CHAPTER XXVI.

DROPSY.

1955. We shall not stop to inquire into the strict nosological situation of dropsy, as it would seem entitled to be classed, with about equal right, among the affections of the sanguiferous, as with the derangements of the absorbent systems.

1956. By dropsy is to be understood a preternatural accumulation, most frequently of a serous fluid, in one or more cavities of the body, or in its cellular interstices.

1957. The part of the body in which this collection may take place, gives a specific name to each accumulation. Thus, when it occupies the abdomen, it is called ascites; when the chest, hydrothorax, &c. But as the pathology of each variety seems to be very much the same in most instances, we shall say a few words in relation to its proximate cause. By this, however, we are not to be understood as attempting to settle this still disputed point.

1958. It is ascertained, that in health a constant balance is maintained by two opposite and extensive functions in the body, namely, exhalation and absorption; and that when this equilibrium is destroyed, either by an excess of exhalation or a diminished absorption, an accumulation must necessarily take place, and hence dropsical swellings.

1959. This, however, notwithstanding its simplicity and its apparent verity, is not found to be the true explanation, except perhaps in some few instances, to be noticed presently. For, 1st. The fluid constituting dropsy is not always found to be the healthful yield of the exhalents. 2d. That in dropsy, absorption is scarcely ever more rapid or vigorous, as is evidenced by the sudden emaciation that follows; consequently, in such cases, absorption goes on rapidly. Therefore it would seem, that this disease does not always depend upon an increase of exhalation, or upon a diminution of absorption. To what circumstance, then, are we to attribute dropsical collections? We would say, to a morbid increase of activity in the blood-vessels, which enter into the composition of the serous tissue, and thus forcing this membrane to a preternatural effusion or secretion. Here, then, we have a natural action, morbidly increased, as the proximate cause, and an increased effusion as the proximate effect of that cause—and hence watery or serous accumulation in cavities thus circumstanced. When this accumulation takes place, we can readily imagine that it may be perpetuated, if not augmented, by the effused fluid itself becoming a mechanical stimulus to the surface with which it is in contact. And what seems to prove the presence of a morbid excitement is, that the removal of the water, either by medicine or by an operation, does not always cure the disease—for it requires for this purpose a change in the action of the vessels that furnish this fluid, and not its mere removal. Hence, its removal by an augmented absorption, or by tapping, do not always succeed, because they do not necessarily remove or controul the local diseased action. And hence, the confusion so often found to exist in the pathology of dropsy, arises from mistaking the effect for the cause.

1960. It may be said that the serous membranes may be inflamed and relieved without yielding a dropsical effusion. But this, however, must be admitted with some caution, since Laennec lays it down as a fundamental law of this class of membranes, that they begin to effuse the moment they become inflamed; nor is it essential to this end, that the phlogosis shall be even considerable in all cases. Or in other words, that effusions have taken place in a serous membrane, especially in that of the pleura, without any great manifestations of the existence of inflamma-

tion; at least as far as could be detected by local symptoms. Indeed, it would seem to be a part of the œconomy of these membranes, to effuse abundantly, when but slightly inflamed; for instance, the arachnoid coat of the brain. Or, these membranes may be stimulated to profuse secretion, independently of inflammation, or even after this has ceased—hence, perhaps, the variety of colours observed in the fluid of dropsies.

1961. It may, however, be urged, that there are cases of dropsy or of œdema, in constitutions so enfeebled as to forbid the idea of inflammatory agency—this really appears to be the case in certain instances, as in chronic, wasting diseases; such as scrofula, phthisis pulmonalis, chronic peritonitis, &c. In such cases, we should be disposed to believe, that accumulations of serum from diminished absorption really takes place, and this perhaps from the generally deranged state of the lymphatic system in most of these diseases. This is rendered still more probable by our having it in our power frequently to remove these swellings temporarily by position, frictions, and bandaging.

1962. By this, we are not to be supposed to yield to a once popular opinion, that dropsy was essentially a disease of debility—on the contrary, we are certain, that there are both active and passive dropsies; or rather dropsies that depend upon an increase of action or of inflammation, and others where there may be a mere loss of balance between exhalation and absorption. We are aware of the tendency of all doctrines to run into extremes; and lucky is he who can determine how far to pursue them with advantage, or to perceive when it is proper to stop. For we are persuaded, that if either of the doctrines mentioned above be too exclusively acted upon, that disappointment, if not injury, will follow. And it would be fortunate for the profession, as well as highly important to the cause of humanity, were we in possession of certain and never-failing diagnostics, of the two conditions of the system.

1963. It is true that attempts have been lately made to determine the signs of the respective states of dropsy, by Dr. Blackall, and we are disposed to believe he has succeeded in removing some of the difficulties upon this subject, if he has not overcome them. He states that, in dropsies of high excitement, that the urine will always coagulate by heat or nitrous acid, like the se-

rum of the blood. While dropsies proceeding from visceral derangements, as scirrhus or congestion, may be known by the urine being scanty, high-coloured, loaded with red sediment, and depositing nothing on the application of heat. And where feeble action obtains, the urine is scanty and pale, and not coagulable by heat, and deposits no sediment.

1964. We have been attentive, since we have read Dr. Blackall's book, to the appearances of the urine; and though generally confirmatory of his distinctions, our experience does not always coincide with them.

1965. Dropsy, as we have observed above, receives a specific name, from the part of the body in which the affection may be located; or from the organ that may produce it. As ascites, or abdominal dropsy; ovarian dropsy; hydrocephalus, &c. Some dropsies do not belong to the physician, strictly so called; as hydrocele, and we might with equal propriety add, the dropsy of the ovarium, as relief is but rarely obtained, by constitutional remedies.

Ascites, or Abdominal Dropsy.

1966. When water occupies the abdominal cavity, it is called ascites, and is generally found to result, from visceral derangement, protracted miasmatic diseases, sudden cold, obstructed catamenia, too frequent indulgence in alcoholic liquors, chronic diarrhœas, &c. but more especially, it is supposed by many, to arise from previous peritoneal inflammation.

1967. The disease may take place suddenly, or more slowly, according to the nature of the remote cause, and predisposition of the body—it is most apt to occur suddenly in young subjects; and especially, in young females before puberty, when they have been affected by a previous acute disease, as an intermittent, or a remittent fever; more slowly in more aged persons; in two instances, we knew this form of dropsy to come on pretty rapidly, as the marks of puberty were declaring themselves; but in which, the catamenial discharge did not take place, until this complaint was removed. Was this occasioned by any particular excitement of the ovaries at this time? Or was there a transfer of the catamenial excitement to the peritoneum, urging it to the

effusion of serum, or the secretion of lymph? In the cases just alluded to, there was no previous ill health to account for this affection; for in both instances, the young ladies' health did not appear to change, until after the abdomen was observed to swell.

1968. When this disease is the consequence of previous ill-health, and especially when this is from diseased viscera, the complexion is sallow, the flesh soft and oftentimes doughy, the skin dry, the bowels costive, or too open, urine scanty and loaded, appetite bad, digestion impaired, listlessness, &c. These symptoms are sooner or later followed by a sensation of stiffness, first observed by the patient when about to stoop, and soon after the abdomen is perceived to swell, the respiration hurried upon any quick motion, and particularly upon going up stairs.

1969. The feet and ankles, especially towards night, may be observed to swell, and again disappear during the night. This, however, is not a constant symptom, for we have known it to be absent in a number of instances of confirmed ascites, even where paracentesis has been performed. There was no swelling of the limbs in either of the cases of the young ladies above mentioned; nor is it an attendant upon a case we have now under care. This is a female near fifty years of age, and with whom the menses have been several years absent; the cause of the dropsy is very uncertain.

1970. The swelling is ordinarily first perceived in the epigastric region, but it gradually extends over the whole abdomen. If the case be complicated with anasarca, this is also found to augment, and as the disease progresses, much additional inconvenience is experienced; the skin is very dry and husky; costiveness; mouth clammy; thirst intense sometimes; cough occasionally, and without expectoration; breathing frequent, sometimes laborious, particularly when in a recumbent position. As the distention of the abdomen increases, the symptoms depending upon it augment; eventually the cellular tissue of the whole body becomes filled, in which the thorax participates, and thus produces universal dropsy.

1971. In the beginning the pulse is active, and corded most generally, but at other times it is feeble and frequent. Eventually hectic irritation ensues. The patient now declines rapidly, emaciation becomes extreme, diarrhœa, difficulty of breathing,

red tongue, aphthæ, and almost an entire suppression of urine; what little there is, is high-coloured, and perhaps offensive; extreme exhaustion, and death.

Diagnosis.

1972. Notwithstanding the strongly marked character of ascites, pregnancy has been mistaken for it, and the reverse. In these cases, we are disposed to believe, that much carelessness must have prevailed, as they have no symptom in common that should be mistaken, if we except swelling. But the evident and decided fluctuation of ascites can never be mistaken, by one who has ever struck the abdomen with the view of producing it. Pregnancy can only be confounded with ovarian or encysted dropsy, and this not readily by one ordinarily skilled in obstetrics, which, if he be not, it becomes a duty to consult one who is, before he proceeds to measures that might endanger the fœtus in utero. Even in complications of pregnancy with ascites, little embarrassment need occur; since a well-directed inquiry, and an honest history of symptoms, will very certainly lead to the discovery of the simultaneous existence of the two conditions. For in such cases, the rational signs of pregnancy will be present, or have existed in fewer or greater number; as the suppression of the menses; the gradual intumescence of the *lower* part of the abdomen; morning sickness or vomiting; the swelling of the mammæ; the areola round the nipple; and the motion of the child, will all serve to distinguish the two conditions. To these we might add, the history of the woman's situation, before the swelling made its appearance—for the absence of any of the remote causes of dropsy, would very much strengthen the case.

1973. Tympanites can rarely be mistaken for ascites, by one at all accustomed to sound for dropsy—authors make two species of tympanites; one intestinal, the other abdominal; but it is only with the latter that ascites can be confounded. In this species, if the belly be struck with one hand, while the other, (opened,) is laid flat upon the abdomen, no fluctuation will be perceived, and the stroke will yield a hollow, or cavernous sound; while the stroke, in ascites, gives a dull heavy sound. In tympany, besides, the abdomen is tender to the touch, from its being so violently stretched; moreover, the tumour is elastic.

Prognosis.

1974. This will generally be unfavourable in proportion to the extent, nature, and duration of the disease. If ascites be complicated with anasarca, or hydrothorax, the chance of recovery is small, whatever may have been the previous strength of constitution; if it originate from visceral obstruction, the chance is still less; and if the disease has been of long standing, and no amendment from the steady use of well-directed means; if the patient have been enfeebled before, by chronic or acute disease; if the patient be old, extremely emaciated, have hectic, aphthæ, and diarrhœa, the case may generally be looked upon as hopeless.

1975. On the other hand, if the patient be young, vigorous, and until now healthy; if the remedies employed against his disease act favourably upon the kidneys, producing copious discharges of urine; bowels free, and the stools watery; the skin soft; fever diminishing, and if there have been visceral obstructions, and they yielding, complexion improving; thirst abating; tongue cleaning, and the abdominal tumour subsiding, we look upon the chance of recovery as very much improving. But notwithstanding these favourable signs, we must confess, we have seen them vanish, and this at a moment least looked for—we must therefore regard dropsy of the belly always, as a disease of danger.

1976. Perhaps children may be looked upon as exceptions to this rule, in most cases—we have seen a good many cases of dropsy, from childhood to puberty; and we do not recollect but a single instance of death in such instances; and that was from a dropsy consequent upon scarlet fever.

Post Mortem Examinations.

1977. These examinations almost constantly prove, either the previous existence of peritoneal inflammation, more or less extensive, or the disordered state of the several abdominal viscera. The liver, the spleen, the pancreas, one or all are found enlarged, hardened, tuberculated, &c. The mesenteric glands are almost constantly found enlarged, and hardened, and numerous adhesions of the intestines with each other, or with the peritoneum.

The kidneys suffer variously; altered in size, disorganized, &c. The heart itself does not escape; as a consequence it is often found diseased; but when diseased it is also sometimes a cause of dropsy.

Treatment of Acute Ascites.

1978. It is sufficiently well established at present to prevent all cavil, that there is a species of dropsy, which is attended with high arterial action, and consequently require antiphlogistic remedies for its relief. It is therefore without hesitation, that we propose blood-letting, as a valuable remedy in this disease. By this remedy, very important purposes are fulfilled; namely, 1st, a reduction of arterial febrile action; 2d, an abatement of local inflammation; and 3d, it insures an increase of activity in the absorbent system. The two first of these advantages will be readily admitted; while the third may surprise some, or be doubted by others, who not aware of the fact, that absorption never goes on so rapidly, as when the blood-vessels are comparatively empty.

1979. This curious physiological fact, is of great practical importance in the treatment of dropsy; and however reluctantly it may be admitted by a class of practitioners who always treat dropsy by stimulants, it is nevertheless indisputable, and of immense therapeutical value. We therefore do not hesitate to recommend blood-letting, in the treatment of one species of this complaint. This, however, is no new remedy; on the contrary, we believe it to be coeval with medical record; it is the one, by which Botellus acquired so much reputation, for the cure of dropsy. But in employing venesection for the cure of this complaint, we must be regulated as in every other instance, by the condition of the system—that is, we must part with the hypothesis, that dropsy is always a disease of weakness, and that the excitement, (which cannot fail to be recognised,) that so often accompanies it, is accidental, or evanescent, and believe, that the pulse when high in dropsy, requires lowering, as much as in any other disease in which this state exists. Therefore, when the pulse is too active, it must be reduced; but only then; and whenever this condition is renewed, it is to be taken down, again and again, as often as this condition recurs, or so long as it may continue. But on the other hand, if this do not exist,

blood-letting is not to be prescribed; therefore, the pulse should be as regularly consulted, and its indications as regularly and as implicitly obeyed, as in any other disease; for it is but by this means, that we can abstract blood, or stimulate with any certainty or advantage. Bleeding, however, in this disease, is not to be exclusively confined to its general abstraction; for the local, oftentimes becomes equally important. Therefore, when there is local pain, or general soreness in the abdomen, much advantage is derived from leeching or cupping. As collateral evidence of the utility of blood-letting in dropsy, we might mention, the immense advantage that has been sometimes derived from hæmorrhagies, either accidental, or from wounds; and as corroborative, though weaker evidence, we might mention, the sizzly condition of the blood, when drawn from the arm.

Purging.

1980. We believe that purging is resorted to by all practitioners, be their notions of the nature of dropsy what it may. This is an important practical concession, since the utility of this operation, if we regard the welfare of the patient, must not be called in question. They not only promote absorption, but subdue fever, and remove a state of constipation, that is highly injurious. In declaring this, it must not be understood, that there is no choice in the means by which this is to be effected—on the contrary, much depends upon a proper selection of the articles for this purpose. For in this form or species of dropsy, the drastic articles must be carefully avoided; such as the elaterium, scammony, colocynth, croton oil, gamboge, &c. And the milder purgatives be had recourse to.

1981. The cremor tartar and jalap,* answer admirably well; magnesia and Epsom salt,† and castor oil, in ounce doses, are

* R. Crem. Tart.	-	-	ʒiij.	Take Cremor Tartar	3 drachms.
Pulv. Jalapi	-	-	ʒss.	Powdered Jalap	½ drachm.
M. div. in iij.				Mix and divide in three parts.	

One of these to be given every four hours until they operate freely; and to be repeated as occasion may require.

† R. Magnes. alb. ust.	} āā	ʒiij.	Take Calcined magnesia	} each three
Sulph. magnes.			Epsom salt	
M. div. in iij.			Mix and divide in three parts.	

One every two hours, mixed in a wine-glassful of lemonade or water, until they operate freely; to be repeated as occasion may require.

also very proper; and even the common neutral salts may be employed with advantage, as they are very sure to procure copious watery stools.

Diuretics.

1982. We are obliged to have recourse to these remedies, in alternation with purgatives, or even sometimes simultaneously. This class of remedies derive their efficacy from their action upon the kidneys and absorbent system.

1983. There is no less variety, than choice, in the articles that act upon the kidneys; but unfortunately the selection cannot be made with as much certainty as from among the cathartics—for diuretics are by no means so constant in their operation upon the kidneys as would be desirable. We are therefore often under the necessity of changing them—they really appear sometimes to deserve the character, almost, of being whimsical in their operations; that is, they will perhaps succeed to-day, and fail to-morrow, and the reverse. Or one will answer for a time, and then cease to affect the kidneys any longer; in which case, we are under the necessity of choosing another, and sometimes another; but fortunately on the other hand, we have a number to select from.

1984. In the inflammatory or acute dropsy, the following appear to answer best; cremor tartar;* soluble tartar;† nitre;‡ acetate of potash; and scabious.§ All the tartrites appear to possess very decided powers over the urinary organs, and should alternately be made trial of, as one or other may fail. Nitrate of potash has long been celebrated for its diuretic virtues, as well as for its antiphlogistic powers; and on this account often merits the preference; this is particularly so, where there is pretty strong evidence of active inflammation remaining. It however carries with it one serious objection; it very frequently disagrees with the stomach, when given in sufficiently large doses. We generally exhibit it as directed for chronic rheumatism, (par. 1889.)

1985. Emetics have sometimes been employed in dropsy—

* Super-tartas potassæ.

† Potassæ tartras.

‡ Potassæ nitras.

§ Erigeron philadelphicum.

we have never used them; nor can we learn that they possess any uncommon efficacy.

1986. These are the principal remedies in the active state of dropsy; but as this character may be lost, either from the nature of the remote cause; or from bad treatment; or from peculiarity of constitution, it will be necessary to give an account of the remedies, that has been found most successful in this stage or state of this complaint. This species must be determined by the state of the pulse, principally—in this case it will be found small, rather frequent, and soft. There will be no febrile and paroxysmal movement, unless it has run on to hectic. There is often a disposition to diarrhœa, or rather a frequent inclination to discharge the bowels; the tongue is generally clean; thirst considerable almost always, and sometimes intense; no tenderness of the abdomen, unless pressed very hard; urine very scanty, but of various colours. The skin dry and hard, and not unfrequently cough, of considerable frequency, especially on first lying down. But the pulse is the surest guide.

Purging.

1987. The more active cathartics appear to answer best in this species of dropsy—indeed, those commonly called drastic are usually employed; such are those we prohibited in the active dropsy, the most common are the gamboge, scammony, elaterium or the elatin, and the croton oil.

1988. The gamboge* perhaps, is the least exceptionable, as it is equally active as the other, without their griping property; and if given in solution, and not in too large doses, it acts with

* The following formula was communicated to me by Dr. Alberti, of this city; with the effects of which, in the three trials I have made with it, I have had great reason to be satisfied with:—

R. Gum. guttæ gamb.	-	Ḑij.		Take Gamboge	-	2 scruples.
Potassæ tartras	-	3j.		Soluble tartar	-	1 ounce.
Sacch. alb.	-	3ij.		White sugar	-	2 drachms.
Aq. font.	-	3vj.		Water	-	6 ounces.
f. sol.				Dissolve.		

Of this a table-spoonful is to be taken, every two or three hours until it operate freely—to be continued as necessity may demand.

much certainty and mildness. The scammony is active, but is very apt to gripe; and has no one advantage over the gamboge—it may however be occasionally resorted to, when the gamboge may have lost its effects. Elaterium and elatin,* are more drastic in their operations, but oftentimes very certain in carrying off water; they act sometimes with the speed of the trocar, and more rapidly than scarifications.

1989. Dr. Physick and myself attended a gentleman labouring under universal dropsy, and for which almost every cathartic and diuretic, had been tried in vain. Dr. P. proposed the elatin; and a sixteenth of a grain, was ordered once in four hours. The third pill operated powerfully by the bowels; and continued to do so, for eight and forty hours, and at the end of which time, there did not appear to be left in any part of the body, a drop of extravasated fluid; gallons had been evacuated—every unpleasant symptom had yielded; the patient could lie flat in his bed; orthopnœa was removed; the abdomen flaccid, and the extremities emptied of water; and of course hope was entertained of eventual success; but alas! all this improvement was but temporary—every part again began to fill, nor could we renew the operation of the medicine, though its quantity was increased, and the periods of its exhibition shortened—the patient died a few days after in great suffering; indeed there was almost suffocation. Leave could not be obtained to examine the body.

1990. May we justly or not doubt the agency of the elatin in

* The elatin is generally given in the form of pills—

R. Elatin	-	-	-	gr. ss.	Take Elatin	-	-	½ grain.
Pulv. rhæi	-	-	-	gr. viij.	Powdered rhubarb	-	-	8 grains.
Conserv. rosar. vel syrup.	-	-	-	q. s.	Conserve of roses, or syrup,	-	-	sufficient to make into 8 pills.
M. f. pil. viij.	-	-	-			-	-	

One every four or six hours, until they operate sufficiently—to be repeated when necessary. Or the elatin may be taken in combination with gamboge, as follows:—

R. Pulv. g. guttæ gamb.	-	-	-	gr. iv.	Take Powdered gamboge	-	-	4 grains.
Elatin	-	-	-	gr. ss.	Elatin	-	-	½ grain.
Sp. æther. nitros.	-	-	-	℥j.	Sweet spirit of nitre	-	-	1 ounce.
Aq. font.	-	-	-	℥iv.	Water	-	-	4 ounces.
M.	-	-	-		Mix.	-	-	

A table-spoonful every two or three hours until it purge freely.

this case, because subsequent good could not be procured from its use? Was this one of those remarkable coincidences, where nature achieved the good, and medicine received the credit? Is this doubt strengthened by the case of General Young, in whom "shortly after drinking freely of cold water," (in the last stage of a dropsy for which he had been tapped,) "a determination to the kidneys took place, succeeded by the most copious urinary discharges; at least two gallons in the first twenty-four hours; and this effect continued until the whole water was completely evacuated from the system?" *This gentleman, however recovered.**

1991. Of the croton oil, we can say nothing in dropsy—we have tried it in but one case; in this, it did not act as a hydragogue, though exhibited in pretty free doses—its farther employment was suspended. We can however readily believe, it will occasionally answer a valuable purpose.

Diuretics.

1992. Contrary to all reasoning, the most valuable diuretic in this species of dropsy, is the digitalis;† and if we can place reliance upon the observations of others, this is the appropriate condition to display its immense diuretic properties. As regards our own experience, we have little to say in its favour. It nevertheless always deserves a trial, after a sufficient reduction of the system. It has been observed however, for digitalis to be useful, it must be given in such repeated doses, as will per-

* Appendix to Blackall on Dropsy, p. 253.

† The following is considered a good form for the exhibition of digitalis:—

R. Infus. digital. pur.	℥ss.	Take Infusion of foxglove	½ ounce.‡
Acid. tartar.	- ℥j.	Tartaric acid	- 1 scruple.
Carbon. sodæ	- gr. xxiv.	Carbonate of soda	24 grains.
Sp. nitros. æther.	- ℥j.	Sweet spirit of nitre	1 drachm.
Tinct. scillæ	- gut. iv.	Tincture of squills	4 drops.
Aq. menthæ	- ℥ij.	Mint water	- 2 ounces.
M.		Mix.	

This quantity to be taken twice or thrice a day.

‡ The infusion of digitalis is made by infusing one drachm of the dry leaves, in eight ounces of boiling water for four hours. When strained, add one ounce of any spirituous water to preserve it.

mit an accumulation of it in the system. In large doses its effects are transient, besides distressing the stomach and nervous system excessively. Of the squill as a diuretic, we can add nothing new; its character is well established in this complaint; but perhaps more especially in hydrothorax.

1993. The guaiacum* has also its reputation as a diuretic, and as a hydragogue—of this medicine we can say much that is favourable in asthenic dropsy, and especially in those consequent upon obstructed catamenia, without fever; indeed, in such cases it is our main dependance, and it rarely disappoints. We therefore recommend it with considerable confidence.

Hydrothorax.

1994. We have already remarked how much obscurity has hitherto prevailed, respecting both the acute and chronic affections of the thorax; and at the same time took occasion to observe, that the profession is largely indebted to Laennec, Bayle, Andral, &c. for the light which is now spread upon this important class of diseases. We take the present occasion to enforce what we then suggested, on the importance of the study of auscultation, if we wish to arrive at correct diagnoses of the various affections to which the thorax and its contents are liable. At the same time let us also recommend the study of morbid anatomy, by taking advantage of every opportunity that may present itself, to make post mortem examinations. To these two causes, auscultation, and autopsic examinations, are we indebted for the ana-

* The best form of the guaiacum is in tincture—the following is the formula we employ—it differs in nothing from the formula, par. 1889, except the proportion of the aq. ammon. puræ is larger.

R. Pulv. g. guaiac.	-	-	℥iv.	Take Powdered guaiacum	4 ounces.
Carbon. sodæ	-	-	℥ij.	Carbonate of soda	2 drachms.
Pulv. pimento	-	-	℥j.	Powdered allspice	1 ounce.
Sp. vin. ten.	-	-	℔bj.	Proof spirit	1 pound.
Dig.				Digest.	

To this must be added the pure ammoniated water, as it is wanted, in the proportion of two drachms to every four ounces of the tincture—from two drachms to half an ounce, every morning, noon, and evening, in any white wine; increasing the dose if necessary, until it operate as desired.

tomical character of hydrothorax; for a history of its symptoms, and for the discovery of its infrequency as an idiopathic disease; for such appears to be the fact, while we have been led to believe, from the study of the mere constitutional symptoms, that it is one of very frequent occurrence. Nor is this to surprise us, since auscultation is a very late discovery, and post mortem examinations are comparatively very rare. It must not then excite too much wonder in those who are altogether unacquainted with the one, and very little familiar with the other, when he finds according to Laennec, the extreme rarity of idiopathic hydrothorax.

1995. We have resorted to this author, for information upon this subject, because his account of this disease is the absolute result of autopsic investigations; the only ones that should be considered authentic or satisfactory. It would be idle at the present moment to seek for pathological information from the older writers, upon the subject of hydrothorax; for we could not but be mislead, by such an appeal. It is true, they describe with great minuteness and circumstantiality, a disease purporting to be hydrothorax; its diagnostics are attempted to be ascertained and to be faithfully laid down; and the mode of treatment is, formally detailed—the patient dies, and the knife reveals, that there is an affection of the heart, or its great blood-vessels, or some visceral derangement, instead of an accumulation of water in the chest. This is no uncommon occurrence; and this kind of error must necessarily be perpetuated, if practitioners will persist to copy from each other, the details of symptoms purporting to be hydrothorax, but which dissection proves to be altogether supposititious, instead of learning its history and symptoms from an authentic source. It is therefore time that this error should be exposed, by an appeal to an authority, whose testimony cannot be doubted, and who has only detailed the facts, his knife has discovered.

1996. This author says, “this disease” (Idiopathic hydrothorax,) “is considered by many practitioners, and by extra-professional persons generally, as a very common disease, and a frequent cause of death. When truly idiopathic however, and existing in a degree to occasion death by itself, I consider it one of the rarest diseases; and do not think we are justified in rating

its fatality higher than one in two thousand deaths. I have often seen practitioners, who were but imperfectly acquainted with morbid anatomy, and consequently very ignorant of diagnosis, mistake for this affection, hypertrophy of the heart, aneurism of the aorta, irregular consumption, and even scirrhus of the stomach—when there was no coexisting effusion into the pleura, or at least, none other except what took place immediately preceding death.” p. 484. In this brief statement we discover the many sources, from which errors may flow, on the subject of hydrothorax. Another however, he says, arises from mistaking the sero-purulent effusion of pleurisy, for the fluid of dropsy—this fact merits particular attention; as it serves to explain the cause of the supposed frequency of this disease.

1997. He farther informs us, that “idiopathic hydrothorax commonly exists only on one side. Its anatomical characters are simply an accumulation of serum in the cavity of the pleura; this membrane being quite healthy in other respects; and the lung being compressed towards the mediastinum, flaccid, and destitute of air, as in cases of pleuritic effusion. When the effusion is very great, the affected side is evidently larger than the other. In one case of this kind, the right pleura contained twelve pounds of a colourless and limpid serum, and seemed in other respects quite healthy.” This disease is so rare, that Laennec does not think it necessary to say any thing on the mode of cure.

“*Signs and Symptoms.*”

1998. “*The chief and almost the only symptom of this disease is the impeded respiration.*” How different is this simple and indisputable statement from the elaborate, nay, in some instances, eloquent description of a disease, purporting to be hydrothorax? Where is “the sense of weight or oppression referred to the pit of the stomach, starting in the sleep,” &c. &c. &c. so frequently recorded? It must be acknowledged that they are not declaratory of idiopathic hydrothorax, though they may accompany the symptomatic form of this disease.

1999. “Percussion affords the dead sound; and the stethoscope the absence of respiration every where except at the roots of the lungs.” Ægophonism also attends.

2000. On the cause of this disease he makes the following interesting remarks, which are corroborative, if not confirmative, of the views we have taken of dropsy in general, and tending much to establish the suggestions lately made by several respectable writers, as Blackall, Parry, &c. upon this disease. "Whatever may be the difference, both in the general symptoms and the organic lesions, between a case of hydrothorax and an acute pleurisy, or between a case of ascites from general debility or organic disease of the heart or liver, and the same disease from an attack of peritonitis; or, in short, whatever may be the difference in general, *between a dropsy and an inflammation*—there can be no doubt that these two affections, so opposite in their extreme degrees, are nevertheless often very nearly allied in their slighter shades. We frequently find amid the serum of ascites or hydrothorax, filaments of a milk-white or yellowish colour, and semitransparent, formed of concrete albumen, almost as solid as false membrane. Thus, for instance, it is not always easy to distinguish between œdema of the lungs from the first degree of peripneumony." p. 486.

2001. From this statement, we think it may be inferred with safety, if not with certainty, that the idiopathic, as well as the symptomatic hydrothorax, is like most other dropsies, only the effects of previous or existing inflammation; and that it is the habit of the serous membranes, wherever situated, to throw out a fluid, whenever irritated or inflamed; and consequently, that our therapeutical views must be based upon the presumption, in most instances, of a still existing inflammation, either active or sub-acute, as in ascites, hydrocephalus, hydrocele, &c. It would also lead us to the conclusion, that the exact degree of inflammation necessary to the formation of idiopathic hydrothorax must be extremely rare; whereas that degree which may eventuate in the symptomatic must be very much more common. Or in other words, from the susceptibility of the pleura to active inflammation, it quickly acquires a degree of it transcending that which would relieve itself completely, or nearly so, by the effusion of serum, and thus form the idiopathic hydrothorax.

Symptomatic Hydrothorax.

2002. Laennec informs us, that this species is as common, as the other is rare. That it may accompany almost any disease, whether that disease be acute or chronic, and its presence announces the approach of death, which it often precedes only a few moments. This is a curious pathological statement; but from the respectability of the authority for it, we are almost bound to receive as a fact. And what adds to the peculiarity of this species of dropsy is, that it does not take place more frequently perhaps, agreeably to the same authority, in cases of ascites and general anasarca, than in other diseases—its existence then does not appear to depend upon an hydropic diathesis of the constitution, since it seems to occur as frequently where this does not exist, as when it is present. Hence it is found in those “who die of acute fever, diseases of the heart, or tubercles or cancer of different organs.”

2003. Its symptoms resemble, in every respect, those produced by the idiopathic form of this disease, but they do not discover themselves but a few days, or even hours before death. How different is this statement of Laennec from the impressions generally received of the obstinate character and permanent nature of this disease—is it not a common belief that this complaint may continue for a very long time, nay for years? Whence arises this error? We have partly explained this above; namely, by the infrequency of post mortem examinations, and therefore almost exclusively relying upon constitutional symptoms, for the existence of the disease.

2004. Our author declares in round terms, that “nothing is more uncommon, even in organic affections of the liver and heart, attended by ascites and general anasarca, than to meet with the signs of hydrothorax so long as eight days before death. We may consider this disease as peculiar to the moribund.” Notwithstanding this account runs counter to all our notions of this disease, we are bound almost implicitly to rely upon it, as it is furnished by the most unexceptionable authority; and this circumstance alone will show the value of pathological researches,

and incite, we trust, the student and young practitioner to the study of morbid anatomy, in all its various relations, with the energy and devotion they so justly claim.

2005. Laennec, as we have already observed, does not propose any treatment for idiopathic hydrothorax, as it is so extremely rare—but he deprecates the conclusion, that it is incurable, because it is complicated with disease of the heart. In proof of this, he relates the case of a woman, who had, besides effusion in the left side of the thorax, hypertrophy and dilatation of the heart, who was cured of the hydrothorax by the acetate of potash, to the amount of an ounce to an ounce and an half daily, as also nitre in doses increased from one to two scruples. This patient returned to the hospital a year after, affected with acute pleuro-pneumonia of the right side, of which she died—on examining her after death, the left lung was found perfectly free from adhesions.

2006. It would not perhaps be either fair or safe, to draw any positive conclusion from this case, as regards the cause of hydrothorax—yet it would seem to justify the inference, that affections of the heart are not necessarily the cause of this disease, when they exist in combination; or that it is instrumental even in maintaining it, when it may have proceeded from another cause; for this woman was relieved of the effused serum by the remedies employed, and which did not return, though the disease of the heart persisted. In this case diuretics and purgatives were alone resorted to; and the general treatment is precisely like that of chronic pleurisy, of which we have already treated, and which see, p. 459.

2007. It may, however, be proper to mention the high character that digitalis has obtained in effusions of the chest—by some it is looked upon almost as a specific; and all seem to agree that it is almost uniformly successful in carrying off water or the effused fluid from this part more certainly than any other remedy, at least for a time. For this purpose it is said that large doses are required, and its best form is that of infusion, (par. 1992.) We have, however, always had some dread of this medicine; and we would recommend a close attention to the pulse, head and stomach, during its administration—if the pulse become

preternaturally slow, if the head is found to be confused or giddy, or the stomach very sick, we would diminish the dose, or suspend its use altogether.

Anasarca.

2008. There are two varieties of dropsy that still remain to be considered, namely, anasarca and œdema.

2009. The first may be considered as a dropsy of the cellular tissue of the body, but particularly evident when it occupies the stratum immediately under the skin. It is characterized by a swelling commencing generally in the feet and ankles; and is especially augmented in the evening, unless the patient be confined to a horizontal position. During the night it generally disappears, but resumes its position during the day. The swelling is soft and yielding, retaining the impression of the finger for some time.

2010. After some time the swelling is found to mount upwards, and eventually to spread itself over the whole body; when this happens, much inconvenience is experienced; the action of the muscles are impeded, giving the sensation of confinement. The breathing is also disturbed in some severe instances, and even cough is occasionally provoked.

2011. The bowels for the most part are constipated; the urine high-coloured and scanty; the skin dry, and usually cold, especially if the distention be considerable. But before this takes place, it frequently is warmer than natural, and particularly towards evening; the tongue is white, almost always pale, and thirst oftentimes very great.

2012. When the cause of anasarca is continued for some time, and the serous effusion continue, the tumefaction of the legs, and more particularly the upper surface of the foot, becomes enormously distended, threatening a solution of the continuity of the skin; before this happens, however, a number of vesications filled with serum make their appearance, which after a while discharge themselves, leaving leakages through which the fluid in the cellular membrane discharges itself. This takes place, we think, most commonly where there are mechanical stoppages to the returning venous blood from the extremities, be these from pregnancy or visceral enlargements.

2013. In the commencement of this disease, as might be inferred from what has been said, a febrile movement of the system may be observed; at other times this does not take place until the distention of the skin upon the feet and legs is very considerable, and threaten erysipelatous inflammation, or this has actually occurred.

Causes.

2014. Anasarca has followed from a variety of causes, some of which are sufficiently obvious, while others are extremely obscure. It seems in many instances to be invited from whatever will suddenly weaken the body, as hæmorrhagies, fevers, diarrhœa, &c.; particularly if errors of diet have been committed, or such as will urge the arterial system to unusual action. Sudden checks of perspiration. Certain fevers, as scarlatina or measles; it is also produced by certain gastric irritations, as in urticaria, and from the exhibition of arsenic. It is not an unfrequent sequel to the habitual and inordinate use of spirituous liquors; and sometimes the consequence in females of uterine derangements, as amenorrhœa, cancer uteri, &c.

Œdema.

2015. Œdema is a partial anasarca, and may be confined to the limbs, or to portions of them. This swelling, like anasarca, pits upon the pressure of the finger, which pit remains a longer or shorter time; this swelling may undergo the several changes above enumerated, though it is not generally, indeed very rarely, attended by fever.

Causes.

2016. The causes may be, in an inferior degree, the same as for anasarca; but most commonly it arises from mechanical remoræ, as in pregnancy, from ligatures, swollen glands in the groins or axillæ, and also from paralysis. When this happens, the swellings are confined to the affected side.

2017. This affection, though confessedly dropsical, is not generally dangerous, and perhaps never so, but when the causes which have produced it are of themselves irremediable. When it complicates ascites, or hydrothorax, it must be looked upon

but as a symptom consequent upon a hydropic diathesis, which, if incurable, so will be anasarca, generally speaking. We say generally, for this is not constantly so. Dr. Chapman, Dr. Hays, and myself, attended a gentleman from whom every vestige of anasarca was removed, though he died of visceral obstructions, producing effusions in the abdomen and thorax. Œdema, we believe, is never dangerous in itself, and seldom from any cause, unless gangrene supervene.

2018. From what has been said on hydrothorax, we must receive with some caution the œdematous swelling of the feet and legs, as a symptom of this affection. Nor must we look upon it as an unpromising symptom, even when excessive, during pregnancy, as it almost always subsides a few days before labour, or very soon after.

Treatment.

2019. The treatment of anasarca and œdema is so analogous to that of the other dropsies, that it requires no additional observations upon this point; for like dropsy it must be treated accordingly as it may be idiopathic and acute, or as symptomatic and chronic. But like ascites, it may require tapping—the propriety of this is disputed by some, but not upon sufficient grounds. For we are persuaded much less mischief is likely to follow a few distant punctures with the point of a very sharp lancet, than from permitting the distention to go on to bursting. When this is allowed, the most extensive and serious mischief sometimes arises, which we have never witnessed when punctures have been early and judiciously made. We say early; by this we mean before the skin has almost lost its life; and when we find that the remedies we are employing do not prevent the farther accumulation of serum. In a number of instances of anasarca, attended by excessive distention, we have seen the happiest results follow the puncturing of the most tumid parts.

CHAPTER XXVII.

ERYSIPELAS.

2020. THIS disease is familiarly called, St. Anthony's fire; it is classed among the exanthemata by nosological writers, and holds in the public estimation a distinguished place, from its alleged violence and danger.

2021. It shows itself upon the skin in one or more places at the same time, and to a greater or less extent. It is characterized by a deep red colour, heat, and swelling, which sometimes penetrates through the corpus mucosum to the subcutaneous cellular tissue; the redness disappears by pressure, but quickly returns when this is taken off. It may attack any portion of the skin; though it is more common for it to select the extremities, and face.*

2022. This affection is divided into several varieties by writers; thus Mr. Lawrence divides it into three; namely, the simple, the œdematous, and the phlegmonous. Dr. Good recognises two, the local and erratic erysipelas; and Cazenave confines it to two, namely, erysipelas, and phlegmonous erysipelas.

2023. We do not think this complaint ever entitled to the distinction of phlegmonous; as a healthy pus has never been seen in any instance of erysipelas; nor does it pursue the same œconomy as a phlegmonous inflammation in its course to suppuration.

* It is asserted by Dr. Gregory, that "the genuine inflammation of the skin has peculiar characters, which have acquired for it the name of erythematous, or more properly, of erysipelalous inflammation." Why this is advanced, we are at a loss to understand exactly; since so many exceptions are constantly presenting themselves. For the skin is equally liable to phlegmon, as to erysipelas, and between these two inflammations there is much difference both in phenomena, and terminations; for even when both resolve, there is a distinction. Phlegmon, when it disappears by resolution, departs without leaving any evidence of injury to the cuticular surface; whereas erysipelas desquamates. Phlegmon, when it terminates by suppuration upon any but a secreting surface, is by the formation of an abscess, the extent of which is defined; erysipelas ends in vesicles, phlyctenæ, and in the formation of a bloody sanies.

One of the provisions of the system in a genuine phlegmon, is the swelling which takes place immediately below the skin; this becomes very hard and circumscribed in consequence of the effusion of coagulable lymph; which is intended to limit the extent of the suppurating process, and to prevent the diffusion of pus after its formation, through the circumjacent cellular tissue. Besides, erysipelas has but little disposition to suppurate, unless it penetrate deep; this is the very reverse of phlegmonous inflammation, whether deep-seated or not.

2024. Now, this circumscription never takes place in erysipelas; on the contrary, the fluid formed by this inflammation is permitted to flow where it list, through the cellular meshes; and hence the extent to which it will sometimes spread when the complaint is very active and extensive; especially when the part is depending. We once saw it in a child extend from the lower points of the scapulæ to the base of the sacrum.

2025. Again, in a genuine phlegmonous inflammation, however exalted it may be, the part occupied by its action does not vesicate; nor is the tone of its colour like that of erysipelas. Phlegmonous inflammation may proceed gradually from a deep-seated part until it arrive at the skin; and when it penetrates this, it may be at first seen perhaps as a slight blush, and confined to a small point, but soon extending itself, until it may occupy a large surface, and be of an intense red. Yet it does not vesicate nor assume the yellowish hue of erysipelas. Erysipelas almost always commences on the surface first, and then penetrates.

2026. Mr. Lawrence says, "the pain, (in erysipelas,) is not so intense and unremitting as in phlegmon, nor is it attended by throbbing."* Does this not prove a difference of character in the two inflammations? since either will proceed to its peculiar mode of suppurating, but are perhaps never convertible; and consequently the difference in phenomena in this process cannot depend upon the *degree* of inflammation, but to a *specific mode of action*; and this will constitute an essential difference in these phlogoses. It is therefore, we think, a great misnomer, to call a certain stage of erysipelas, for it is nothing more, phlegmonous;

* Med. Chirurg. Trans. Vol. XIV. p. 3.

since it has no other affinity to it, than it has to all the other phlegmasia.

2027. Besides, erysipelas it is contended by many, is contagious; Dr. Wells has adduced a number of facts upon this subject, the force of which seems to have produced conviction on the mind of Dr. Good; though they do not appear so conclusive to us. And agreeably to Willan, erysipelas may be communicated by inoculation; but no one has ever pretended that a phlegmonous inflammation has been propagated by the same means.

2028. The character of its terminations is also different from a phlegmonous inflammation; on the surface, vesicles, bullæ, or phlyctenæ form, containing a fluid of a pale watery or straw colour, or a bloody sanies, and the whole part affected by this inflammation, when severe, is particularly disposed to end in gangrene. Besides, Dr. Parr declares it to have been epidemic. We are therefore led to the belief, that this inflammation is peculiar, if not *sui generis*, especially when we consider with what rapidity it runs on to its own particular modes of termination.

2029. The erysipelas of Cazenave, the simple of Lawrence, and the local of Good, more frequently selects the face for its seat than any other portion of the body. This seems to be admitted by almost all the writers upon this disease; indeed this is so obviously the case in its idiopathic form, that Mr. Arnott proposes "that the term erysipelas be restricted to that febrile affection of the system, accompanied with inflammation of the integuments of the face, to which it has been most usually applied, and that, until we have better evidence for so doing, the expressions, 'erysipelas,' and 'erysipelalous,' should not be applied to affections of the skin in other parts of the body." He looks upon erysipelas of the face as a peculiar affection; and that it should be distinguished from other inflammations of the skin by a distinct name. Because it is preceded and accompanied by fever; by affections of the sensorium; by its having a determinate course, and by its being probably caused by contagion.*

2030. It is almost always, when it is of any extent, ushered in by chilliness, lassitude, and pain.

* Lond. Med. and Phys. Journ. Vol. LVII. p. 210.

2031. Heat alternates with the chilliness, and the pain is confined very much to the head and neck. After these symptoms have continued with more or less frequency or force, for twenty-four, and eight and forty hours, the inflammation shows itself upon one side of the face, the cheek, or immediately across the nose. A burning, and an itching, is for the most part first felt, in the spot selected for its attack; and its approach is perhaps hastened by scratching the part.

2032. The redness is sometimes very intense; at others less so; but it can always be displaced by the pressure of the finger, though it quickly returns upon its being removed. Vesicles or bullæ now appear, filled with a clear watery fluid; these gradually assume a yellowish colour, which soon yield, and permit the fluid to escape. More or less swelling always attends this inflammation; and this is sometimes excessive; when so, it is almost always accompanied with considerable fever and delirium. And in this respect it may be said to differ widely from a phlegmonous inflammation, if this be even more extensive, and very much more painful. We have seen however this complaint when not extensive, and where the vesication was very limited, unattended by fever; but this is rare. Mr. Lawrence says, "the neighbouring absorbent glands are frequently inflamed, and red streaks are seen leading towards them." p. 5. This we have never witnessed.

2033. Sometimes, both sides of the face may be occupied by erysipelas at the same time; at others, they are successive. When but one side is the seat of this affection, a line of demarcation is drawn from the forehead to the chin. This separation of the sound from the diseased part, is also another characteristic of the erysipelatous inflammation, of which we have no example that we recollect, in the phlegmonous.

2034. The febrile symptoms terminate from the eighth to the tenth day; about this period, or sometimes sooner, the inflammation changes to a yellowish, or brown colour; after this the surface becomes dry, and the cuticle is thrown off. This disease however is oftentimes treacherous; for after raising an expectation that it had taken its leave, it suddenly, and perhaps as violently returns, to continue some days longer. When the extremities

are the seat of this complaint, the constitutional symptoms are less violent; and it runs its course generally more rapidly, and desquamation follows sooner.

2035. The erratic nature of this inflammation is known to all observers; and this property may also serve to confirm the opinion that its character and nature, is peculiar. It wanders more in children, we think, than in the adult; and more frequently proves fatal in the former than with the latter; especially under particular circumstances, as in ill-ventilated apartments, or in crowded hospitals. Indeed, Dr. Underwood says he has not met with this disease often, except in lying-in hospitals. Its ordinary time for attack in such situations, is generally a few days after birth—and some have said, never after the month. But Dr. Underwood declares this not to be the case; in private practice we have seen it very much later.

2036. Dr. Good seems however unwilling to admit this affection in children to be a genuine erysipelas; he says, "what however is usually called the infantile erysipelas, is more commonly a variety of gangrenous erythema, produced, in many instances, by want of cleanliness, pure air, and nutritive food."* We are disposed to believe this to be a distinction without a difference. Nor do we think in a practical point of view, that any thing is gained by this multiplication of species, and varieties. We are of opinion, that an erythematous inflammation,† of sufficient force to produce vesicles, may justly be called erysipelas; as the variation in phenomena, in the species, and varieties of these supposed different diseases, prove them to be virtually, but one disease, modified by the force of the remote causes, constitution, or

* Study of Med. Vol. II. p. 409.

† "Erythema—Red, glabrous, tumid fulness of the integuments; disappearing on pressure; pain burning; inflammation ulcerative; termination in cuticular scales, or vesicles; occasionally in gangrene." Good, p. 200. Let this definition be compared with the histories of "gangrenous erythema" and the "erratic erysipelas," and but little difference will be perceived in their characters; and that little will perhaps be found to consist, more in accidental circumstances than in essential qualities.

"There is certainly a considerable difference between a pimple and a boil, and between erythema in the face, and erysipelas. The difference, however, is only in degree."—*Philip on Symptomatic Fever*, p. 39.

other contingent circumstances. Thus the erythema gangrenosum,* and the erysipelas erraticum,† of Good, are but one and the same disease.

2037. Nor can we see any just cause, for the species into which erysipelas is divided—for essentially it is one and the same disease; unless it may serve to abridge the history of this complaint, and more clearly point out the indications which may arise from the several conditions in which it may exhibit itself. For the several forms of erysipelas are like the several forms of gout—but gout is nevertheless gout.

2038. Now the common location for gout, is, the foot—yet it frequently strays to other parts; but it is still gout; it does not become a new disease; for wherever situated, the action excited, and by which it manifests itself in the new part, is precisely the same; and if curable, the same remedies would reach it in one spot, as well as in another, and this, under all its modifications; for of this it is susceptible, in proportion as the nature and force of the remote causes may be, and as the difference of constitutions may exist. Now, this erratic disposition of gout, is really and truly, a part of its character; and which it displays whenever circumstances invite to it. So it is with erysipelas; it will be either stationary, or it may wander—but to wherever it flies it is still the same disease, to all intents and purposes, differing in nothing, but its seat, and the consequences that the part last selected, may impose upon it.

2039. Dr. Good says that “the local erysipelas generally exhibits itself on one side of the face, or on some one of the limbs.”

* “The gangrenous erythema, is a frequent companion of debilitated or relaxed constitutions, but is mostly to be met with in advanced life, or weakly adolescence, or in infancy; and particularly where, in old age, the constitution has been broken down by habits of intemperance and excess; the circulation is languid, and the blood even in the arteries assumes a venous appearance.” —*Good's Study of Medicine, Vol. II. p. 207.*

† “The inflammatory blush soon assumes a livid hue, and is sometimes covered with, or surrounded by petechiæ; the cuticle is separated to a considerable extent from the cutis, breaks, and exposes a foul and ulcerating surface, that almost immediately passes into gangrene. In some instances, nevertheless, *these cutaneous efflorescences are probably accompanied by a true erysipelatous fever.*” We would now ask, can an “erysipelatous fever” attend any other disease than itself? for it would be idle to attempt to separate an “erysipelatous fever,” from the peculiar inflammation called erysipelas.—*Ib. p. 408.*

"In the erratic, the complaint usually, and particularly in adults, begins its attack in the face, and spreads in succession to the extremities." In what essential does the latter differ from the former? in none; nor does the distinction lead to the smallest practical good—for it is altogether dependant upon the condition of the system, whether erysipelas shall be stationary or fugitive; for that which is stationary at this moment, may be erratic the next; and this is one of the absolute characters of the disease.

2040. So long then, according to Dr. Good, as the inflammation continues without changing its seat, it is the "local erysipelas;"* and when it wanders, it is the "erratic erysipelas;"† but is there any essential difference in the characters of the two forms? or in other words, is there a species of this disease, which will always shift its ground; and is there another, that will never do so, but always, and under all circumstances, remain stationary? Certainly there is not—then there is but one erysipelas, and the variety that may be observed in its primary appearances, its progress, its ultimate appearances, and its terminations, depends upon the body it infests, and not upon a difference in the disease itself.

2041. When the erysipelatous inflammation penetrates the skin, and attacks the cellular membrane, (the phlegmonous erysipelas of authors,) it for the most part becomes from its extent, a very serious disease, as its limits cannot always be confined. This seems to be more particularly the case when the extremities are the seat of this affection, unless it should be confined, as sometimes happens, to one spot.

* "Local erysipelas—limited to a particular part; the cuticle raised into numerous, aggregate, distinct cells; or the cells running into one or more blebs or large blisters."

† "Erratic erysipelas—travelling in successive patches from part to part; the earlier patches declining as new ones make their appearance."—*Good's Study of Med. Vol. II. p. 407 and 408.*

"Erratic erysipelas—instead of passing through its various stages where it was first developed, it may successively attack different parts of the body, and disappear from that which was first affected. At other times it gradually extends over a greater surface, without disappearing from its original point of attack, so as in some rare instances, to cover the whole body at the same moment. In certain cases it suddenly disappears, and attacks another spot, leaving no other traces than a slight desquamation."—*Cazenave, p. 33.*

2042. The symptoms of this form of erysipelas, are always more violent than when the inflammation has not penetrated the rete mucosum. But the force of the symptoms will necessarily vary, as the disease may have penetrated to a greater or less depth, the extent of surface it may occupy, and the nature of the tissue it may come in contact with.

2043. Should the disease persevere beyond the sixth or eighth day, without terminating in resolution, suppuration generally takes place; this is announced by a diminution of the burning pain to which the part had been subject, and a throbbing sensation takes the place of it; the redness diminishes; chilliness; and matter or pus is discharged perhaps, accompanied with portions of dead cellular membrane. When very large portions of the cellular tissue is involved in this inflammation, delirium with very severe pain is frequently experienced. The part is very red, and the slightest pressure gives excessive pain. Fever is augmented; the pulse is corded and frequent; thirst excessive; tongue dry, though the skin is sometimes very moist.

2044. In these cases resolution is scarcely to be looked for, though the treatment may have been vigorous, proper, and industriously pursued. Suppuration is at hand, and though the external inflammation appears to be abated, yet the swelling increases; for œdema, to a greater or less extent, is now added to the other evils. The matter is not always discharged by ulceration, and may therefore remain for a long time within its cavities, and thus augmenting symptoms already sufficiently severe. When the matter insinuates itself as far as, or commences at a fasciæ, the pain oftentimes becomes intolerable, and the patient would soon die from irritation, were artificial means not resorted to, to give it vent.

2045. Mr. Lawrence says, "the skin and the cellular substances are the seat of this inflammation, which, in examination after death, is generally found not to extend beneath the fascia. I have observed that the cellular texture connecting the adipose membrane to the fasciæ or muscles, suppurates and sloughs more readily than the adipose substance itself. Mortification frequently occurs in the former when the latter is still quite healthy, or at least only affected by vascular distention." "Mr. Hutchinson speaks of the 'aponeuroses of the muscles,' and the 'aponeu-

rotic expansion,' being the principal seat of the disease; and he adds he is persuaded it is, 'confined chiefly to membranous parts, such as the aponeurotic expansions, skin, sheaths of tendons, muscles, &c.' If, which is doubtful, Mr. H. means that the fasciæ or aponeuroses properly so called, are the seat, or the principal seat of the disease, I cannot agree with him, having always found them unaffected in examinations after death, and seen no symptoms referable to such inflammation during life." p. 15.

2046. "A consideration of the origin, development, and effects of erysipelas, of all its phenomena, whether local or general, leads us irresistibly to the conclusion that the nature of the affection is inflammatory. In its four leading characters of redness, swelling, heat, and pain, and in its effects of effusion, suppuration, and sloughing, it agrees with what is called common or phlegmonous inflammation; while the general disturbance, preceding and accompanying the local affection, is exactly alike in the two cases. Erysipelas then, is merely a particular modification of cutaneous, or cutaneous and cellular inflammation. If we were to class these according to their natural affinities, we should place erysipelas between the exanthemata, and phlegmon. It is less diffused than the former, not so circumscribed as the latter. The exanthemata are confined to the skin; erysipelas affects both skin and cellular structure; while phlegmon has its original seat in the latter, the skin being secondarily involved." p. 18. Notwithstanding this attempt to identify the phlegmonous with the erysipelatous inflammation, we remain unconverted—we are equally persuaded the two inflammations are essentially different, as many of their phenomena declare, and which we have attempted to prove. We are of opinion that the only division that erysipelas is justly susceptible of, is into the superficial, and the deep-seated.

2047. Indeed, Mr. Lawrence himself, notwithstanding his desire to make them mere "degrees" of inflammation, furnishes us with sufficient data to prove them essentially different. He says, "the difference between erysipelas and phlegmon, however, is not merely in the *original seat or degree of the disturbance*; there is also a difference in *kind*. We may indeed say generally that phlegmon is a more violent inflammation than erysipelas, but sloughing of the cellular substance is more frequent in the

latter than in the former." We would ask whether these facts do not prove their difference completely; first, there is difference in "seat and degree;" secondly, in kind; third, in result; for "sloughing of the cellular membrane is more frequent" in erysipelas than in phlegmon. This last is a curious fact, and seems to destroy what Mr. L. had before declared, that erysipelas was a less violent inflammation than the phlegmon; which is equal to declaring that the lesser degree of inflammation will kill a part sooner than a greater. Besides, phlegmon passes through various stages of intensity, yet we never discover in any one of these degrees, the erysipelatous inflammation, as an usual attendant upon its progress, which should happen did they differ but in degree.

2048. Again, when phlegmon is about to terminate by resolution, it must be by a gradual abatement of its inflammatory force; a minor degree of inflammation, or that degree which should constitute erysipelas, were they but degrees of inflammation,* must necessarily arrive; but this never happens—for if it did, it would be unsafe ever to attempt its resolution; since erysipelas, agreeably to this doctrine, must necessarily supervene. Phlegmon, therefore, according to the views of Mr. L. should in its progress as well as on its decline, become erysipelas. Now, is this agreeably to fact? Indeed, were this doctrine true, phlegmon should never exhibit any other phenomena than erysipelas; it should never, or at least very rarely, have characters of its own, if degree alone made the difference.

2049. Were this true, Mr. L. would never have had it in his power to declare, that, "the most striking and important distinction between the two affections is that inflammation is confined to *one spot in phlegmon*, and is distinctly *circumscribed* in its seat, while it is *diffused* in erysipelas, and *spreads without limit*. This difference seems to depend on the adhesive character of the inflammatory process in the former; the substance called coagulating, coagulable, or organizable lymph effused

* Mr. Lawrence says, "as erythema, simple erysipelas, and phlegmonous erysipelas are merely three *degrees* of the same affection, they ought never to be separated in our classification." p. 30. Yet we shall see presently, that he abandons this division.

round the inflamed part, forms a boundary between it and the sound portion, which is altogether wanting in erysipelas." And on what does this depend; upon the intensity of the inflammation? Is an exalted degree of inflammation more favourable to the effusion of coagulating lymph, than a milder? Yet this more benign form, kills parts more certainly, than the more violent, agreeably to this—is this natural? He adds, "in the latter the effusion is altogether serous, hence, when matter is formed, it is not confined to one spot, but becomes extensively diffused in the cellular tissue. We cannot at present explain the cause of this difference; that is, we do not know how it happens that coagulating lymph is poured out in the one case, and serum in the other." No, we cannot explain it—we only have to acknowledge the fact, that every distinct inflammation has its own habits, if we may so term it; and that these differences of habits constitute the specific differences of inflammation. No one can explain, why one inflammation shall produce the matter of small-pox, another of cow-pox, &c. yet this happens, not from the degree of the respective inflammation, but upon the peculiar and distinct character of the inflammation—yet each of these inflammations have "the four leading characters of redness, swelling, heat, and pain," which it may be perceived are not sufficient to explain the difference in the phenomena of the several inflammations.

2050. But Mr. L. appears immediately after to abandon the notion of "degree" constituting the difference between phlegmon and erysipelas, and acknowledges, tacitly at least, there is a *different mode of action* in the various inflammations, and this is all we contend for, since this constitutes the *essential difference* between inflammations, and consequently between phlegmon and erysipelas. He confesses, "we are equally ignorant of the essential nature of many other modifications of inflammation, which are yet *obviously distinct*. No one could overlook the differences between inflammation of the finger from a wound, that of a whitlow, of chilblain, of erysipelas, of gout; yet who could explain the differences of *vascular action* which causes these distinctions?" pp. 15, 16, 17, 18, 19. If it be confessed there is a difference in "*vascular action*," in the several inflammations, then a difference in "*vascular action*" must constitute the differ-

ence of inflammation. How is a difference of "vascular action" proved, but by the phenomena it exhibits; if this be true, there must necessarily be an essential difference between the erysipelatous, and the phlegmonous inflammation, as their phenomena differ as widely as that of small-pox from measles. From these considerations we think it wrong ever to call any variety of erysipelas, phlegmonous.

2051. The mode of treating this state of erysipelas, properly belongs to surgery; and the best mode of employing its aid, is a much mooted point at this moment.* The dispute upon this subject, is carried on with an unjustifiable, as well as an injurious acrimony; and while the disputants are exercising against each other every kind of vituperation, the profession is suffering in its dignity by their unnecessary warmth.

2052. Agreeably to Mr. Hutchinson, the erysipelas phlegmonodes is a disease of common occurrence in the British navy; it attacks the more condensed or aponeurotic muscular tissue, though it may primarily affect the skin. When pus is formed, it is beneath these aponeuroses, which it destroys rapidly. It sometimes affects the periosteum, which it completely detaches from the bone itself.

2053. It would seem, that the anatomical characters of erysipelas are neither extensive, nor very interesting, according to Cazenave. He says, "in cases of severe erysipelas, not only are traces of inflammation of the skin discoverable, but the subcutaneous cellular tissue is found very friable, and infiltrated with pus, which is in many cases collected in particular spots."

2054. "When death has taken place suddenly from violent cerebral affection, no appreciable pathological lesions are discoverable. At other times, diseases, either of the lungs, or the alimentary canal, are met with, whose existence had never been suspected." p. 37.

2055. The causes of erysipelas, may be the same as those, that cause any other inflammation. Over-stimulation of any kind; as too high living; the too free use of ardent spirits; suppressed evacuations; punctured or other wounds; sudden application of cold when the body is heated; irritants applied to the

* See Lancet.

skin, as mustard, spirit of turpentine, horse-raddish, garlic, &c. It sometimes arises from a deranged condition of the biliary and digestive organs, and thus becomes what Desault calls the *bilious* erysipelas; it is then sympathetic.

2056. Females with delicate skins are more liable to it than dark-complexioned women, especially about the period of puberty, and at the cessation of the menses. Women who have borne many children, and particularly such, as were liable to œdematous swellings during their pregnancies; and those of very costive habits, and sour stomachs. Men are less liable than women. Children, whether male or female, when crowded in ill-ventilated hospitals, are particularly obnoxious to it.

2057. Certain chronic gastric derangements, are accompanied with erysipelas; and acute inflammations of this organ, has also given rise to it.

2058. The symptoms of erysipelas as detailed above, will readily distinguish it from any other inflammatory affection of the skin, though erythema is sometimes mistaken for it by those, who have paid but little attention to the characters of diseases, or who are in the habit of calling every efflorescence of the skin, erysipelas.

2059. But little inconvenience, and less danger attend the partial, and mild form of this disease. Not so, however, is the graver cases of erysipelas; when the surface it occupies is considerable; when it quickly vesicates, and its colour is intense; when much fever attends; when it is accompanied by delirium or cerebral congestion, or inflammation of the stomach, it becomes a disease of imminent danger. It is especially threatening to such as may have œdematous limbs, or anasarctous swellings; or when it accompanies acute diseases of the chest, stomach, liver, or intestines. And it is particularly alarming, when the colour of the inflammation assumes a gangrenous form; as this betrays a sinking condition of the system, which too seldom can be restored.

2060. Much diversity of opinion has ever existed as to the proper mode of treating erysipelas. This has arisen, we apprehend, more from the expectation of finding a *remedy*, that shall always arrest this disease in limine, or subdue it, at any stage of its progress, rather than from our not possessing means suitable

to the degree of its intensity, and by which, its force may be diminished, and its danger lessened. It will at once present itself as a truth, that the expectation of discovering a specific for this disease would be futile. For erysipelas, is like all the rest of acute diseases, in having various stages and degrees of intensity; and in presenting ever-varying phenomena, as constitution, age, remote causes, exciting causes, &c. may differ. It has also, like some other fevers, the misfortune to have attached to it, one generally governing or prevailing *type*, by most of the writers upon this subject. For by almost all, it is considered as a disease of debility; and that it must be treated by tonics and stimulants, both internally and externally, under all circumstances. Others condemn this practice, as highly injurious, and propose an opposite mode of treatment, through all its stages, but which is not less at variance with the occasional character of this disease—the latter, upon the whole, is the safer plan, if either is to be implicitly relied upon.

2061. Mr. Lawrence, whose experience has been both ample and successful, says upon this point, “although erysipelas in all its forms, is a disease of frequent occurrence, and comes daily under the observation of the physician and surgeon, great difference of opinion still prevails respecting its nature and management. Regarding it as an affection essentially inflammatory, some adopt the antiphlogistic plan, including general and local bleeding; while others, conceiving that the part, the constitution, or both, are in a state of debility, endeavour to remove this by the free use of stimulants and tonics, more especially by bark, ammonia, and wine. The former appears to me the correct view and practice; I accordingly consider the latter notion completely erroneous, and the treatment founded on it, not only inappropriate, but injurious.”*

2062. Thus Dr. Underwood declares bark to be the best constitutional remedy, and saturnine and camphorated medicaments the best local applications; while Mr. Burns and others are very doubtful as to the propriety of using the bark, though he agrees with Dr. Garthshore, that camphorated spirit is the best remedy from first to last. In all these varying directions for the treat-

* Medico-Chirurgical Transactions, Vol. XIV. p. 1.

ment of erysipelas, it will be perceived, that there is a total abandonment of governing principles. No allowance is made for its being idiopathic, or symptomatic; for its extent; for its location; for the age of the patient, or under what circumstances of accommodation he may be in—yet each of these must influence, or will regulate, the treatment to a certain extent, in the hands of every judicious practitioner.

2063. In the idiopathic form, when the extent and degree of the inflammation is not great, especially if the patient be young, and vigorous, and the location, is any other part than the extremities, and this attended by little or no fever, the treatment should not be the same as where the reverse of all this obtains. For in the first instance, an antiphlogistic regimen, a saline cathartic, and the application of dry flour, with confinement to the house, will frequently relieve this inflammation. Or, under the same circumstances, except an increase in the severity of symptoms, blood-letting may be necessary. But when the contrary of all this happens, how different must the treatment be. Under these opposite conditions, the most watchful attention may be required, that depletion may not be carried beyond its proper bounds; nay, it may be even improper to draw blood, even in small quantities. It is therefore evident, that nothing can be more uncertain, if it even fail to be mischievous, than a common routine practice—or in other words, prescribing for the name of the disease, without regarding the state of the system. We will therefore say a few words upon the subject of the several remedies most commonly employed in erysipelas.

1. *Of Bleeding.*

2064. In treating of the several general remedies in familiar use in erysipelas, it is well to premise, that we must be always understood to refer to the idiopathic form of this complaint, unless the contrary is expressed.

2065. Of the use of the remedy now under consideration, much diversity of opinion has existed; while some laud it as highly useful, others condemn it as decidedly injurious—now, perhaps both of these opinions were right, as regarded the practice of those who had thus treated erysipelas; because, in the first instance, it was resorted to under circumstances warranting

its employment; while in the second, it may have been used, when every consideration of the state of the system would have forbidden it. And these opposite conditions of the system may have depended upon age, period, and force of the disease, constitution, or epidemic influence. That bleeding shall be useful, it is required that the pulse indicate its employment by its force, frequency, and hardness; and its repetition must depend upon the continuance of sthenic excitement. Sydenham, Vogel, Cullen, and Lawrence, all agree that the blood exhibits when drawn the inflammatory character.

2066. Where the system is highly excited, especially if any viscera become secondarily affected, and the pulse in the state just described, we should draw blood, be the *period* of the disease or the age of the patient what they may; with this reserve, however, that very old people, or very young children, will not bear the loss of the same quantity of blood at once, though they may its repetition, with decided advantage—but this, the pulse and other symptoms must determine. We are persuaded, that nothing diminishes the excitement of the system so promptly, or so efficaciously, as the abstraction of blood, whenever the disease is sudden in its appearance, rapid in its progress, and threatening in its aspect; for if the excitement of the system be not promptly diminished, the inflammation may speedily terminate in gangrene.

2067. We are aware that many think this reduction may be more safely, and as speedily effected by purging; but this is certainly not agreeable to our experience, though we place much reliance on this mode of evacuation, where the system is not highly irritated, the stomach and bowels not implicated, and the progress of the disease rapid.

2068. The disposition manifested by the aggravated form of erysipelas in hale plethoric habits, to terminate in gangrene, should always keep us upon the alert, that this does not take place by employing a temporizing plan, or from an apprehension that depletion will but hasten this event.* It is true, this has

* Dr. Fordyce says, "there are many practitioners in this country who still adhere to the treatment of erysipelatous inflammation and those of the mucous membrane, when pure, by bleeding and other evacuations, which *I have always found hurtful*."—*Transactions for the Improvement, &c. Vol. I. p. 293.*

been asserted, and we have no doubt truly, in some instances. But does it follow that this must always happen, as seems to be insinuated by some? Certainly not. It is the adoption of an unvarying routine practice, and not a discriminating mode of treatment, that has led to this erroneous conclusion. If a correct estimate had been made of the powers of the system, no such event could have happened from such a cause. For Mr. Hunter happily thought long since, that gangrene is frequently the result of excessive action; and to prevent it from taking place, that this excess of action must be reduced; and that for this purpose, nothing was so effectual as the abstraction of blood. Gangrene, it is true, may also take place, from a loss of vascular power; in which case, blood-letting would but hasten it; but let it be remembered, that blood-letting is not indicated in this instance; and to employ it would be an error of judgment, and not a proof, as is assumed by such as have committed the error, that blood-letting is always, or even most commonly improper, in erysipelas. We should therefore always draw blood when the force of the pulse justifies its loss; but where the arterial power is feeble and languid, it should never be resorted to. The state of the pulse, therefore, must ever regulate the employment of blood-letting.

2. *Of Leeching.*

2069. The propriety of using leeches in erysipelatous inflammation, is even more doubtful than blood-letting. On this part of practice, the experience of this country is perhaps not very ample, since so much is feared from the bite of the leech itself, that they are rarely resorted to. But if we appeal to the experience of the continent of Europe, and particularly France, we shall find sufficient evidence of their usefulness, to justify their employment here. Indeed, Dr. Neil has furnished us with several well-marked cases of erysipelas, in which leeching was a part of the treatment, and in which they appear to have rendered very important aid; and as far as these cases go, seem to establish both their utility and safety.

2070. Leeching in erysipelas must be directed by the same general rules as govern it on other occasions; namely, after the pulse has been sufficiently reduced by bleeding from the arm, if

the state of the system had required it, and to have a sufficient number applied to make a decided impression upon the parts surrounding that to which they have been applied. The propriety of ordering them upon the inflamed surface is perhaps not altogether established; at least we have never pursued it ourselves, having always preferred their being attached some distance from the diseased spot. We believe the method recommended by Broussais to be still better; namely, having them spread over a considerable surface two or three inches from the affected part. It has been feared that leeching might produce metastasis; but Broussais entertains no such apprehension. And a reference to Dr. Neil's cases will abate our fears, when these animals are applied to the diseased surface.

2071. Perhaps it might furnish some practical guide for the use of leeches, did we attend to the exciting cause of erysipelas; thus, if it followed any lesion of the skin, it might not always be considered as absolutely necessary to have recourse to them, unless the inflammation were extensive and threatening; in which case, it might be best to brave the consequences of the bites of the leeches, rather than to encounter the consequences of an extensive and destructive inflammation.

3. *Purging.*

2072. In cases of pure idiopathic erysipelas, the utility of purging in young and vigorous habits, cannot be questioned; nor is it doubtful to a certain extent in aged and debilitated constitutions, when the bowels are costive and very tardy. We therefore never hesitate to give saline purgatives under the first circumstances; but we prefer the castor oil, or small, but repeated doses of calomel in the latter, when the stomach will not receive the oil. We also give calomel to very young children in preference to the saline purgatives, as they are very difficult to administer in any profitable quantity.

2073. The utility of purgatives is perhaps most evident in the cases in which erysipelas attacks the face and head; as in these cases, delirium seems to more certainly attend, than when the inflammation is located on the body or extremities; and free discharges from the bowels, appears very constantly to relieve the brain, when in a state either of congestion or of inflammation.

2074. When, however, erysipelas is purely sympathetic, the propriety of purging must be determined by the nature of the disease, of which it has become a symptom—thus, we should forbear active purging, when gastric or intestinal irritation were present; and it certainly would avail but little, when a pneumonic disease, was the original affection; for, as the lungs possess a circulation proper to themselves, they are comparatively but little influenced by operations upon the intestinal canal. But in every condition or state of erysipelas, the bowels should not be permitted to remain confined; the proper mode of obviating this, either by gentle laxatives, or by mild enemata, must be left to the judgment of the physician.

4. *Blisters.*

2075. We believe that Ambrose Paré was the first to employ blisters upon the inflamed surface in erysipelas; but the practice, if it ever was current, soon fell into disuse, and would perhaps have remained so, but for the happy revival of it by Dr. Physick. Preposterous as this remedy may appear at first sight, it is one, nevertheless, of the greatest efficacy and certainty, when the spot for its application will permit its use.

2076. When the application of a blister is determined on, the plaster must be of such a size as will rest with certainty upon the surrounding portions of the sound skin. When this becomes well vesicated, the plaster is to be removed, and the part treated, as if it were a common blister. It is, however, essential to the success of this remedy, that the precaution just suggested, of making the plaster of such size as shall occupy portions of the sound skin, be strictly adhered to.

2077. In idiopathic, as well as in symptomatic erysipelas, the effect of a blister is sometimes truly surprising; and, whether either of these be looked upon as simple, or phlegmonous, the utility of the blister is equally obvious, and should therefore never be neglected when the location of the inflammation will permit its application. We have sometimes surrounded, instead of covering the diseased surface, with the happiest effects; and we would advise this method, when the cuticle has pretty generally separated from the skin, and the inflammation continues to progress.

2078. Mr. Lawrence informs us, p. 61, that "the application of blisters to the inflamed surface, employed in France, has been sanctioned by the high authority of Dupuytren. The phlegmonous, and the erratic species of the complaint, more especially the latter, have been thus treated." Rayet and Sanson speak unfavourably of the practice. Mr. Lawrence says, "I have tried this treatment three or four times in simple erysipelas of the extremities, applying the blister on the boundary of the inflamed and sound parts, so as to cover an equal portion of each. The inflammation stopped in these instances; but as other means were employed at the same time, I could not determine how much of the benefit was due to the blister, which, however, did not produce suppuration, nor any other unpleasant effect." Mr. Hutchinson speaks favourably of the effects of blistering in one case—it seems to be the only one in which he ever saw this remedy employed.

5. *Mercurial Ointment.*

2079. It does not unfrequently happen, that the seat of inflammation is such, as to prevent the application of a blister. Under such circumstances, we have frequently experienced the most decided and prompt advantage from this ointment, and did it not sometimes salivate, it might be looked upon as one of the most certain of the external applications. But notwithstanding this obvious, and serious disadvantage in some instances, there are others, in which it should not be regarded; for it is of much less consequence than the formation of large abscesses, and extensive sloughings, to which this disease so frequently tends, especially in hospital practice, and in enfeebled constitutions. In every threatening case of this kind, we think we derived the greatest benefit from first blistering the part, and then dressing it with mercurial ointment; and notwithstanding a very large surface was for a number of days covered with this ointment, no salivation followed its use, though the amendment was much more rapid than the extent of the disease would have led us to anticipate—but it must be confessed, in two other instances, and these of minor consideration, this unpleasant consequence followed, though not severely in either.

2080. We use the ointment in different manners in the several conditions of the inflamed part. First, when the part is inflamed, but not vesicated, we cause the whole of the inflamed surface, together with the surrounding portions of the sound skin, to be kept constantly covered with the ointment, which is to be washed off every twelve hours, and fresh ointment made to supply its place—fine soap and tepid water is the best things to remove the encrusted ointment.

2081. Second. Where the part is vesicated, but the vesicles remaining unbroken. In this case we cause the vesicles to be carefully opened, and the ointment used as above directed.

2082. Third. When the vesicles have opened spontaneously, and formed a crust upon the surface, but where the inflammation extends beyond the vesicated part. In this case we direct the ointment to be spread upon the inflamed surface only, and upon the contiguous sound skin.

2083. Fourth. Where parts have proceeded to suppuration, but portions of the surrounding skin are nevertheless inflamed. In this case we open the collections of matter as early as possible, and then apply the ointment to the margin as just directed.

2084. Such is the efficacy of this application, that in moderate cases it almost immediately arrests the farther progress of the disease. In this, however, all do not agree; or more properly, perhaps, it is denied that the mercury has any agency in the melioration of the symptoms. Dr. Colhoun says this application "is valuable, but I have ascertained its usefulness to depend upon the lard, and not upon the mercury."* How the gentleman discovered this, we are not informed; but it certainly does not correspond with one very satisfactory experiment we made with a view to test this assertion. Mrs. J., aged thirty-five years, of nervous temperament and sedentary habits, was attacked with an erysipelatous spot upon the left cheek, about the size of a dollar. This was first perceived in the evening, and by next morning it had spread to the other side of the face, completely involving the nose, eyelids, and upper lip. This appeared a most favourable opportunity to test the comparative efficacy of the mercurial ointment and the simple lard. We accordingly order-

* Gregory's Practice, Vol. I. p. 515. Note.

ed one side of the face to be covered with the mercurial ointment, and the other with the lard. On our visit next day we were at no loss to determine their respective merits; but we persevered in the applications, and at the end of five days the part in which the mercurial ointment was used did not vesicate, and was nearly well, while that on which the lard was used vesicated and spread, and was at last relieved by the mercurial ointment. This, we confess, is a solitary case; but the experiment we have no doubt would very constantly result in the same way, were it repeated ever so often.

2085. To us it is a matter of surprise, that it should have been discovered at this late day, that all the writers almost who have treated of erysipelas for at least a century, have been in error respecting the use of fatty substances in this disease. Heister forbids them; he says, "fat and oily things should be cautiously avoided;"* and we could quote much weighty authority against the use of "fat and oily substances"—but they may be all wrong, and the point must be settled by future experience.

6. *Of Bark.*†

2086. Of this substance a very few words will be sufficient. We have never employed it but where the suppurating surface was large; the discharge great, and of an unhealthy quality. In such cases the bark is highly useful as a tonic, but not as specific, in erysipelas. It will perhaps be asked, how it has received so many encomiums from several writers in this complaint—the answer we believe is easy; it has been resorted to when the circumstances of the system required a tonic plan of treatment, as has been partly explained already. Or, it may have early required the use of the bark, from its connection with some other

* Heister's Works, Vol. I. p. 194.

† "Medical practitioners in general are anxious to begin the strengthening plan; they seem to have the fear of debility constantly before their eyes, and lose no time in directing the employment of bark, and recommending animal food with beer or wine. In this way relapses are frequently produced; the inflammation and fever are renewed, farther local mischief is caused, and recovery is retarded."—*Lawrence on the Nature, &c. of Erysipelas, Med. Chir. Transactions, Vol. XIV. p. 59.*

disease, in which the state of the system needed its exhibition; or from possessing some epidemic peculiarity, foreign to its usual character. In a word, bark has no other pretension to efficacy in erysipelas, than the other forms of phlegmasia.

2087. As a general rule then, in the treatment of erysipelas, we must constantly endeavour to procure resolution, as its suppurating is always attended with more or less inconvenience, if not with danger. And that when this disease produces great cerebral disturbance, the condition of the brain and its appendages should elicit our attention, as then the erysipelas becomes of secondary consideration.

2088. When this affection is symptomatic, the disease by which it was produced should constantly claim our attention; for it would be vain to attempt the destruction of erysipelas, while the original complaint continued in full force. Yet the external means recommended above may be resorted to with advantage, provided we do not lose sight of its cause.

7. Incisions and Puncturing.

2089. Mr. Lawrence recommends in warm terms, incisions in the phlegmonous erysipelas; he declares "the most powerful means of arresting the complaint is by making incisions through the inflamed skin and the subjacent adipose and cellular textures, which are the seat of disease. These incisions are followed very quickly, and sometimes almost instantaneously, by relief, and the cessation of the pain and tension; and this alleviation of the local suffering is accompanied by a corresponding interruption of the inflammation, whether it be in the stage of effusion, or in the more advanced stage of suppuration and sloughing. The redness of the skin is visibly diminished during the flow of blood from the incisions; in twenty-four hours it has usually disappeared, and the skin itself is found wrinkled from the diminution of the general inflammatory tension."

2090. "The immediate relief, although very desirable to the patient, is however of less consequence than the decided influence of the practice in preventing the farther progress of the disorder; and this important result has never failed to occur, within my experience, when the case has been a proper one for

the practice, and the state of the patient has admitted of its being fairly tried." "The treatment by incisions is suited to various stages of the complaint; but it is employed to greatest advantage at the beginning, since it prevents the farther extension of inflammation, and the occurrence of suppuration and sloughing. The redness and swelling gradually subside; the surface of the cut granulates, and it heals rapidly. At a more advanced period, the incisions limit the extent of suppuration and gangrene; and at a still later time, they afford the readiest outlet for matter and sloughs, and facilitate the commencement and progress of granulation and cicatrization. When the matter has been fully discharged, and the sloughs, whether of the skin or cellular membrane, have separated, a healthy granulating surface is left, and no great difficulty is experienced in effecting cicatrization, unless the destruction of the skin should have been very extensive, when the cicatrix forms slowly, and is liable to give way again."

2091. "To preclude the possibility of misconception on a practical point of so much importance, I beg to observe that I do not advise incisions in erysipelas generally, but confine their employment to cases of the phlegmonous kind."

2092. "The limbs, especially the lower, are the most frequent seat of the affection, which is at least very uncommon on the trunk.* After the incisions have been made, the part may be covered with warm fomentation cloths until the bleeding has ceased, when a warm bread and milk poultice may be applied. If discharge should not soon take place from the wound, it must be dressed under the poultice with the yellow basilicon ointment, or with some other stimulant. When suppuration has already occurred, the matter finds a free discharge at the incision; large portions of the cellular membrane often slough, and come away with copious discharges of matter, and it is sometimes necessary to extend the incision, in order to promote their separation. When this is at an end, and more particularly when

* We might insist on this fact, as corroborative of the distinct and independent natures of the phlegmonous and erysipelatos inflammations; since the "trunk" is as liable to phlegmon as the extremities.

the skin has been extensively detached by sloughing of the cellular membrane, pressure by bandage is very serviceable in promoting the healing process."

2093. "The incisions, when made during the existence of active inflammation, are followed by profuse bleeding, both from arteries and veins, which probably has an important share in arresting the inflammatory disturbance. The benefit, however, cannot wholly be ascribed to this cause, for it takes place even when the loss of blood is much less; and it is so immediate, that we cannot refer it to the suppurative process which afterwards occurs in the surface of the wound. The relief has been ascribed to the removal of that tension which always exists in a greater or less degree; we observe, indeed, that the edges of the wound usually gape asunder, and that the surrounding skin not only loses its deep red colour, but soon becomes wrinkled on the surface; two changes which sufficiently explain the great and sudden benefit usually produced by the incisions."

2094. "As the free bleeding from the incisions is often of great advantage in relieving the overloaded vessels, and arresting the inflammation, it need not be checked, so long as the pulse is unaffected by the loss of blood. But the great extent to which the hæmorrhage may proceed, renders it necessary that we should act very cautiously, especially in elderly persons, or in those whose strength is already impaired by the disease or previous treatment. The patient should be carefully watched in such cases, until the bleeding has ceased. Should it be necessary to stop the farther loss of blood, this may be readily accomplished by tying any bleeding vessels, by placing the limb in an elevated position, or by pressure."

2095. "The incision should divide the skin and the cellular texture down to the fascia; it is not necessary to penetrate the latter. A double-edged bistoury is the most convenient instrument for this purpose."*

2096. As we are desirous of communicating the various modes of treating this formidable disease that have been found

* See Observations on the Nature and Treatment of Erysipelas, by W. Lawrence, Esq. Medico-Chirur. Trans. Vol. XIV.

most successful, we are certain we shall not be blamed for furnishing the above long extract, as well as laying before the reader the modes pursued by Dr. Dobson, and Mr. A. Copland Hutchinson, both men of distinguished professional reputation.

2097. Dr. Dobson says, "in regard to the nature of the erysipelas in which I use the punctures, I answer in all cases, whether simple, traumatic, or phlegmonous; the number of punctures I make at any one time, varies according to the extent of the disease, but is rarely under ten, and seldom exceeding fifty; the depth and extent of each puncture vary also, according to circumstances, being made deeper when the parts are more tumid, but more superficial when the tumefaction is not so great; from two to four-tenths of an inch may however be considered the proper answer to that part of your inquiry. I repeat the punctures to the number and extent required, mostly twice a day, and often in bad cases, three or four times in the twenty-four hours, and in the whole course of this practice, which has often been resorted to by me in several hundred cases, having adopted it more than a dozen years ago, I have never seen any bad consequence resulting from its employment. The quantity of fluid, (for it is not blood alone, but blood and effused serum,) which these punctures discharge, although sometimes considerable, need never create any alarm, for however freely it may flow at first, it gradually diminishes, and soon spontaneously ceases. I use these punctures in every part of the scalp or face, body or extremities, and never more freely than about the eyelids, and I have often found a patient with both eyes closed, which by freely puncturing he has been able to open in a few minutes; and what will be found not less true, than it may appear surprising, these punctures mostly heal in a few hours, and never entail any material marks upon the patient!"

2098. "Where puncturing has been practised from the first appearance of the disease, suppuration rarely takes place, and I have always observed that it diminishes the extent of that result, even in those cases which have existed for some days before it has been resorted to; but when matter does at any time form under the skin, I let it out without delay wherever I feel it; but I think in those cases the integuments are more preserv-

ed by making several small openings, than by one large incision, and the matter is quite as well evacuated.”*

2099. Mr. Hutchinson is also a strong advocate for free incisions in the phlegmonous erysipelas; he says, “these incisions may be made about an inch and an half in length, from two to four inches apart, and varied in number from four to eighteen, according to the extent of surface the disease is found to occupy.” He recommends these incisions to be made in the early part of this disease; declaring they prevent extensive suppuration, and sloughing, as well as arrest the progress of the disease. In this country, this mode of treating erysipelas, we believe has not been attempted to any extent; but we are of opinion, that every reliance is to be placed upon these operations, as their authors are men of the highest respectability. The practitioner has his choice of three modes of operating, when the disease is either too extensive or too violent to be subdued by the antiphlogistic mode of treatment, or by the other means recommended as adjuvants to this plan.

8. *External, or Local Applications.*

2100. This class of remedies is very numerous, but very insignificant, to say the least of the generality of them. We have but little opinion of them if we except blisters, and mercurial ointment. In the early, or erythematous stage, if we may so term it, we have thought that the camphorated spirit has been occasionally useful, but never efficacious in our hands. The saturnine lotions we have thought decidedly injurious. Dry flour has frequently relieved the itching and burning when it has been applied before vesication had taken place; but it should never be used after. The watery solution of opium is highly praised by some, but of this we have no experience.†

* See Letter to W. Lawrence, Esq. F. R. S. on the Treatment of Erysipelas by Numerous Punctures in the Affected Part, by R. Dobson, M. D. &c.

† This solution is made by dissolving four grains of opium in eight ounces of water, and then adding ten grains of the acetate of lead; the part is to be kept constantly moist with it. Dr. Peart recommends a drachm of the sub-carbonate of ammonia, and as much superacetate of lead, dissolved in a pint of rose water.

CHAPTER XXVIII.

PHLEGMASIA DOLENS.

2101. WE have retained the name of phlegmasia dolens, (the phlegmasia alba dolens puerperarum of White,) for a peculiar condition of the lower limb, because its pathology is still as unsettled as in the time of Mauriceau, whom we believe was the first that gave any satisfactory account of it; for the description left by Rodrigues a Castro, can scarcely be tortured, by any partiality for antiquity, into the disease of which we are about to treat, though Dr. Hull complacently inclines to the belief, that he was acquainted with it. And we doubt whether the disease of the apothecaries' wife, as described by Wiseman, was really the disease in question, as it is but casually mentioned in his chapter upon "Abscesses and Corrosive Ulcers arising from Distempers of the Womb in Childbed," and what renders it especially doubtful, is, that he declares, matter formed in various places.

2102. There cannot be a question however, that Mauriceau was well acquainted with this disease; as his description is still a pretty faithful one, in the main. By this author and several others, the disease was attributed to some derangement of the lochia, which when not sufficient, was thrown upon the large nerves of the thigh, and thus created pain and swelling, &c. From the time of Mauriceau, to that of Puzos, the disease appears to have been familiar to a number of practitioners, as Manningham, Mesnard, &c.

2103. It was however found after a time that the appearance of this disease did not obey any particular state or condition of the lochia; and that as it was very commonly accompanied by a diminution or suppression of the milk, a new hypothesis was invented, and it was made to consist, of a metastasis of this fluid. Puzos with a great show of reason, has a prior claim to Levret, for this suggestion; as the latter himself refers to the former's "*Mémoires sur les dépôts laiteux*," and speaks approvingly of

them. These great men were followed by Astruc, who treats expressly upon this subject. Sauvages fully adopted these notions in his nosology, and treated of them under different genera and species.

2104. Van Swieten, Lieutaud, Raulin, Selle, &c. all seem to have acknowledged the great influence of the milk upon the constitution; and each has treated of its metastasis.

2105. Mr. White of Manchester, was the next to invent a theory of this disease; he made it consist of an obstruction, rupture, or a disordered condition of the lymphatics, and he was followed in this opinion by others. Mr. Trye pretty freely criticized the opinion of Mr. W. and said that, though he could not discover any grounds for supposing the trunks of the lymphatics to be ruptured in labour, "yet he could easily conceive, that the obstruction to the return of the lymph may commence in the primary inflammation of a trunk or trunks, and that probably this may be the case more frequently than he had hitherto discovered or suspected it to be." Mr. Trye was followed by Dr. Hull, in a valuable and highly learned work upon this obscure and debatable disease. Dr. H. says, "*the proximate cause consists in an inflammatory affection, producing suddenly a considerable effusion of serum and coagulating lymph from the exhalents into the cellular membrane of the limb.*" Dr. Davis, of London, next offered a new pathological view of the proximate cause of phlegmasia dolens, and makes it consist in an inflammation of "one or more of the principal veins within and in the immediate neighbourhood of the pelvis, producing a thickening of their coats, the formation of false membranes on their internal surface, a gradual coagulation of their contents, and occasionally, a destructive suppuration of their whole texture; in consequence of which, the diameters of the cavities of these important vessels become diminished, sometimes so totally obstructed as to be rendered mechanically incompetent to carry forward into their corresponding trunks the venous blood brought to them by their inferior contributory branches."*

2106. Thus we have five different hypotheses, for phlegmasia dolens; of either of which it would be difficult to make a

* Lond. Med. Chir. Trans. Vol. XII. p. 426.

choice, if we consulted their value, either in relation to the phenomena this disease presents, or to the pathological condition of the parts affected, as far as has yet been revealed, by dissection. On these several opinions, we shall pass a few remarks; and believing neither to be the true proximate cause, that it is right to give the arguments against each, that our reading has supplied us with, as well as those, that has suggested themselves to us from attentively having observed the phenomena of this painful affection at the bedside.

2107. The two first opinions, (namely, that phlegmasia dolens is caused by some derangement of the lochia, or from a metastasis of the milk,) will scarcely require a remark; as subsequent observation has abundantly proved, that neither has ever had the slightest agency in its production, even as a remote or as an exciting cause. And farther, were either or both, to be admitted as contributing to this affection, the pathological condition of the seat of the disease as caused by them, would still remain unexplained.

2108. Mr. White of Manchester, must be considered the first writer, who had attempted a pathological exposition of phlegmasia dolens; and much credit is due to his industry, and learning upon this subject, though we cannot yield to him the merit of having been satisfactory, or perhaps even clear. He declares this disease, "is owing to the child's head pressing the vessel or vessels which arise from the lower extremities, against the brim of the pelvis during a labour pain, so as to stop the progress of the lymph; that the number of valves will effectually prevent it from regurgitating, and if the head continues any time in this situation, while the lymph is driven on through the valves by the peristaltic contraction of the coats of its vessels, by the great exertion of the muscles, and the strong vibration of the inguinal artery, though its coats, (the lymphatics,) should be allowed to be stronger than those of the blood-vessels, it must at last burst and shed its contents. When the orifice made in the lymphatic is healed, and the diameter of the tube is contracted, or totally closed by the cicatrix, the lymph is retained in the lymphatic vessels and glands of the limb, and the labia [labium] pudendi, and distends them to such a degree and so suddenly, as to occasion great pain and swelling, which always begin in the part

next to that in which the obstruction is formed, and when the obstruction is in part or wholly relieved, or the lymph has found a fresh passage, the part next to it is consequently relieved." pp. 49, 50. He adds, "if the above hypothesis be true, the predisponent cause may in all probability be a weakness in the coats of the lymphatics in such subjects only, as have these vessels formed into one principal trunk under Poupart's ligament." p. 55.

2109. Objections to these conjectures of Mr. White will readily present themselves; for it supposes that some obstructing cause or pressure to be absolutely necessary. Now, if it be even admitted that the child's head afford this pressure at the brim of the pelvis in some cases, it could not have done so in all the instances in which this disease has appeared. For, 1st, this pressure cannot take place to the necessary extent, but in a very few instances; for it is notorious to accoucheurs, that for the most part, in a well-formed pelvis, the head may be even larger than it is usually found, and yet pass without difficulty. 2d. The portion of the brim of the pelvis at which, in ordinary circumstances, this pressure is found to exist, is not that at which the lymphatics would be subject to its influence; for as a general rule, it would be behind either of the acetabula. 3d. That no other part save the head, could effectually exert this pressure; yet it is agreed on all hands, that no position of the child yet discovered is more efficient in its production than another. 4th. That a pressure so long continued and so effectual, "as to stop the progress of the lymph," and eventually to cause a lymphatic to burst, must necessarily produce upon the intervening parts, a gangrenous condition; yet this is a casualty we have never heard of. 5th. Several circumstances connected with the history of this disease would still remain unaccounted for; as the occurrence of the disease in the opposite limb; and this not simultaneously, but after a considerable interval; and not until after, as a general rule, the first affection is yielding; to the pain and swelling first occurring in the calf of the leg, as it sometimes does; for if Mr. White's statement be true, that "*pain and swelling always begins in the part next to which the obstruction is formed,*" p. 51, the pain and swelling must primarily exist in this part of the limb; therefore is not indebted to pressure exerted on the brim of the pelvis for its existence.

2110. The arguments just urged might appear sufficient for the purpose intended by them; but as several conclusive ones have been employed by Mr. Trye to the same end, we think we should not be rendering justice to this gentleman did we altogether omit them. He observes, that "no experiment has shown that the lymphatics can be torn, without doing equal violence to the other vessels of the part. That practical anatomists have ascertained that these vessels will bear a weight of quicksilver, equal in effect to a much greater force than is required to circulate the lymph towards the thoracic duct. That the force exerted by the child's head in its passage, cannot exceed that of the pad of a tourniquet on the arm or thigh. That if the trunk of a lymphatic be compressed, its contents are forced inwards towards the thoracic duct if no obstruction exist; in this case its sides are squeezed together, and will consequently occupy so little space, that it cannot well be ruptured at the compressed part. If a rupture then takes place, it must be below the compressed part—but no reason can be given for this taking place always in one place, namely, within Poupart's ligament, rather than in the leg or thigh."

2111. Besides, we have known two instances of this complaint to follow abortions in the early months; and once in a premature delivery between the sixth and seventh month; in this instance, the child had been dead at least one month previously to its delivery. Again, my friend Dr. Chapman informs me of a violent case having occurred in a patient in our Alms-house, labouring under cancer uteri. But above all, it has happened to the arm of the male, as recorded by Dr. Ferriar,* besides an instance, of the same kind, that fell under our own notice in 1788. A gentleman, pretty far advanced in life, received a severe contusion on the point of his shoulder, by the overturning of the mail coach. He however paid but little attention to it, and merely rested it in a sling, as it did not prevent his attention to business for several days; but at the end of this time, the arm became very painful, and swelled rapidly, considerable fever was excited, and the gentleman was obliged to keep his bed. The controul of the motions of the limb was entirely lost, as

* Medical Histories, Vol. III. p. 92. By Dr. Ferriar.

every attempt to move it was attended by exquisite torture. The character of the swelling was precisely that of the *milk leg*, to which it was compared at the moment, by my preceptor—that is, he declared, had the same affection befallen the leg of a lying-in woman, he would have called it a *milk leg*. After a tedious but an active treatment for three months, symptoms of amendment showed themselves; but it required a long time to restore the limb to its former usefulness—indeed, from what we afterwards learnt, it never became as strong as the other.

2112. This case is not unique; several instances purporting to be of this kind are recorded; all of which, perhaps, are not entitled to the distinction. Dr. Ferriar's case is not an instance perhaps of genuine phlegmasia dolens; nor do we regard the one related by Littre, under the care of Luminier, to be without exception, as there was well-marked red inflammation.* Yet that related by Dr. Heermans appears to have been a genuine instance of phlegmasia dolens in the male.†

2113. Besides, we are informed, that phlegmasia dolens, has happened to women not pregnant; of this we speak from the authority of others; for we have just said above, that this took place in a patient under the care of Dr. Chapman, in our Alms-house; and Dr. Beck mentions a case where it occurred in a woman of fifty-two years of age.

2114. Dr. Moore, of Ipswich,‡ makes a singular remark upon the opinions of Mr. White, the force of which we cannot perceive, though it purports to overthrow his doctrine at once. He says, “in refutation of Mr. White's opinion, I will state, that in no instance that has come to my knowledge, has the disease preceded parturition.” Now, how this refutes Mr W.'s opinion we cannot understand; for in no instance does Mr. W. require that parturition should always happen before this disease can be produced; and in our humble opinion, had Dr. Moore have known an instance of phlegmasia dolens preceding parturition,§

* Medico-Chirurgical Review, for April, 1829.

† Dr. Francis' Memoir, p. 9.

‡ New England Medical Journal, Vol. II. p. 229.

§ Puzos relates two instances of this kind; one took place at the fourth, and the other at the seventh month of utero-gestation. And we have seen two instances in which it followed premature delivery.

it would have told very much more against Mr. W.'s hypothesis, as the great agent in producing this disease, in Mr. White's opinion, would have been wanting; namely, pressure from the child's head, during labour. But Dr. M. should have not attempted to pass his want of knowledge of such cases for more than it is worth; since many cases of the kind alluded to may have taken place, without his being apprised of them; for certainly it has happened, as stated above, that this disease has occurred to unimpregnated females. Now if this be so, we do not see by what law of pregnancy, the woman is secured against an attack.

2115. By the by, we may remark, that Dr. M. dismisses the hypotheses of Dr. Trye and Dr. Ferriar still more cavalierly, and with still greater brevity. Of the first he says, it "is mere supposition;" of the second, "in reply to Dr. Ferriar, I will adduce the fact, that phlegmasia dolens as frequently follows natural and easy labour, as difficult and laborious."

2116. These assertions of Dr. Moore, purporting to be refutations, were to pave the way for an explanation which he immediately after offers, in the following terms.

2117. "After an attentive observation of cases, and a careful examination of the subject, I will humbly offer the following explanation as the most satisfactory to me."

2118. "During gestation, the abdominal muscles, their vessels, and integuments, are in a state of great preternatural distention; immediately after parturition, when the distending cause is removed, these parts powerfully contract in order to regain their natural dimensions. If this effort be unequally exerted, if it be suddenly excited by the application of cold, if the lymphatic vessels be over-distended at the time of plethora, or great debility subsists in the vessels themselves, an interruption and accumulation of the fluid ensues; the great and long accumulation of which, acting as an extraneous and offending cause, will occasion inflammation. In persons of a plethoric and irritable habit, inflammation may quickly supervene; while on the other hand, in a person of a contrary habit, it may be more tardy in its progress." p. 230.

2119. We would now ask, if ever hypothesis was more heavily laden with conjecture, and supposition, than this—it has not

even the merit of ingenuity, much less an imposing probability to reconcile its meager pretensions. The initial postulate is not founded in fact, for we cannot look upon the distention imposed upon "the abdominal muscles, their vessels, and integuments," as "preternatural," since, in being put upon the stretch by pregnancy, they are but performing one of the offices for which they were designed. His second is no better grounded; for, after parturition has removed the distention, "the abdominal muscles, their vessels, and integuments," do not "powerfully contract in order to regain their natural dimensions;" for this is performed silently, and gradually, and requires for its completion many days. We have just shown how reluctant Dr. M. is to permit either Mr. Trye, or Dr. Ferriar, to conjecture, or to suppose; yet, he says himself, in the attempt to make out his explanation, "*if this effort,*" &c.; "*if it be suddenly,*" &c.; "*if the lymphatic vessels,*" &c.; such and such things will happen. That is, we shall have inflammation from an accumulation of lymph in the lymphatic vessels; and in what essential point does this "explanation" differ from that of Mr. White, or Mr. Trye? in none that we can see, if we except the agent by which the interruption to the circulation of the lymph is effected—in one instance it is the head of the child; in the other it is *cold* and *debility*.

2120. We should not have thought it necessary to notice this "explanation" in an especial manner, had not the doctrine it inculcates led to a mischievous, and reprehensible plan of treatment; for the doctor observes, "in the ordinary mode of treatment, much time is lost in the inefficacious use of diuretics; and much mischief and pain produced by the application of blisters, and other stimulating remedies." "From the view here taken of the subject, I am fully disposed to regard it as a local disease, and decidedly recommend the early application of a large emollient poultice, which, by its relaxing and resolving power," (recollect the doctor's opinion of the cause of the disease, is, debility and over-distention,) "will, in a great majority of cases," (has he ever seen a sufficient number to determine this important point? the doctor only mentions two cases, and neither of which, was the disease in question,) "prevent the formation of a distressing and tedious disease. And when it does not produce this most desirable effect, I should recommend its continu-

ance, with an intention of producing *early suppuration, which I think next to resolution, the most speedy and safe termination of the disease.*" p. 231.

2121. Was ever a disease less understood; or a more preposterous remedy, ever proposed! The continued application of an emollient poultice is every thing that is necessary for the relief of a milk leg!

2122. We have good grounds for believing Dr. Moore had never seen a case of phlegmasia dolens, if we take the two cases he details as specimens. In the first case, the patient complained of a pain in the right hip and back; rigors and watchfulness; *a rigidity and soreness of the abdominal muscles; pain in moving the limb; the pulse a little increased, slight thirst, and perfectly clean tongue.* For this state of things, antimonials, cathartics, and fomentations were prescribed. These proved ineffectual; *bark, guaiacum, and a continued blister to the thigh* were employed.

2123. "This course evidently increased the local affection. *The upper part of the thigh, the inguinal glands, and right iliac region, become more tumefied, which gradually extended to the hypogastrium and labium pudendi.*"

2124. "In the early stages of the swelling it appeared in *ridges and bunches*, occasionally assuming a *livid*, and at other times a *purple hue.*"

2125. It became more uniformly diffused, tender, hotter than natural, shining, but not much discoloured. The fever kept pace with the local affection; the pulse was small and very frequent. The swelling increased. "With an intention of *rousing the action of the absorbents, a volatile stimulating liniment* was applied, and in turn hot vinegar; but these had no better effect than the blistering!!"

2126. Digitalis was now administered; this increased the debility; *the inflammatory appearances became more evident; the pain, heat, soreness, and redness increased, until a discharge took place from a ruptured lymphatic* in her side, about an inch from the inferior spinous process of the ilium. p. 228.

2127. The second case is still farther removed than the first, in our opinion, from a case of phlegmasia dolens. This occurred in

a person of robust constitution; it supervened on natural labour. On the second day after the delivery, the patient experienced a great rigidity of the abdominal muscles, which increased in tenderness, and presented an appearance of "ridges and bunches;" the constitutional symptoms high; these increased until *suppuration took place from an "opening a little below the navel."*

2128. We have italicized such parts of these histories, as show at once, that they were not instances of phlegmasia dolens; and also such, as have excited our wonder, in regard to the treatment. If the cases just related, and others, that we shall have occasion to mention presently, be received as instances of genuine phlegmasia dolens, the pathology of this disease will remain unsettled to the end of time.

2129. We have already cursorily mentioned the opinion of Mr. Trye, of the proximate cause of phlegmasia dolens; we shall now develope it more in detail. He says, p. 70, "I have considered the *proximate cause* of the swelling to be seated in the *lymphatic glands*. I will not contend that it must be so universally, because there is a probability, that the original seat of obstruction and inflammation may, in some instances, be in the principal trunks of the absorbents within the pelvis, independent of, and abstracted from the iliac glands; in which case the inflammation may be continued along the absorbent vessels downwards; that is, towards the labia pudendi, leg, &c. as well as upwards, or towards the thoracic duct."

2130. Dr. Ferriar is also mentioned as an inventor of a theory for phlegmasia dolens; but he does not appear to be entitled to this claim, since he has only adopted the opinion of Mr. Trye upon this subject. And were we even to admit he had not seen Mr. T.'s work, he must at least have been familiar with the opinions of Drs. Denman and Latham. The lectures of the former he most probably attended.

2131. We shall make no observations upon the opinions of Mr. Trye and Dr. Ferriar, until we have noticed the hypothesis of Dr. Hull, which we shall now give in his own words. He states, that "from an attentive consideration of the whole of the phenomena observable in this disease, and of its remote causes and cure, no doubt remains in my mind, that the proximate

cause consists in an inflammatory affection, producing suddenly a considerable effusion of serum and coagulating lymph from the exhalents into the cellular membrane of the limb." "The seat of the inflammation I believe to be in the muscles, cellular membrane, and inferior surface of the cutis. In some cases, perhaps the inflammation may be communicated from these parts to the large *blood-vessels*, *nerves*, and *lymphatic vessels*, and *glands* imbedded in them."

2132. We have united the hypotheses of Mr. Trye, Dr. Ferriar, and Dr. Hull, because they are essentially one and the same; namely, that the proximate cause is an inflammation of the lymphatics and glands of the groin; though as a whole, Dr. Hull's assumes a much broader ground; so much so indeed, that Dr. Davis styles it with much point, "a capacious theory."

2133. The objections which present themselves to these explanations, are, first, their incompatibility with one especial phenomenon of the disease, namely, the *shining white* appearance of the limb throughout the whole course of the disease; and this so notoriously so, as to have it as one of its genuine characters. In all instances of inflammation of either, muscle, skin, lymphatic,* or blood-vessels, redness is a never-failing attendant, as is well known to all who are familiar with disease. Yet this does not happen in phlegmasia dolens, notwithstanding the numerous tissues Dr. Hull involves in the mischief. 2d. That if all these tissues were in a state of inflammation, this inflammation would manifest itself by the ordinary phenomena of this affection; namely, heat, *redness*, swelling, pain; yet we find *redness* always wanting in phlegmasia dolens, when this disease is pure and uncomplicated. If muscle be inflamed, redness is sure to be present; if the skin, the same thing occurs; if the trunks of lymphatics, (absorbents,) be the seat, we have frequent opportunities to witness that they become red; and when the

* In the time of Dr. Hull, the term "lymphatics" was understood to mean the lymphatic absorbents; the researches of Bichat had not then made it necessary to distinguish this set of vessels, and those whose office it is to convey the lymph, being either the termination of arteries, or the beginnings of veins. And we beg the reader to keep in mind, that where "lymphatics" are mentioned in the quotations of either Mr. White, Mr. Trye, Drs. Hull, Ferriar, or Moore, that the lymphatic absorbents are to be understood.

lymphatic glands are in this condition, redness notoriously attends. And though Dr. Hull does not suppose, that all these parts are simultaneously affected, but successively, yet it alters not the fact, that in phlegmasia dolens redness is always absent during the whole course of the disease.

2134. 3d. Besides, this progressive extension of inflammation cannot well be sustained, as the rapidity of the disease is such sometimes, as to involve the whole limb in the course of a very few hours; whereas the transmission of inflammation by contact even, is sure to be much slower; yet it would not fail to betray its progress by all the common phenomena of inflammation, were it to exist in such parts.

2135. 4th. When the lymphatic glands become inflamed by the absorption of some acrid substance or specific poison, the venereal poison for instance, they not only become red themselves, but the lymphatics even that convey the poison, can be distinctly traced in their course, by the vivid red that marks their inflamed coats.

2136. 5th. The ordinary inflammation of the several parts declared to be involved in phlegmasia dolens, moreover, do not thus suddenly effuse serum; of this, proofs present themselves every day, in the usual progress of inflammation, as in rheumatism, wounds, contusions, the insertion of poisons, &c.

2137. 6th. When the lymphatics are inflamed, together with their glands, it is acknowledged by Dr. Ferriar himself, that "the vessel can be distinctly traced in its course by its hardness and enlargement, and frequently by a *slight inflammation* of the superincumbent skin, forming a *red or purple streak*, and extending with the affection of the vessel."*

2138. 7th. We do not agree with Dr. Ferriar in the assertion, that "the violent pressure on the internal iliacs, and the accompanying veins and nerves, which takes place during delivery, must undoubtedly be considered as a powerful occasional cause of *lymphatic inflammation*." p. 120. Now, if this were true, phlegmasia dolens would be of more frequent occurrence than it is; since this pressure is common to many labours, yet the disease in question is one of very rare occurrence.

* Med. Hist. Vol. III. p. 95.

2139. 8th. Because in phlegmasia dolens, one of its inseparable characters is the exquisite sensibility of the *whole limb*; so much so in most instances, that the patient cannot bear the slightest pressure, or the slightest motion, yet Dr. Ferriar informs us, that "the pain in *lymphatic inflammation* is referred to the enlarged *glands*, and, is *not remarkably increased by motion*; *there is more stiffness than actual pain in the whole limb.*" p. 102.

2140. 9th. Because, in the twelve or fourteen cases of exquisitely formed phlegmasia dolens, that we have seen, we never were able to trace the "inflamed lymphatics," or to feel the "enlarged conglobate glands;" yet, both of these circumstances are declared to be constantly present, by those who espouse the pathology under consideration.*

2141. 10th. Because, Dr. F. furnishes a case himself, which disproves his own explanation, viz. "Jane Waters, aged twenty-five, was delivered by an accoucheur, of her second child, December 26th, 1797, after being four days in labour. During delivery she lay upon her left side. December 27th, she was affected with pain and swelling of the left knee, which descended to the leg and foot of the same side. On the 28th of December the swelling began to rise from the left knee and to affect the thigh. It extended up to the left groin and labia pudendi. I saw her for the first time on the 3d of January, 1798. I found the swelling tense, uniform, not discoloured; that there was a great sensation of rigidity in the limb, and that it was *extremely painful on being touched or moved*. She felt *exquisite pain in the ham*, where I could perceive the lymphatics *a little enlarged*. *The glands of the groin were not affected.*" p. 127.

2142. In this case there was an exquisitely formed phlegmasia dolens; for it was attended by all the essential characters of the disease; the limb was exquisitely tender to the touch; the swelling was uniform and elastic; it was not discoloured;

* Dr. Hull declares the same inability; he says, "I have never met with either enlargement or inflammation of the lymphatics in any stage of the complaint; I am therefore convinced that this is a rare occurrence, and by no means essential to the disease."—*Essay on Phlegmasia Dolens*, p. 116. It will therefore be perceived, that our observations apply to Dr. Hull only, as far as he admits the lymphatics to be involved.

the glands of the groin were not affected, and the lymphatics in the ham could be perceived to be "a little enlarged." Here then was a case of genuine milk leg, without inflamed "lymphatics" or "conglobate glands." We think we have said enough to prove that this pathology is not well founded; and that if inflamed lymphatics, or enlarged glands be present, that they are the consequences, and not the cause of the disease called phlegmasia dolens.

2143. The next hypothesis in order, and it is the last with which we are acquainted, is one of late date; it is by Dr. David Davis, a teacher and practitioner of considerable celebrity in London.

2144. Dr. Davis attempts to prove, that phlegmasia dolens is the consequence of an inflammation of one or more large veins; ending in the production of an extraneous membrane or other obstructions, within their cavities; and thus offering remoræ, to the returning blood from the extremity.

2145. This view of the subject, from its supposed truth, has gained much more notoriety, than can be sustained by facts; though supported by the powerful aid of Velpeau; and we may add that of Bouillaud and Ribes. When we say this, we would not wish to be understood as implying the slightest disbelief of the truth of Dr. Davis's statement; on the contrary, we are fully persuaded that neither he nor the gentlemen who, both directly and indirectly, support his doctrine, have set down nothing that they did not see—the only question then is, were the dissections of these gentlemen cases of phlegmasia dolens? this is the point at issue—whether phlebitis and phlegmasia dolens are identical; or in other words, are the cases related as cases of the latter, any other than instances of the former?

2146. Before we proceed farther in the examination of this question, it will be proper to determine the absolute character of phlegmasia dolens from the best accredited *practitioners*; for to them alone should the appeal be made. And perhaps one of the older writers of this kind, will be the safest guide upon this occasion. Callisen has summed up the characters of this disease most happily in a very few words, making allowance for the introduction of one of its supposed causes in his time, namely, a metastasis of milk. "Œdema puerperarum, aliis lacteum est

tumor elasticus, albescens, renitens, calidus, dolens, foveam impressi digiti haud retinens, puerperis haud infrequenter, gravidis rarissime infestus." He has, however, omitted a very material feature of the disease, namely, fever; for, as far as we have seen, this condition of the system has always been present, and sometimes to an alarming degree.

2147. The essential characters then of phlegmasia dolens may briefly be stated to consist of the following strongly marked characters. 1st. Fever always to a greater or less degree. 2d. Pain generally commencing in the hip, groin, and sometimes the back. 3d. Swelling commencing at the seat of pain, and proceeding with more or less rapidity down the whole limb. 4th. The swelling elastic, not retaining the impression of the finger. 5th. The whole swoln part white, even more so than natural in some instances, but never red, when uncomplicated. 6th. The whole limb exquisitely sensible to the touch. 7th. Total inability to move the limb, and action always creating great suffering. 8th. The temperature of the whole affected part much above the natural temperature. 9th. The labium pudendi of the diseased side almost always participates in the swelling, but never extending to the other labium, unless the other limb be also affected. 10th. After the first leg begins to improve, or is perhaps nearly well, the opposite leg runs through a similar course, and sometimes with an aggravation of symptoms. 11th. That the limb thus affected, rarely suppurates. 12th. That this disease is rarely attended by danger. 13th. That after the more violent stage of inflammation is abated, which generally happens, under proper treatment, about the sixth or eighth day, that the swelling abates its elastic character, and takes on that of a common œdema. 14th. The milk usually diminishes, and sometimes disappears.

2148. We have been thus particular, yet we trust strictly faithful, in enumerating the essential characters of phlegmasia dolens, that the coincidences and discrepancies between it and phlebitis, may be more readily subjected to comparison.

Symptoms and General Character of Phlebitis.

2149. In giving an analysis of the symptoms of phlebitis, we have chosen the one condensed in the Medico-Chirurgical Re-

view, Vol. IV. p. 509, from *Recherches Cliniques pour servir à l'histoire de la Phlebite*; par M. J. Bouillaud, M. D. *Revue Méd.* Avril et Juin, 1825; and from *Exposé succinct des Recherches faites sur la Phlebite*; par M. F. Ribes, M. D. *Revue Méd.* Juillet, 1825. We have done this in preference to other authorities, because they are the latest who have written on this subject, though we have no evidence that they consider this affection constitutes phlegmasia dolens. We shall give the English version, as contained in the above named Review. First, of Dr. Bouillaud.

2150. "*Symptoms.*—1. The symptoms of *inflammation in the trunk of a superficial or external vein are easily recognised*. The member swells, becomes hot, painful, or is even the seat of *phlegmonous erysipelas*. The vessel itself feels tense, hard, knotty, or like a cord. Abscesses not unfrequently form in the course of the vein. The pain, our author thinks, is more dependent on an affection of the neighbouring nerves, than on inflammation of the vein itself. *Œdema of the limbs is a very common attendant on phlebitis of one or more of the principal veins*, and evidently arises from the mechanical obstruction to the return of the blood—the veins being now acknowledged to be the principal conductors of the serous exhalations, (see note * to par. 2140,) that take place into the cellular tissue. Such are the signs of local phlebitis.

2151. "2. When the inflammation extends to the whole, or to a great portion of that vast membrane which lines the internal surface of the venous system, we constantly find that a violent fever is lighted up. Among many of our patients, the fever presented all those characters which are attributed to what are called *putrid, adynamic, or typhoid fevers*; and indeed the term *putrid* is perfectly applicable, since after, nay before death, there are unequivocal signs of decomposition, or a kind of putrid fermentation of the fluids."

2152. Second. Mr. Ribes says, "*The veins are very frequently inflamed*, and this affection is a *very dangerous one*." (Yet phlegmasia dolens is a rare disease, and is very seldom dangerous.) "In incipient phlebitis, the patient experiences a slight *pain in the track of the veins affected*. These vessels swell and become prominent, presenting a light bluish colour,

and subsequently a brownish pale hue. The circulation ceases in the vessel, and the blood becomes more or less *decomposed*. If the circulation should be re-established, the contents of the vein are carried into the current of the circulation, and dangerous consequences may ensue." p. 512. Phlebitis is a *serious malady*, and is often *quickly mortal*." Ibid.

2153. We have thus brought into opposition the characteristic symptoms of phlegmasia dolens, and phlebitis, which we now submit to the reader's candour to determine the strength of their analogy, or rather how far they are entitled to absolute identity. Let him run his eye over such parts of the description and consequences of phlebitis as are emphasized, and compare them with the general history of phlegmasia dolens, and he will at once perceive, we are certain, their discrepancies, and determine their entire want of sameness.

2154. But lest it be thought that we have drawn our conclusions from premises not attempted to be sustained by Dr. Davis, we will produce in a very short compass all the symptoms detailed in his histories, that he may speak for himself.

2155. "CASE I.—Caroline Dunn, æt. 21; weak constitution; delivered on the 7th of February; severe labour; some hæmorrhage after delivery; placenta removed artificially. 8th. Pulse 90; tongue white and moist; no pain in the abdomen from pressure; soreness in vagina. On the 13th, slight fever; pulse full and quick; costive; tongue white and dry; the *labia pudendi inflamed and œdematous*; some head-ache; respiration difficult; discharge from vagina resembling cream." 17th, better; 21st, much better; 22d, still better; 26th, worse; leg and thigh much swollen; pain in the groin; no signs of inflammation; no pitting on pressure; 28th, no better; leg pitted on pressure; March 3d, total insensibility; limb equally swollen; 4th, died.

2156. We shall introduce a part of the dissection, as performed by Mr. Lawrence, "which is a sufficient guarantee for its correctness."*

2157. *Dissection*.—"The left lower extremity presented an uniform œdematous enlargement, without any external discolo-

* Med. Chir. Review, p. 381.

ration, from the hip to the foot. This was found, on farther examination, to proceed from the ordinary anasarcaous effusion into the cellular membrane." The inguinal glands a little enlarged, as they usually are in a dropsical limb, but without any sign of inflammation. The femoral, external iliac, common iliac firmly plugged, apparently by a coagulum of blood. The other veins thickened, except the saphena and branches, which were healthy. That the substances occupying the cavities of the vein, were the product of inflammation.

2158. We cannot do better than present the observations on this case contained in a review of Dr. Davis's work on phlegmasia dolens.

2159. "We take the liberty of differing from Dr. D. on the identity of the case described with that of real phlegmasia dolens. We ground our first doubt on the *fatal issue* of the case, which is contrary to the general experience of the profession hitherto; for it must be recollected that Zinn's patient died of asthma, and not of phlegmasia dolens. If then there are very few cases on record, where phlegmasia dolens in itself proved fatal, we have at least grounds for supposing, (we do not say it amounts to proof,) either that Dr. Davis's case was *not* phlegmasia dolens, or that its proximate cause was different from the proximate cause of phlegmasia dolens in general."* The reviewer asks in a note, "Is it likely that so serious, and generally so fatal a disease as an inflammation of the internal coat of veins, under other circumstances, should be almost invariably devoid of danger in phlegmasia dolens?"†

2160. "Our main doubt, however," continues the reviewer, "is grounded on the anatomical, or rather, the pathological difference between Dr. Davis's case, and those described by authors. We have Mr. Lawrence's authority that the enlargement of the limb proceeded from *ordinary anasarcaous effusion* into the cellular substance. Does this state harmonize with the description of phlegmasia dolens as given by authors, or as seen by practitioners. It is contradistinguished, by all the writers we have perused, from *anasarcaous infiltration*, (and certainly by

* Med. Chir. Rev. Vol. V. No. 18, p. 382.

† Ibid.

our own observation in at least four or five cases,) by the tense, or hard, or at all events, elastic swelling of the limb—*not pitting* on pressure.” p. 382.

2161. Dr. Bateman runs the following parallel between the two diseases:—“The swelling is general and equal over the whole limb; it is much harder and firmer than in anasarca, in every stage of the disorder; it is not so cold, in any state of the disease, as in the dropsical swelling, nor so much diminished by the horizontal position; neither does it *pit* when pressed upon by the finger, nor does any water issue from it when it is punctured by means of a lancet.”* “When these descriptions are compared with Mr. Lawrence’s dissection, we think every unprejudiced mind will agree with us, that Dr. Davis’s case was of a character wholly different from genuine phlegmasia dolens.” p. 383.

2162. “CASE II.—A lady of a sanguineous, irritable temperament, died suddenly in the midst of apparently high and perfect health, on the 20th of September, 1819, six weeks after confinement. She was seized with peritoneal inflammation the day after delivery, which yielded to active measures. Ten days after this she complained of *a deep-seated pain in the groin, and along the great vessels*. Dr. D. found the *limb swelled, and very painful*, but by leeches and blisters, this new inflammation was speedily reduced, and in a week, the swelling had entirely subsided, the patient having recovered the perfect use of the limb. From this period she convalesced rapidly and satisfactorily, but died, as above stated, in the midst of apparent health.”

2163. In what possible respect can this case be looked upon as a case of phlegmasia dolens? Is there a single coincidence between the two diseases? The only circumstances on which even a remote analogy can be based, is “*a deep-seated pain in the groin*,” and that “*the limb was considerably swelled, and exquisitely painful*.” But will such conditions of a limb constitute phlegmasia dolens?

2164. “CASE III.—This is a case communicated by Dr. Davis’s friend, Mr. Oldknow. A woman was delivered, by an easy

* Rees’s Cyclopædia, Vol. 28.

labour, in September, 1820. She did well for about three weeks. She was then attacked by a violent diarrhœa, for which she took astringents. Fever continued. On the thirtieth day after delivery the diarrhœa returned, and 'the left lower extremity became *swollen and painful*, with considerable increase of fever.' Four days afterwards she died." p. 435.

2165. In this case, the only pretence for calling this a case of phlegmasia dolens, during the life of the patient, was the existence "of swollen and painful lower extremity;" and no proof of its having been a case of this kind, is adduced by the examination after death. The whole attention of the operator appears to have been occupied in the examination of the blood-vessels; "the femoral vein and iliac veins were much enlarged, and contained adherent layers of coagulated blood. The same appearances, but in a lesser degree, were observed in the cava as far as the entrance of the renal veins. The coats of the veins were highly inflamed, and intimately attached to the surrounding parts. The absorbents and glands were slightly enlarged." These morbid changes may perhaps with propriety entitle this case to stand with those of phlebitis; but it has no possible right to be ranked with those of phlegmasia dolens.

2166. The sudden death of this patient, we conceive, will effectually prevent this case from being acknowledged as one of phlegmasia dolens,* for we believe from what we have seen and read of this disease, that it is the first instance, if it be one, that has terminated so suddenly in death. Indeed, this termination is so confessedly rare, that phlegmasia dolens has never been looked upon as a disease of danger,† though one for a time of great suffering, and almost always one of tedious convalescence.

2167. CASE IV.—A lady of a delicate constitution, an irritable habit, was delivered on the 2d of July, 1821. She was doing well until the seventh day; on this day she was exposed to

* It is true, that in the case related by Puzos, the patient died on the fifth day; but she appears rather to have "died of the doctor," than of phlegmasia dolens. He relates another, that took place in the fourth month of pregnancy, and which proved fatal on the ninth day.

† Dr. Francis relates a case on the authority of Dr. Mann of Boston, in which death took place from sphacelus, in consequence of the limb being punctured with a view to draw off the water supposed to be present.

cold, and was seized with a rigor. During the forming of the hot stage, she felt a pain in her left side, which increased rapidly, and for which she was bled without much relief. She was afterwards bled, leeches, and blistered. The affection of the chest was relieved, but fever continued. In the evening of the 9th, "unequivocal symptoms of phlegmasia dolens declared themselves." She died on the 23d of the same month.

2168. "On dissection, there was effusion and inflammation in the chest, 'the left lower extremity, from the hip to the toe, was considerably, but not greatly enlarged, and there was an evident enlargement of the labium pudendi.' The iliac veins on both sides were unusually turgid with blood. When the left was opened, it was found to contain a firm coagulum of blood, not adherent to the vessel at that place. Higher up, however, in the common iliac portion, the coagulum was adherent to the internal surface of the vessel. The left internal iliac was greatly inflamed, and the diameter so much contracted as to be almost imperious."

2169. "In the above case we have to regret that nothing is said of the state of the limb from the 9th of July, when the 'unequivocal symptoms of phlegmasia dolens commenced,' till the patient's death. In the dissection, again, nothing is said of the pathological condition of the limb. The whole attention is concentrated on the vessels. Now it ought to have been Dr. Davis's chief and main object to prove, in all those cases, that the disease was really phlegmasia dolens, by an accurate description of the symptoms and state of the limb, and then to have traced the *cause* if he could. But it is evident that the first and main object is almost totally neglected—or where it is adverted to, as in Mr. Lawrence's dissection, it makes against the question—and therefore we do not consider ourselves bound to subscribe to our author's etiology, without having the necessary documents respecting the symptoms and dissections of the cases."*

2170. We cannot, however, hesitate to believe, that the swelling spoken of was produced by the inflammation and obstructions discovered by dissection, as Ribes tells us it is one of

* Med. Chir. Rev. p. 385.

the common symptoms of phlebitis; but we must deny that, that swelling, and the swelling attending phlegmasia dolens, are of one and the same kind, as this author expressly calls it, "œdematous."

2171. From all the facts adduced by Dr. Davis in support of his pathology of phlegmasia dolens, sufficient evidence is not afforded, that "the proximate cause of this disease is a violent inflammation of one or more of the principal veins within and in the immediate neighbourhood of the pelvis," &c. Nor in our opinion is this pathology sustained by the cases related by Velpeau, purporting to illustrate the cause of this disease, though they coincide with the observations of Dr. Davis.

2172. Dr. Velpeau has drawn the same conclusions as regards the proximate cause of phlegmasia dolens as Dr. Davis, though not aware he had been anticipated in this by the latter gentleman. We will briefly relate his cases—that is, we will mention every circumstance which may bear upon the question.

2173. CASE I.—Valette, eighteen years old, had a tedious labour; on the third day she was much affected by some melancholy tidings. She now laboured under an acute pneumonic affection. Eleven days after delivery, she had chills and fever, pain in the groins, hypochondria, and left side of the pelvis. On the forty-first day, the left leg was found to be swelled, with pain in the hip and groin, and ultimately in the whole limb. "The whole extremity *œdematous*." Pressure gives pain only in the groin. On the sixtieth day she died.

2174. *Dissection*.—"When the left extremity was cut into, it was found much infiltrated in the cellular tissue. The lymphatic glands of the groin were much swelled and red—the muscles small and pale"—crural vein red externally, and its cellular coat thickened. This was the case in all its deep-seated branches. Purulent matter was found in these veins, and pus in the cava, and purulent deposition in other places. Can any one recognise phlegmasia dolens in the history of this case, or in the details of the dissection? There was a swelled leg it is true—but it is expressly declared to be "œdematous," and this is the only resemblance.

2175. CASE II.—Damiens, thirty-five years of age. She had a quick delivery. During the three first days nothing remarka-

ble occurred. Fourth, fever, and deep-seated pain in the pelvis. On the thirteenth day the lower extremities are much swelled and painful, especially the left. Fifteenth, breathing affected, difficulty in passing water, diarrhœa. Twentieth, the lower extremities more swelled and *red*, (*enflées et rouges*,) belly swelled and painful. Twenty-sixth day, died. In the dissection there was nothing to justify the opinion that this was a case of phlegmasia dolens; or perhaps that it was a case even of phlebitis.

2176. CASE III.—Has even less claim to the title assumed for it, than the preceding—the only possible circumstance to rest such an opinion upon is, that “there were pains in the *upper* and lower extremities—the latter *beginning to show œdema*.”

2177. Such are the kind of cases which of late have been foisted upon the medical public, for instances of phlegmasia dolens; than which, nothing can be less similar. Dr. Davis has evaded all the difficulties that might attach to a regular history of the appearances of the limb, by declaring in some instances, that “*to-day unequivocal signs of phlegmasia dolens appeared*,” we must therefore take his word for the truth of the observation; not, however, that we would insinuate, that he would in the slightest degree misrepresent the appearances which led him to this conclusion, but that he was satisfied with symptoms which we think did not constitute the disease. The cases of Bouillaud and Ribes, are precisely of the same character as regards their relation to phlegmasia dolens, though they may be looked upon as instances of phlebitis. But to Velpeau, we cannot even accord this acknowledgment.

2178. We find also a case recorded in the Medico-Chirurgical Review, for 1825, Vol. III., New Series, p. 540, which purports to be a case of phlegmasia dolens, that required the amputation of the leg in consequence of an apprehended sphacelus. The only circumstance on which the title of the case is founded, is that “*the limb was not evidently swelled, but there was a good deal of tenderness in and about the ham*.” But unfortunately for Mr. Davies, the narrator of this case, he had just before informed us, that “*the limb became instantly paralyzed, from below the knee to the toes*,” by a sudden metastasis of excruciating pain from the left loin and hip, which suddenly flew down to the leg and foot.” On dissecting the

amputated limb, "the veins were found completely distended with firmly coagulated blood; their coats were thickened, and their inner surfaces very much inflamed." In consequence of which Mr. Davies declares, that "the morbid appearances tend to confirm the truth of Dr. Davis's views of the pathology of phlegmasia dolens." To which we might perhaps agree, if there had been a single symptom of this disease present; or if Dr. Davis had proved that phlebitis, and phlegmasia dolens, were one and the same disease; or even, if in phlegmasia dolens, that phlebitis was constantly present. This latter, however, we confess, would have been a most difficult task, as the rare fatality of phlegmasia dolens, leaves but very scanty chances to do so; while phlebitis is very frequently fatal.

2179. Having thus reviewed the several opinions which have been offered on the proximate cause of phlegmasia dolens, we are every way assured, that they will appear to the greater part of medical practitioners, as unsatisfactory as they have to us; and, that they satisfactorily prove, that this interesting subject of pathological research, remains still unsettled. We have upon this subject but two suggestions to make; namely—1st, be the affection seated in whatever tissue it may, its character is highly inflammatory; 2d, that in our opinion, that this inflammation occupies exclusively the white lymphatic vessels of the cellular membrane of the several textures of the limb; for we are every way satisfied that redness is not essential to inflammation, as we have elsewhere declared. We therefore agree in part with Dr. Hull, since he admits among the tissues he particularizes as being involved in this disease, the cellular membrane as one. And in support of the opinion we have adopted respecting inflammation, we think we cannot do better than to employ his arguments against redness being a *sine qua non* to its existence.

2180. "Should it be objected to this theory that there is no redness of the external surface of the cutis, my answer is, that redness, though a general attendant of inflammation in the human body, does not constitute inflammation, nor is it a circumstance essentially necessary to inflammation. The cheek in blushing for example, presents redness, and increase of heat to the eye and touch; but there is no pain, consequently no inflammation. The cornea on the other hand, when we cannot trace a

single vessel carrying red blood beyond its margin, is frequently affected with inflammation, there is pain, heat, &c. and small abscesses or ulcers, or depositions of coagulable lymph, commonly called specks or pearls, take place in it. Animals which have no red blood in any part of their system, are not exempt from inflammation. And the less acute kinds of inflammation, which take place in the membranes of the brain, the pleura, peritoneum, tunica vaginalis, testes, &c. are not always characterized by an evident redness, especially when an extravasation of coagulating lymph, or a large effusion of serosity soon happens and moderates them, as in peritonitis *conjunctiva*, and in apoplexia *hydrocephalica* Culleni, and the acute stages of hydrothorax, ascites, and hydrocele. Hence it may happen, that when the symptoms of a disease induce the attending physician to consider it as a phlegmasia, dissection may be supposed to show, that he is mistaken as to the nature of the complaint, if redness be admitted as an essential mark, a *sine qua non* of inflammation.”*

2181. What the exciting causes may be of this disease, we are not exactly prepared to say, as it takes place in two diametrically opposite conditions of the system; namely, that of repletion, and of exhaustion. Thus, we have seen it in two highly plethoric females; with one, the labour was rapid and easy; in the other it was rather tedious, and very painful. In several other, we have witnessed it to follow severe and extensive uterine hæmorrhages; and were we to decide from our own experience as to the frequency of its occurrence after any one condition of the system, we should say, it was most apt to follow severe uterine losses of blood, than from any other single cause.

Method of Cure.

2182. However writers may disagree as regards the particular structure occupied by this disease, they are unanimous with respect to the nature of it—they all maintain it to be inflammatory. About this there can be no mistake; as all its symptoms and habits declare this condition of the tissue to be present. We

* Hull on Phlegmasia Dolens, p. 209.

have fever with a highly active pulse; a hot dry skin; acute pain and swelling, which is sometimes very hot; great, nay excessive soreness of the limb to the touch; great thirst sometimes; white tongue, &c. in a word, every thing that betrays an active local inflammation.

Blood-letting and Leeching.

2183. The means of cure consist in depletion from the circulating system, both general and local—we therefore abstract blood from the arm, to the full extent the system will bear, at the time; and this must be repeated, if the fever be but little or none abated, and the pain be undiminished. So soon as the force of the pulse is diminished, if the fever continue, leeches should be applied to the diseased limb, in such number as shall secure the loss of five or six ounces of blood. Our practice in the use of leeches, is to have them pretty much dispersed over the surface of the limb, that their bites may not be too near each other; as they sometimes leave troublesome sores, when crowded together where the skin is much distended. The leeching may be repeated in a day or two, provided the pain, heat, and elastic feel of the swelling, remain severe or unabated. We however never apply the leeches, until arterial force is weakened by bleeding from the arm; as relief is by no means certain unless this has taken place. In two or three cases we were obliged to repeat the bleeding six or seven times, and the leeching two or three, before the disease yielded.

Purging, &c.

2184. In aid of blood-letting, we employ purging to a liberal extent, during the continuance of the active stage of the disease; and for this purpose, we prefer the saline cathartics; especially when combined with an equal weight of calcined magnesia; the following are the usual doses: R. sulph. magnes., magnes. alb. ust. āā. ʒiij. M. div. in iij. One of these portions is to be given every two hours, in a wine-glassful of sweetened water or lemonade, until they operate freely.

2185. We have also found decided advantage in the nitrous

antimonial powders, until fever is reduced, or perspiration established. The regimen, throughout the active stages of the disease, is to be strictly *antiphlogistic*.

Topical Applications.

2186. Much injury is oftentimes done, by the injudicious employment of stimulating embrocations or liniments; this should be peremptorily forbidden. No kind of application whatever should be made to the limb itself until after the fever has abated and the pulse is reduced. When this is effected, the vinegar vapour bath may be used, two or three times a day, with great advantage; but not before.

2187. The mode of employing this is as follows; the limb should be bared in the bed, and the bed-clothes be raised from it by means of a common hoop from a barrel, being cut in two and tied together at right angles with each other; this must be made to straddle the leg. Three bricks must be heated pretty hot, and then plunged in vinegar; after they are loaded with the vinegar, they may be folded in cloths, and one applied to each side of the limb, and the other to the foot. The bed-clothes must now be returned over the spider, to keep in the vapour arising from the bricks. This steaming should be continued until the patient complains of feeling weak; they are then to be removed. This process is almost certain to produce a copious perspiration over the whole extent of the limb. Should this however not be found to be the case upon examining the limb in fifteen or twenty minutes after the application of the bricks, but instead, the limb is found to be hot and dry, these articles should be removed, as they will not succeed if they are even allowed to remain, as the heat of the limb is beyond the *sweating point*.

2188. When this happens we may be certain that the bricks have been applied too early—that is, before arterial action was sufficiently reduced. In this case, we must renew the depleting remedies, either general or local, or both. On this account, it is always well, to carefully examine the pulse before we have recourse to this remedy. But when perspiration is induced, the patient is almost certain to experience great relief, though tem-

porary, for some time, for the most part; it must therefore be renewed, whenever the pain becomes excessive.

Opium.

2189. From pain, and that excessive for the most part, being the constant attendant upon this complaint, it has been thought too generally, that opium in some form or other should be administered—but this in our hands has always been found highly injurious in the early, and active stage, of phlegmasia dolens. It should therefore never be given until the system is sufficiently reduced to bear this drug with advantage. And when it is eligible, the best mode of administering it, is by injection. And for this purpose a tea-spoonful of laudanum in a gill of warm water may be used as occasion may require. Or Dover's powder may be used at bed-time in the dose of ten grains, when the system can bear with profit the stimulus of its opium, and especially when the skin is indisposed to perspiration.

2190. As a general rule, the system will not bear the use of opium, as long as the swelling preserves its elastic character; and this is generally from six to eight days. Nor should any stimulating applications to the limb be resorted to, until the intumescence puts on the appearance of œdema; for until this change takes place, the active, inflammatory stage has not passed away. About the time above specified, (for we have known it happen earlier or be retarded later,) pain, heat, fever, and swelling, begin to abate, and the patient is able to support her sufferings with less complaint. She can now for the most part bear the limb to be moved, or its position changed, without so much torture, though still very far from being relieved.

External Applications.

2191. We have always made the changes now spoken of, the guide for an additional application to the affected limb; (that is, when there is an abatement of the constitutional symptoms, and the swelling will retain the impression of the finger,) we now order a moderately stimulating embrocation, consisting of a beeves' gall mixed in three half pints of brandy, rum, or whis-

key. With this the limb is to be bathed, (not rubbed,) two, three, or four times a day, as the patient can best bear it, having it a little warmed previously. We would here suggest a caution to the nurse, that is more important than might at first sight appear—namely, to literally bathe the part, and not to rub it. Very great mischief is oftentimes done, by not paying attention to this rule, in all local applications, for nothing but evil can follow the other mode, so long as inflammation, (however moderate,) continues to occupy the parts. But after this condition is removed, we believe that advantage may be derived by gentle friction, as it appears to contribute to absorption.

Blisters.

2192. These remedies have been recommended by almost every writer on the subject of phlegmasia dolens—but why, we are at a loss to understand. For they are either not the appropriate remedies, or we have been very unskilful in their application. We have never had recourse to blistering but twice; and sorely did we repent each application. The disagreeable irritation produced by its operation in the first instance, and the tedious, disagreeable ulcer that followed, we imagined might have been owing to some accidental condition of the system, or perhaps idiosyncrasy; this led us to a second trial, but we experienced the same inconveniences; since when, we have altogether abandoned their use. Before we ordered this remedy, it is proper to state, that we thought we had reduced the system, to the proper blistering point; but in this we may have been mistaken. Besides, however the disadvantages just mentioned, arising from blistering, there are others which should not be lost sight of—namely, preventing other local applications, and especially the one mentioned above, which in our opinion is very much more useful; and secondly, by obliging the patient to maintain one position unnecessarily long, which is of no trifling moment to the invalid.

Bandaging.

2193. This application has been recommended in phlegmasia dolens by some practitioners, ab initio; but our own experience obliges us to say of it, that we have either been very unfortu-

nate in our *lot* of patients of this kind, or if this be not so, that those, who have professed to have derived advantage from it, have mistaken œdema for phlegmasia dolens. For we certainly have never met with a case of this disease, that could bear without severe complainings the weight of the bed-clothes upon the affected limb, much less a bandage tightly drawn. We however must be honest, and confess, that we have ever been deterred from the application of the bandage in the early stage of the disease, from the presence of so much sensibility in the part; in the last stage, we have known peculiar benefit, derived from its use.

2194. It is almost a constant sequence, that after all inflammation has disappeared, that the limb will remain swollen and feeble. For this condition, much advantage is derived from bandages, frictions with the dry hand, fumigating the limb with the smoke of burning rosin, and exercise in a carriage. The fumigation is conducted as follows; the patient's limb is to be placed across a tub, in the bottom of which there is a small chafingdish with hot embers. A little powdered rosin is to be strewed upon the embers, and the fumes prevented from escaping by having a blanket spread over the limb and tub—this may be repeated twice a day.

2195. It will be proper to observe that the limb should be kept a little elevated during the whole of the disease; this is best done by a board well protected by pillows, and placed under the leg, with its lower end raised as high as the patient's feelings will permit.

2196. After the febrile symptoms have disappeared, the patient's diet may be a little more generous; she may take thin chocolate, a few oysters, chicken water, or soft-boiled egg, &c.; and if there be much debility, any of the tonics in common use may be employed with advantage: and these will be aided by a well-regulated system of exercise, which must of course be left to the discretion of the physician, and to the circumstances of the patient.

CHAPTER XXIX.

HÆMORRHAGIES.

2197. DR. CULLEN has divided hæmorrhagies into active, and into what he calls "a well-founded distinction," passive. He thinks fever essential to the first variety, and its absence to the second. We have no hesitation to admit, that hæmorrhagies may exist with either of these conditions of the system; provided this concession be not construed into the admission of one of Dr. Cullen's distinctions of hæmorrhagies; that is, the passive; this it is said is owing to the weakness or want of power in the blood-vessels to retain their contents—a kind of leakage of blood from the patulous mouths of the blood-vessels; and therefore takes place, without any increase of action of the vessels that pour out this fluid.

2198. To this doctrine Broussais demands, "if this was really the cause of hæmorrhage, why does it not always take place in the last moments of existence, where weakness, (*asthénie*,) is at its height; and why does not the whole mass of blood then discharge itself by the capillaries of the body? Now do we not observe on the contrary, that petechiæ become pale as death approaches? For in this terrible moment, the contraction of the exterior capillaries drive back all the fluids to the interior viscera."*

2199. Dr. Caldwell makes the following pertinent observations on the "passive hæmorrhagy," in a note on this chapter in his edition of Cullen's Practice, Vol. I. p. 426. "The division of hæmorrhagies into '*active and passive*,' recognised by our author in this article, is utterly unfounded, and ought to be rejected from pathological science. The phraseology leads to a physiological error. The expression '*passive hæmorrhagy*,' as applied to living matter, is a gross misnomer. During life, no hæmorrhagy can possibly be passive. Blood flows from the ves-

* Examen des Doctrines Med. p. 128.

sel that contains it, at least in part, by means of the action of that vessel. Nor is it possible for such action to cease, otherwise than by the cessation of life in that part. But the cessation of life is the commencement of gangrene. A hæmorrhagy really passive, therefore, cannot take place except from gangrenous vessels. But from such vessels, unless they be very large, blood does not flow at all. The reason is obvious. They act on the blood which they contain like dead matter, and we well know that the action of dead matter on blood forces it to coagulate. Hence, in the vessels of a gangrenous part, the blood does coagulate, and prevents the hæmorrhagy that would otherwise ensue."

2200. "Every hæmorrhagy, therefore, that does or can take place from the living body, is really an active one. It arises, not from the absolute want of action in the part, but from its wrong action. The vessels *dilate*, or rather *contract* and *dilate alternately*, when they ought to *contract only*, and thus prevent the escape of the blood they contain."

2201. In asthenic diseases when attended by hæmorrhage, and in which there might be a plausible pretext for the supposition that they depended upon debility or a loss of power, Broussais says, in such cases "we may ask where resides the force that thus overcomes the resistance of the sanguineous capillaries; shall we place it in the heart? No, for this is struck, according to Brown, with profound asthenia. May it reside in the blood? No, for this would be to suppose it possessed an action independent of the vessels which contain it." p. 129.* We cannot therefore adopt the opinion, that there is an hæmorrhage independent of the action of the blood-vessels.

2202. Notwithstanding we cannot yield to this division of Cullen and others, we are nevertheless perfectly convinced, that there is a "pyretic, and an apyretic" hæmorrhage, (to adopt the terms of Dr. Caldwell,) and which will necessarily require a modification of treatment, though they are virtually the same, as regards the local action.†

*He therefore lays it down as an axiom, "toutes les hémorrhagies qui ne dépendent pas d'une violence extérieure et qui sont spontanées, sont actives, quelle que soit la faiblesse du sujet."—*Examen. des Doct. Med. Prop. cxcviii.*

† "The local phenomena are of a similar character, whether the flow of

2203. As we know no histories of symptoms more faithful than those of Cullen, in the general, we shall very much adhere to them; reserving to ourselves the right to differ with him, should any occasion occur in which we should judge this necessary.

Phenomena of Hæmorrhagy.

2204. Hæmorrhagies are most common in plethoric habits, and in the sanguine temperament. They are besides more frequent in the spring, or in the beginning of summer. Sometimes these discharges are preceded by symptoms, which declare them about to take place—as a sense of tension or fullness about the part from whence the blood is about to flow. A swelling, some redness, and sense of heat or itching, have been sometimes observed in parts which come under our view. A sense of weight and heat, and various pains, have been experienced, when it is an internal part that is the seat of the hæmorrhagy. To these may be added a stage of pyrexia, during which time, blood of a florid colour flows in a greater or lesser quantity, and for a longer or shorter time, but generally until the pyrexia itself ceases.

2205. During this time, the pulse is frequent, quick, full, and often hard; but, these conditions will diminish as the blood flows. Blood drawn at this time, shows the inflammatory crust. Hæmorrhagies from internal causes, are apt to repeat themselves, at certain intervals or at stated periods; but we have never had sufficient cause to believe in the agency of the moon to produce these phenomena. Dr. Cullen does not appear to have been acquainted with the intimate relationship between hæmorrhage and inflammation, though he declares “there are purely topical hæ-

blood be, or be not, accompanied with febrile symptoms; the part which is the seat of the hæmorrhage, continues still to possess increased heat and redness, excepting, that after the discharge of blood has continued for a certain time, the local symptoms diminish of course, in intensity.”—*Condie on Hæmorrhages*, North Am. Journ. Vol. 3d, p. 252. To which we have much pleasure in referring the reader, for a complete refutation of the doctrine of passive hæmorrhage, and also a clear and satisfactory exposition of the doctrines of many of the late and present French pathologists, upon this intricate and interesting subject.

morrhagies, as there are purely topical inflammations;" Bichat however and others, have most satisfactorily traced their analogies. We shall not stop to inquire into the truth of Dr. Cullen's ingenious speculations on the "Proximate Cause of Hæmorrhage;" we shall merely observe, that he has admitted every phenomena that would be required, by the modern pathologist, in the active hæmorrhagies; and we believe, that had he lived to have examined the present reasonings and proofs against the passive, he would have cheerfully given them up. And we shall only add farther, that modern research, both faithfully and ably conducted, have never been able to detect any lesion in the vessels from which the blood escaped.

Proximate Cause.

2206. Chomel says, "there remains in the present state of our science, but one mode of explaining the effusion of blood; it can take place only through the vessels which pour out the mucus, the serum, &c. on the surface of the different mucous, serous, and other tissues—vessels, the existence of which cannot be doubted, though we are ignorant of their structure and arrangement."*†

Remote Causes.

2207. Broussais declares the "remote causes of spontaneous hæmorrhagies to be the same as those of inflammation." Dr. Cullen says they are external heat; a diminution of atmospheric pressure; whatever increases the force of the circulation, as bodily exertion or mental agitation; violent exercise of particular parts of the body, provided such parts "are already affected with congestions, or liable to them;" postures of the body increasing determinations, or ligatures occasioning accumulations of the blood in particular parts of the body; a determination into certain vessels rendered habitual by the frequent repetition of hæmorrhagy from them; cold, externally applied, as changing

* Condie on Hæm. loc. cit.

† Broussais says, "les hæmorrhagies spontanée dépendent d'une irritation des capillaires sanguins."—*Prop. cc.*

the distribution of the blood; full feeding, and the too free use of spirituous liquors; suppression of customary evacuations; peculiarities of constitution transmitted from parent to child.*

Treatment of Hæmorrhagy.

2208. Dr. Cullen says, "in entering upon this subject, the first question which presents itself is, whether the cure of hæmorrhagies ought to be attempted by art, or if they should be left to the conduct of nature?" "This latter opinion," he continues, "was the favourite doctrine of the celebrated Dr. Stahl and his followers." Upon a due consideration of the subject, Dr. Cullen very properly concludes, "that hæmorrhagy, either upon its first attack, or upon its first recurrence, is never necessary to the health of the body, excepting upon the supposition that the ple-

* There are sufficient grounds, we believe, for "a peculiarity of constitution transmitted from parent to child," to be considered as a legitimate remote cause of hæmorrhagy. Besides the cases related by Dr. Otto and others, Dr. Chapman and myself attended a young lady of sixteen years old, of delicate habit, for menorrhagia. She had had previously to this attack of hæmorrhage, a long continued bleeding from the nose, from which she was relieved, after a long time, and much difficulty, by severe dieting and repeated purgings. After the epistaxis was relieved, the catamenia began to show themselves, and continued for nearly a year with considerable regularity, but always pretty free. She, however, during this time, would occasionally throw up blood from the lungs on first waking in the morning, accompanied by a slight cough. About the beginning of October, 1829, her menstrual discharge appeared, and continued without abatement for a month. At this time, I was called upon to prescribe for her. The usual remedies were employed, and the common restrictions were closely adhered to for a fortnight, without benefit. The patient's strength was rapidly declining, and the hæmorrhage from the uterus as abundant as ever. A variety of other remedies were now tried, and eventually we succeeded in stopping the discharge, and the patient is recovering her strength rapidly. In this case, purging, very low diet, rest, blood-letting, leeching, blistering, sinapisms, acetate of lead, an emetic, the spirit of turpentine, extract of rhatany, Dover's powder, nitre and the tampon, were employed in turn. The tampon was the only remedy which gave a check to the bleeding; but immediately after this was arrested, a discharge from the lungs took place; the nitre was continued in fifteen grain doses every two hours for three days; at the end of this time, the uterine discharge ceased, as did that from the lungs. The father of this young lady, and some others of his family, had the hæmorrhagic constitution; and it was transmitted and perpetuated in a certain degree, to their offspring.

thoric state which seems to require the evacuation, cannot be otherwise prevented or removed; and as I imagine it possible by other means to prevent or remove a plethoric state, so I do not think that hæmorrhagy is, in all cases, necessary. In general I am of opinion that hæmorrhagy is to be avoided."

2209. 1. "Because it does not always happen in parts where it is safe."

2210. 2. "Because often, while it does relieve a plethoric state, it may at the same time induce a dangerous disease."

2211. 3. "Because it may often go to excess, and either endanger life or induce a dangerous infirmity."

2212. "And lastly, because it has a tendency to increase the plethoric state it was meant to relieve; to occasion its own recurrence, and thereby induce a habit which, if left to the precarious and unequal operation of nature, may, from the frequent errors of this, be attended with much danger. It is farther to be considered, that hæmorrhagies do not always arise from the necessities of the system, but often proceed from incidental causes. It appears to me that all hæmorrhagies of this kind may be immediately suppressed." *"I conclude, that every preternatural hæmorrhagy, or in other words, every one except that of the menses of females, is to be avoided."*

2213. This last opinion is, however, to be received with considerable caution, in certain habitual discharges of blood, as hæmorrhoids, and epistaxis when it has been of long standing, and especially when preceded by head-ache or other inconvenience. The same may be said of the occasional return of the catamenia, after they have ceased to appear as a regular elimination in women disposed to cancerous and some other affections of the uterus.

2214. In the treatment of hæmorrhagy, the pulse is to be constantly consulted, as upon its condition important decisions are to be made, such as the nature of the remedies to be employed; we shall therefore consider the principal indications to be fulfilled in the attempt to prevent the return of this disease. The most important necessarily are, the prevention, and the removal of plethora. This is to be effected by—1. Diet. 2. Bleeding. 3. Purging. 4. Avoiding the remote causes.

1. *Diet.*

2215. It must be evident, that attention to the ingesta is absolutely necessary, if we mean to diminish the plethoric condition of the system. This end is to be answered, first, by the nature of the aliment; second, the quantity.

2216. The nature of the aliment may be either animal or vegetable. Of the first, none should be taken, so long as a hæmorrhagic disposition of the system displays itself. To the second, the patient should be absolutely confined. As regards quantity, it will be necessary to observe the effects of that which is ordinarily taken; and if this produce too much fulness, the quantity must be abated, or a less succulent kind substituted. Nothing but water should be drank.

2. *Bleeding.*

2217. This, as an habitual remedy, should be used with great caution, lest it unnecessarily debilitate, or produce a disposition to plethora. The pulse should therefore be the guide; and if the tendency to make too much blood cannot be conquered by a strict attention to regimen, it must occasionally be employed. This sometimes becomes particularly important in such cases as assume, to a greater or lesser extent, a periodical movement, preceded by signs, that announce the discharge about to take place. Here the loss of a few ounces of blood may interrupt the renewal of the hæmorrhage. But let it be remembered in employing this remedy, that an excessive quantity should never be taken—indeed no more than will lower in a moderate degree the force of the pulse. For when this is effected, even in a moderate degree, it often proves successful in preventing a renewal of the discharge, as it requires a certain force of arterial action to produce hæmorrhagy; therefore, if the pulse be lowered, even in a moderate degree, it may prevent the discharge from taking place, as certainly as if a larger quantity were drawn; for hæmorrhagy depends less upon the *absolute quantity of blood*, than upon *the vigour or peculiarity of the circulation*.

3. *Purging.*

2218. This is a very efficient means, if properly pursued, in preventing hæmorrhagy, especially bleeding from the nose. The influence of this operation upon determinations of blood to the head, has always been acknowledged; and it is every way proper that we take advantage of this fact in the treatment of this disease. By recommending, however, this mode of depletion, we must not be misunderstood; an excess is not meant—by purging in this instance, we only mean regular, but never very frequent discharges from the bowels. Three evacuations per diem, are every way sufficient, provided they are loose or watery. To secure these qualities, a proper choice of the purgative must be made, as all have not this desirable effect. Any of the neutral salts answer the purpose claimed admirably well, when they sit well upon the stomach; and this they usually do. We are in the habit of having four ounces of the sulphate of magnesia dissolved in a pound and an half of water—a wine-glassful of this is ordered every morning to an adult, and half this quantity to younger subjects; if it operate too much, we cause the quantity to be diminished; if it do not act sufficiently, the dose must be increased. Cream of tartar and jalap are also very certain and very kind in their operation, and may be given in fifteen grain doses of each, every third day, mixed in a little thin syrup; the dose to be increased or diminished as circumstances may require.

4. *Avoiding the Remote Causes.*

2219. The importance of this rule is self-evident, and is never to be lost sight of in the treatment of hæmorrhagy, when it is practicable to comply with the injunction. It will almost necessarily be in the power of every individual, however, to shun some of those enumerated above, (par. 2207,) and as many as can be avoided, should be.

2220. In the treatment of hæmorrhagy, it is of great consequence to equalize the circulation as much as possible; and for this purpose there is nothing so good as well-conducted exercise.

Of the several exercises within our choice, that of walking is certainly the best—it gives equal employment to all the muscles of the body, and by this means determines an equal distribution of the blood. It should not, however, be carried to excess—for we must insist that exercise is medicine, and should be used with caution and discretion; for over-exertion is even more injurious than a deficiency of it. It should be so calculated as to diffuse the blood with regularity, to dispose the skin to become soft, but never to hurry the respiration beyond a pleasurable degree.

2221. As there is a considerable tendency in all hæmorrhagies for the circulation to be unequal, and especially in the lower extremities, much care should be taken to guard against cold feet and legs—to prevent or overcome this, all cold and damp to the feet should be avoided as much as possible; and if the feet are habitually cold, or become so on slight occasions, the mustard bath should be resorted to, two or three times a week.* Flannel next the skin is also an important application.

2222. We shall detail the treatment necessary during the continuance of the bleeding, under the heads of the respective hæmorrhagies.

SECT. I.—EPISTAXIS, OR BLEEDING FROM THE NOSE.

2223. The exposed situation of the vessels of the membrane which lines the nostrils, renders them very liable to hæmorrhagy; since they have nothing to support the external surface, of an extremely delicate membrane.

2224. This hæmorrhagy is most frequent in the early part of life, as sanguineous determination is most vigorous at this time; it may however take place at a later period, though it is not so common. In boys and girls, the time of puberty is the most common; it is however observed occasionally, both sooner and later; it rarely happens in advanced life.

2225. The blood generally issues from but one nostril at a time, though we have now and then seen it flow abundantly

* A gallon of warm water, and two or three table-spoonfuls of the flour of mustard, form the mustard bath. It is to be used the last moment before going to bed. The feet and legs should be rubbed in the bath until they glow, and wiped dry before getting into bed.

from both, when the hæmorrhage has been of the spontaneous kind, or when produced by external violence. It may take place in persons of every temperament and constitution; but it is most common to the sanguine, and those disposed to plethora.

2226. This discharge is almost always announced, by a sense of fullness, or heaviness in the forehead, head-ache, redness of the eyes, flushing, beating of the carotids, and temporal arteries, and an uneasy sensation or itching in the nostril; costiveness, cold feet, and a sensation of chilliness. The quantity discharged, does not always correspond with the excitement of the system; especially, where the hæmorrhagy has been often repeated; for under these circumstances, the part concerned, becomes liable to partial accumulation or congestion, and will readily yield its blood, without perhaps any general febrile movement.

2227. In some instances of epistaxis, the system at large, or portions of it, as the head, seem very much more relieved of uneasy sensations by the loss of comparatively a small quantity of blood, than if a much larger quantity were drawn from the arm; and this has given rise to a comparison very much in favour of the spontaneous efforts of the system to relieve itself, over the means resorted to by art. This fact is not to be disputed; but it does not prove what is intended to be proved; for in the instances in which this relief is afforded, there is always a partial engorgement, giving rise to these unpleasant feelings; consequently, in such cases the affection is always local in the first instance, but with which the system at large will soon sympathize, provided the irritation be considerable or sufficiently long continued. It would therefore follow, that relief is experienced as soon as the local disturbance is removed—the same thing happens in many other cases, from the partial discharge of blood, as from the application of leeches, or cupping-glasses; and which proves that the removal of the congestion, is often all that is necessary towards relief; and that the spontaneous effusion from the nose, or the abstraction of blood from other parts of the body similarly circumstanced, by leeches or cups, amount to the same thing.

2228. This fact however shows us, that it may be proper where the circumstance just named obtains, namely, congestion, that it may be proper to permit a sufficient quantity of blood to

discharge itself, before an attempt is made to arrest it—we say a sufficient quantity; by this we mean, a quantity that will relieve the intensity of immediate suffering, or that removes it altogether; for however we may agree in the propriety of preventing a return of the bleeding by the means already suggested, (par. 2215 to 2220,) we are nevertheless impressed with the necessity of alleviating the immediate symptoms. Therefore, in plethoric and robust constitutions, and particularly in such as have habitual determinations to the head, too much anxiety should not be shown on account of the continuance of the bleeding, unless it persevere beyond the absolute necessity.

2229. But if this happen, or the returns are more frequent than the apparent exigency demands; or if the patient become pale, feeble, and emaciated, the hæmorrhage should not only be stopped, but every endeavour should be exercised, to prevent subsequent returns; to moderate their force; or to abridge their frequency.

2230. If the first of these conditions obtain, namely, a greater expenditure of blood than the immediate necessity demands, and this even in a full habit, the bleeding should be stopped as soon as possible after this quantity has flowed; or if the returns are too frequent, or if the patient become weak, it should be arrested without loss of time.

2231. For these purposes, the patient should, 1st, be placed in as cool a situation as can be commanded in hot weather, or as the season of the year may demand; 2d, he should be kept in an erect position;* 3d, cold applications should be made to the back of the neck,† by ice and water, or very cold water, confined in a bladder, to prevent unnecessary wetting; 4th, by plugging the nos-

* We would advise strict attention to be paid to this direction, as its influence upon the bleeding is very decided.

† It has been common to recommend cold applications to the *scrotum* of males; the principle on which this is directed, we do not understand, if it be other than the great sensibility of this part, and its susceptibility to impression from cold. We cannot suppose, or rather we do not know of any well-established fact to prove a peculiar sympathy between the scrotum and the internal lining of the nose—we are therefore of opinion, that all influence derived from such applications to this spot, must be owing altogether to the strong impression their coldness make upon it.

tril or nostrils,* if the other plan does not succeed; 5th, by blood-letting, if arterial excitement keep up after the removal of headache, or other inconvenience; 6th, in case all these fail, the acetate of lead, in doses of two or three grains with a quarter of a grain of opium, every two or three hours should be tried. The spirit of turpentine has also been found useful in twenty drop doses, every hour or two, in a little sweetened water; and the following "*styptic*" is recommended by Dr. Thatcher:—

R. Sulph. cupri	-	-	gr. iij.		Take Blue vitriol	-	3 grains.
Acid. sulph.	-	-	gut. xx.		Oil of vitriol	-	20 drops.
Aq. font.	-	-	℥ij.		Water.	-	2 ounces.
f. sol.					Dissolve.		

Of this from twenty to forty drops are to be taken in a little water, every hour during the continuance of the bleeding.

2232. Where the bleeding has been frequently repeated, and is very pertinacious, the blood becomes thin and watery; here the quinine, and the sulphuric acid are necessary, it is said. Of the utility of this plan we can say very little; as in the two or three cases in which we have given them a trial, they failed. We have found the extract of rhatany, blisters, together with purging with aloetic preparations, to answer much better. Of the first, about twenty or thirty grains a day should be given in pills of three or four grains each. The blisters should be applied to the neck; and alternated with the arms, just below the top of the shoulders; and the pills recommended, (par. 293,) will answer a valuable purpose as cathartics. Care should be taken to keep the feet and legs warm; to use well-directed exercise; to sleep with the head high, and without covering; and to have nothing tight round the neck. Of the treatment in the intervals we have already spoken, (par. 2208 to 2221.)

* A piece of fine old linen rag, rolled tight into a cylindrical form, and of a size sufficient to occupy the nostril, should be gradually twisted up it, until it reach the bleeding vessel. The portion of the plug without the nostril should be cut pretty close to the nose, to prevent any mechanical disturbance of it—it should be suffered to remain, at least six and thirty hours before it be removed. Some have recommended, that the plug should be wetted with some astringent or styptic substance, before it is introduced; but we believe the dry rag answers much the best.

SECT. II. HÆMOPTYSIS, OR BLEEDING FROM THE LUNGS.

2233. There is no circumstance connected with disease that produces so many melancholy forebodings as "spitting of blood;" all that is desponding is instantly associated with its appearance; and all that is hopeless is connected with its perseverance. That there is too much ground for apprehension in most instances, we must admit; while in many others, there is nothing to alarm.

2234. The cultivation of morbid anatomy has thrown much light upon these several cases; and well-conducted pathological research has distinctly pointed out the cause of its danger on the one hand, and the exemption from it on the other. Even to the time of Dr. Cullen, and indeed until very lately, phthisis pulmonalis was supposed to be the offspring of hæmoptysis; and it was not known till after Bayle, Laennec, Andral, Louis, &c. had given their attention to the investigations of this subject, that this affection was the consequence, and not the cause of tubercles, or of consumption.

2235. Therefore, however alarming or even suspicious the discharge of blood from the lungs may be, it is never to be considered as the *cause of phthisis*; for it may be either the sign of tubercles, or it may be as little threatening, as epistaxis, or bleeding from the nose; for like this, it may proceed from congestion or local determination, which becomes, for the time at least, relieved by the effusion of a smaller or a larger quantity of blood.

2236. Hæmoptysis, by its mere derivation, would import any affection in which blood was delivered from the mouth; but in its restricted sense, it comprehends only such discharges as proceed from the trachea or bronchial vessels.

2237. Next to epistaxis, hæmoptysis is the most common of the hæmorrhagies; this proceeds most probably from the similarity of conformation of the parts that yield the blood in both instances—that is, from their great vascularity and from the want of a protecting pressure upon every part of the vessels entering into the composition of the respective portions of the mucous membrane of the nose, the trachea and the bronchia; (par. 2223,) and also, perhaps, as suggested by Dr. Cullen, the proximity of the lungs to the heart.

Causes.

2238. Hæmoptysis may take place from external violence, mechanical irritation, or from internal causes, either of determination or peculiarity of conformation. Thus, we have known spitting of blood to follow immediately after blows, or falls, or other violence; we have known it produced by irritating substances being drawn into the lungs—once from a portion of the down from the “cat-tail” being drawn into the lungs—this produced the most violent hæmorrhage from the lungs we ever remember to have witnessed; and once we saw it follow the breathing of the nitrous oxyd gas. The internal causes may be an hereditary transmission of disposition to phthisis; and Dr. Cullen thinks this always implies “a peculiar and faulty conformation.” We do not however altogether believe, that hereditary predisposition consists in a faulty conformation, though it may in a *peculiar conformation*, as this may be made to mean any thing.

2239. But we think it may be said with truth, that when hæmoptysis arises from hereditary predisposition, it never takes place until after the development of tubercles within the lungs. And it may be farther observed, that in such cases, this affection may be anticipated from some physical imperfection of the chest, such as its narrowness, and the elevation of the shoulders. The liability to this disease is increased, if this conformation belongs to one of a sanguine temperament, and consequently in one where the arterial plethora prevails. In a word, we may declare that all who may have the physical marks of phthisis, are more or less obnoxious to hæmoptysis.

2240. It usually commences at that period of life at which the body is about to receive its full development; though it may, and frequently does occur later, even until the fortieth year; after this period, it is more rare. And such as may have been subject to epistaxis in the earlier part of life, are also very liable to this species of hæmorrhagy; or females who may have suffered a suppression of the catamenia; as also males who may have had an exemption, from some sudden cause, from the bleeding piles.

2241. When hæmoptysis proceeds from tubercles, its fre-

quency and quantity will very much depend upon the number, the rapidity, or slowness of their development—hence, we see this discharge returning at intervals, for years, without any evident increase of quantity, or any manifest augmentation of danger; at other times, this symptom is only the forerunner of death.

2242. When it has not a phthisical origin, it may occur frequently, for years, without manifest injury, and the subject may even die at an advanced age—of this we have known several remarkable instances. This observation is confirmed by several of the late French pathologists. But on the other hand many die of tubercular consumption, who never had had hæmoptysis.

2243. Certain professions are supposed to create a liability to hæmoptysis; in some of these instances we believe the exciting cause has been mistaken for the predisposing—such as public speakers, for instance. How few of these *cause* hæmoptysis by their exertions, compared with those who may *provoke* it, after predisposition is formed. So also with those who play upon wind instruments—of this class, (and we have been many years very familiar with it,) we have never known a single instance of hæmoptysis being produced exclusively by professional exertions. Such men doubtless, as well as any other men, be their avocations what they may, will occasionally die of consumption; but *post hoc, ergo propter hoc*, is not always sound logic. Indeed, we are of opinion, that the lungs may be strengthened by a well-directed exercise of them, as certainly and as advantageously as any other portion of the system—nay, even predisposition we believe may be subdued by it.

2244. The late Dr. Rush, in his lectures, used to inform us, that both in Germany and in Holland, consumption was comparatively a rare disease; and he attributed this exemption to the early and free use made of the lungs in these countries, as all the children were taught to sing while very young. And in his little tract on “the efficacy of common salt in the cure of hæmoptysis,”* he says, “those persons who have been early instructed in vocal music, and who use their vocal organs moderately through life, are seldom affected by an hæmorrhage from the lungs. Law-

* Works, Vol. I. p. 192.

yers, players, public criers, and city watchmen, all of whom exercise their lungs either by long or loud speaking, are less affected by this disease than persons of other occupations." Now all this is in strict unison with our own observations.

Phenomena.

2245. This disease attacks variously, sometimes without the slightest premonition; when this happens, we have generally observed the most extensive discharges to follow. This happened in our own case. In 1783, we suffered the most profuse and alarming hæmorrhage from the lungs we almost ever witnessed; we had not the slightest warning, by either a preceding cough, or other inconvenience; and we were for several years liable to returns of it, without our ever being able to foretel it was about to take place. But in general, this disease is ushered in by a slight cough, and the bringing up of a little mucus, tinged with blood; or it may even for the first time be pure blood; and this in varying quantity. At other times there may be both local and general symptoms, which announces this discharge to be about to take place; such as uneasiness, lightness, or pain in some one portion of the chest; for there is no fixed spot for either pain, heat, stricture, or other uneasy sensations. There may be, however, some little want of freedom in breathing, with an occasional urgent desire to expand the lungs.

2246. A dry cough, or a very scanty expectoration of frothy mucus; a disagreeable sweetish or saltish taste in the mouth; lassitude, flushed face, or pale cheeks; head-ache, chilliness, fever; pulse quick, hard, and sometimes very frequent. A rattling may sometimes be heard in the thorax, especially if the quantity of blood effused be small; for it will then become mixed with air and give the sound just named.

2247. When the blood is thus confined within the bronchia, it very often excites coughing, and more or less is brought up into the fauces, and from thence discharged by spitting. This blood is almost always of a bright arterial colour, and its quantity may vary from a few streaks up to several pounds. This may happen in a few minutes, or it may occupy several hours, nay days. The blood will sometimes be very dark, and come

up with more or less difficulty, in small coagula, especially when the hæmorrhagic effort is about to cease.

2248. The periods of return of this hæmorrhagy is very variable; the intervals generally are longer in such cases as are not complicated by tubercles; but this may be much influenced by the habits of the patient, or the less or greater frequency of the application of the remote causes. The liability to returns of this complaint will therefore be very much influenced by the nature and operation of these causes.

2249. As it is impossible in many instances of hæmoptysis to determine its remote cause, it would be always best to explore the chest by the stethoscope; this would render our therapeutical views more distinct and certain, especially as tubercles may be looked upon as the most frequent cause of this complaint. And on the other hand, we may have it in our power by this means, to relieve in some instances, a depressing apprehension, where this discharge takes place from other causes than tubercles, and at the same time remove a dread of its eventual bad tendency, as we have no evidence that the spitting of blood ever produces tubercles. "It is worthy of remark," says Laennec, "that a hæmoptysis produced by violence, as a blow upon the chest, violent running, a fit of passion, immoderate exercise of the voice, &c. is most commonly productive of no farther consequences when it is once got under; whilst phthisis frequently supervenes immediately to a hæmorrhage arising without any obvious cause, but which no doubt has for its real cause, tubercles which had previously, and perhaps for a long time been latent in the lungs." p. 327. Louis strongly supports Laennec in this opinion, (see note to par. 1492.) Andral says, "of persons who have had hæmoptysis, one-fifth part, have no tubercles in the lungs; and of those who die of phthisis, one-sixth do not spit blood at any period of the disease."*

2250. It is therefore a matter of great consolation, that other causes than tubercles may produce hæmoptysis, and that when it does arise from other causes but little danger attends it in common. Thus, whatever is capable of irritating the mucous membrane of the bronchia, to a certain extent may occasion a dis-

* Clin. Med. t. iii. p. 181.

charge of blood from the lungs. Hence, we find it sometimes attending bronchitis or severe catarrh; to follow from sudden changes of temperature, as from a very cold, to a hot atmosphere, &c.

Proximate Cause.

2251. The proximate cause of hæmoptysis has generally been ascribed to a rupture of one or more blood-vessels, and this by mechanical violence—such as change in barometrical pressure; sudden and severe exertions, as lifting heavy weights, carrying heavy loads, &c. (par. 2207.) In these instances, it is supposed by Cullen, Good, and others, that an increased action of the heart causes an unusual determination of blood to the lungs, and thus rupture the vessels by over-stretching them. But this opinion, however natural its suggestion, from violence having immediately preceded the discharge of blood, does not appear to be well-founded; upon this we have already had occasion to remark, (par. 2206,) and what we have there said, will give the opinion of Chomel, and we believe of nearly all the present French pathologists; we therefore without hesitation adopt this explanation.

2252. It has been said by some, that the explanation of the manner in which the blood issues from the vessels, is not satisfactory; as the quantity discharged is very much too great to proceed from the vessels in the manner described. To this objection, Dr. Condie says, “let any one cite to us a case of the most excessive hæmorrhage, and we can present to him one of simple expectoration or flux of mucus, in which the amount of fluid discharged, shall exceed the quantity of blood poured out in the former.” “It is now satisfactorily ascertained that the vessels of a part, when labouring under irritation, have the power of exhaling blood, in the same manner they do serum, or other fluids, and probably to as great an extent.”*

2253. It may perhaps be objected, that Dr. C. has taken the product of the whole pulmonary surface to compare with the yield of a single blood-vessel, in the same given time, which would not be fair; for if a comparison be instituted, regard should

be had to the extent of surface occupied in giving out blood, as well as that which pours out serum or mucus; the latter of which would be found perhaps infinitely less than that of the former, and of course, the torrent which sometimes pours from the mouth in hæmoptysis, can therefore only be accounted for, on the supposition that a vessel has been ruptured; and if we add to this the suddenness with which the bleeding takes place, the opinion seems to be strengthened.

2254. This would appear to be a reasonable objection at first sight, but if narrowly examined, it will be found to be more specious than solid. First, because the ruptured vessel or vessels have never been detected; second, because it is ascertained that the blood-vessels when under certain irritations, will exhale blood instead of serum or mucus, (par. 2206;) third, because we have seen the whole surface of the mouth and fauces yield blood as fast as it could be removed; and this to a large amount in the twenty-four hours, without the slightest discoverable lesion. And Mr. Paisley relates a case of death from protracted labour, where the death of the patient could not be accounted for, as there was no apparent hæmorrhagy; leave was obtained to open the body, and upon exposing the uterus, it was found covered with a coagulum of blood, which upon measurement was found to be "a foot and a quarter long, a foot broad, and a quarter of an inch thick." There was no blood in the cavity of the abdomen, nor could the slightest lesion of the surface of the uterus be detected.* Fourth, because congestive irritation can cause very rapid determinations to either the lungs, brain, liver, spleen, &c. and this to a very great extent. We knew in the course of a few minutes, a very extensive engorgement of the spleen to take place in a lady; her left side became swollen and very suddenly tender; upon the examination of which, the spleen was found to be excessively enlarged; so much so as to appear to rest in the fossa of the ilium. The patient quickly became pale and faint; respiration was hurried, and the pulse very small and frequent; these latter symptoms were accounted for, by referring to the large abstraction of blood from the general system, by this one viscus. In the lungs, hepatization or hæmorrhage may take

* Edin. Med. Ess. Vol. IV. p. 355.

place, when they become the seat of congestive irritation, and the extent of this will be determined by the degree of irritation; it may therefore be very partial, or it may be very extensive. Fifth, the *modus operandi* of certain remedies cannot be explained upon the presumption that a rupture of vessels is essential in all cases of hæmoptysis; such as swallowing common salt, taking the acetate of lead, &c.

2255. Notwithstanding our objections to the proximate cause of hæmoptysis, as commonly delivered, we would not deny absolutely the occasional rupture of a vessel; especially as Laennec admits two possible cases of this kind; the first, is where an aneurism bursts into the bronchia or trachea; the second, when a tuberculous excavation has a vessel to rupture within it. These cases however, he observes, are almost immediately followed by death, and consequently cannot explain the phenomena of hæmoptysis, as this occurs so frequently.

Treatment.

2256. The treatment of hæmoptysis will necessarily divide itself into what is necessary to be done during the discharge of blood, and into what may be proper to prevent a return of it.

Treatment during the Flow of Blood.

2257. The directions already given for the treatment of epistaxis, will apply here to a certain extent. As a general rule in the treatment of hæmorrhagies, position is always to be considered of consequence—that is, the patient should be placed in such a manner, as to lessen the determination of the blood to the bleeding part, by opposing to it, gravitation. In bleedings from the lungs therefore, the patient should be kept sitting erect, both day and night, if the discharge be considerable or obstinate—for this purpose a large “easy chair” is a proper thing; as the body may rest in it without changing from an upright position. The legs and feet can be occasionally supported by chairs, on which pillows are placed; and when tired of this position they can be put down.

2258. The air of the chamber should be cool, and frequently

changed by ventilation. The patient should be forbidden to speak; a slate, or paper and pencil may be furnished to him, to prevent this exertion. Every thing tending to increase the motion of the blood should be strictly avoided; therefore, both moral and physical agitation must be carefully guarded against. All embarrassments to respiration should be removed; even the weight of the covering should be diminished and no more suffered to remain than will barely secure a very moderate degree of warmth. All unnecessary attendants should be dismissed the room; and the most perfect quiet must be observed.

2259. If the discharge be recent, the patient should be made to swallow a table-spoonful of fine salt, as directed by Dr. Rush, drinking after it a large glass of cold water; if the pulse be active, blood should be taken from the arm, observing to abstract it as suddenly as possible, be the necessary quantity much or little, in order to make as much impression on the arterial system as possible.

2260. Whatever may have been the remote cause of hæmoptysis, if it be frequently repeated, though it be in a moderate degree, it is very common for it to observe a periodical movement—and this is remarkably the case, when it proceeds from tubercles, and these suppurating. When this is about to take place, it is frequently preceded by sensations that declare it to be at hand; such as flushing of the face; hot hands; cold feet; a sense of tightness or fulness in the chest; an increase of cough, with expectoration tinged with blood. If this warning take place, it behooves the patient not to neglect the friendly admonition, lest he suffer by his neglect—he should immediately lose a little blood, have his bowels opened by either of the neutral salts, moderate his diet, or even take nothing but barley water; observe the most perfect quiet, and should the cough require appeasing, to take a moderate dose of Dover's powder, (ten grains,) at bed-time. The patient had better sleep in a sitting posture, (par. 2257,) in a cool room; and if his feet be cold, to have them placed in the mustard bath,* and suffered to remain in it until they glow.

* That is, warm water with a quantity of the flour of mustard mixed in it. (See note to par. 2221.)

2261. The same directions will serve for the treatment of hæmoptysis, that is frequent or more seldom in its returns. For after the hæmorrhage has taken place in any quantity, the object is to arrest it; and the nature of the remedies will necessarily depend upon the state of the system, as has already been suggested. But these precautionary measures should be confined to the instances in which the patients experience the premonitory symptoms named above; for when bleeding is resorted to, and the other measures put in practice, where there is no evidence of plethora or of hæmorrhagic effort, it is sure to do mischief by perpetuating weakness, and preventing the full exercise of the recuperative powers of the system. At least this was markedly the case in the hæmoptysis which pursued us for several years, with more or less violence. For it was not until we used exercise freely, but carefully, and resumed the use of animal food, together with learning to play the flute, that this hæmorrhage ceased.

2262. It would therefore always be desirable to discriminate between the hæmoptysis that may be accidentally produced, and the one that may arise from tubercles—for this purpose the stethoscope should always be employed.

2263. Cases not unfrequently occur, in which it is every way desirable to diminish the capillary congestion, without drawing blood from the general system, especially in such cases as obey a periodical movement, accompanied by premonitory symptoms; or in such cases as may have the hæmorrhage provoked by a slight increase of arterial action. For this purpose, "dry cupping" between the shoulders answers extremely well; but if fever attend, with evening exacerbations, the "wet cupping" may be resorted to—these operations should be conducted as recommended in par. 1861, page 609.

Cathartics.

2264. Of these we have already spoken, (par. 2218, page 728.) In addition to what we have said there, we shall merely suggest, that much advantage is derived from the use of the aloetic purgatives, in men who may have been liable to hæmorrhoids, and to females about the cessation of the menses.

Diuretics.

2265. Diuretics have been recommended in the treatment of hæmoptysis; of their operation we can say nothing from our own experience, unless nitre and digitalis be considered as such in this case, neither of which have we tried to any extent.

Emetics.

2266. We believe that Dr. Bryan Robinson was the first to recommend emetics in active hæmorrhage. We have never tried them ourselves in hæmoptysis—Dr. Chapman speaks highly of them.* We once saw the most astonishing effect from an emetic, in a case of bleeding from the gums, (par. 2254,) attended by Dr. Chapman and myself. This hæmorrhage occurred during convalescence from a severe remittent fever, which had been converted into an intermittent. The patient supposed he lost a quart or more during the night; and he certainly lost an equal quantity in the next twenty-four hours, though all the usual remedies were tried in turn. Dr. C. proposed an emetic; it was given; and it really acted like a charm—the bleeding stopped instantly. About four days after it had stopped, it returned, but not with as much force; another emetic was given, and the same sudden and more effectual result followed. Dr. Chapman recommends the ipecacuanha as the preferable emetic.

Blisters.

2267. Blisters applied to the chest, or where we think better, between the shoulders, should never be omitted in the treatment of hæmoptysis, after the more active stage of the disease has passed.

Partial Warm Bath.

2268. The French practitioners recommend the partial application of hot water, to which the flour of mustard or common

* Amer. Journ. of Med. Sciences, Vol. II. p. 120.

salt has been added. The hands and feet are directed to be placed in it, with a view of producing a revulsion from the lungs—but this is never to be used unless the bleeding continue after the period in which the lancet or other antiphlogistic means are thought to be necessary.

Cough.

2269. Hæmoptysis is almost constantly accompanied by cough—this troublesome symptom should be quieted as quickly and as effectually as possible. For this purpose, the employment of opium in some form or other is absolutely necessary. Almost every practitioner has his favourite prescription; we therefore shall say very little as regards the various forms in which this drug is administered, and merely indicate what we have generally used and found useful in quieting this distressing attendant. When the complaint is of long standing, and has become chronic, we have found the following combination answer an admirable purpose.

R.	Tinct. Tolut.	-	-	℥j.	Take Tincture of Tolu	1 ounce.
	— Thebaic.	-	-	℥ij.	Laudanum	- 2 drachms.
	— Digital.	-	-	℥j.	Tincture of Foxglove	1 drachm.
	M.				Mix.	

Of this forty or fifty drops may be taken every three or four hours, on a little dry brown sugar, or mixed in a little sweetened milk, and increased as occasion may require.

2270. When, however, the hæmorrhage is more recent, we have found the spermaceti mixture to answer admirable; or should this be offensive to the stomach, the brown mixture will be found an excellent substitute. See par. 1030, page 334. We have lately used the following mixture with great advantage, where opium was apt to disagree, and where the skin was dry and husky.

R.	Morphia	-	-	-	gr. ij.	Take Morphia	-	-	2 grains.
	Vin. ipecac.	-	-	-	℥ij.	Ipecac. wine	-	-	2 drachms.
	Sacch. alb.	-	-	-	℥ij.	White sugar	-	-	2 drachms.
	Aq. font.	-	-	-	℥vii.	Water	-	-	8 ounces.
	M.					Mix.			

Of this a table-spoonful may be taken every three or four hours, or as occasion may require.

Diet.

2271. Of this, we have already spoken in the general, (par. 2215.) We would, however, in all cases of hæmoptysis, except the accidental, confine the patient to a very moderate quantity of even vegetable substances, during the more active stages of the disease. The vegetable jellies, as rice, tapioca, sago, arrow root, rennet whey, buttermilk, well-mashed Irish potatoes, turnips, and the fruits of the season, should form the basis of his diet. Pure water, toast water, flaxseed, or slippery-elm bark tea, rice water, molasses and water, with either a little lemon juice or vinegar, or lemonade, should constitute his drinks.

SECT. III.—HÆMATEMESIS, OR VOMITING OF BLOOD.

2272. This form of hæmorrhage is very much more rare than either of those just treated of. Pinel* defines hæmatemesis to be “a vomiting of blood, more or less red, sometimes black, fluid, or coagulated, almost always mixed with mucus or other substances contained in the stomach, and sometimes accompanied with dejections of blood, of various colours.”

2273. We have already declared that we are far from having ascertained the precise condition of the parts that yield the blood in spontaneous hæmorrhagy; nor is our embarrassment lessened in studying their pathological state, when a discharge of blood takes place from the stomach; for the same explanation is generally given in this case as is offered in epistaxis or in hæmoptysis—namely, a rupture of a vessel. We have attempted to show that this is not the true state of the parts concerned in the two other hæmorrhagies, and its probability is not increased when we consider the phenomena of hæmatemesis; the presumption, however, is, that the exhalents pour out the blood that is discharged in this species of hæmorrhage, after the manner they do in bleeding from the nose and in spitting of blood. For we must admit as every way probable, that the congestive irritation may be as certainly seated in the stomach, as it appears known to be the case in the brain, lungs, or other of the viscera.

* Dict. des Science Med. Art. Hæmatemesis.

2274. One thing seems to be very certain, that it does not always proceed from the same cause, nor is it always followed by the same consequences. On this account it has been divided into five species by Pinel,* as follows:—1. The constitutional hæmatemesis.—2. The accidental hæmatemesis.—3. The succedaneous, or vicarious hæmatemesis.—4. The splanchnic hæmatemesis.—5. The critical hæmatemesis.

2275. 1. By this is understood a discharge of blood from the stomach arising from an inherent badness of constitution, and not dependent upon any appreciable or cognizable cause. This species may have its origin in a radical weakness of organization, in an excess of organic strength, in plethora, or in too much energy in the arterial system. Pinel cites from several authorities, examples proving the agency of the several enumerated causes, in all of which every attempt at relief was abortive or followed by bad consequences—this species, therefore, cannot advantageously be interfered with.

2276. 2. This species is by much the most frequent of the five just enumerated; as it may have for its production a variety of exciting causes, as a fit of anger, the sudden suppression of the menses, &c. A case is given by Pinel, from Gerard, to prove the agency of these causes. A washerwoman, aged thirty-five years, fell senseless twice from a fit of passion, while the menses were flowing; they were suddenly suppressed; after two or three days of pretty severe indisposition, a vomiting of blood took place, together with bloody dejections. The other instance occurred in a young woman who was about to make a desirable connection, but who received some account suddenly, that put an end to her wishes; she was menstruating; the menses were suspended; a vomiting of blood followed, which continued five or six days, and then ceased without any serious consequence following.

2277. Mechanical causes may also produce vomiting of blood; as may acrid or irritating substances taken within the stomach itself. We once witnessed this affection produced by a severe kick of a horse upon the epigastric region; and another in a woman of the town who had taken both arsenic and laudanum, for

* Loc. Cit.

the purpose of destroying herself, which was very speedily effected.

2278. 3. This name is given to the vomiting of blood which succeeds the suppression of a sanguineous discharge. This species observes the same progress, and returns at the same periods. It is not unfrequently vicarious to menstruation, but more rarely to hæmorrhoids. Several interesting cases are recorded, purporting to establish this exchange of office; but our limits will not permit us to quote them. Our own experience has never furnished us with an example of this kind.

2279. 4. Under this title is comprehended the vomiting of blood, which is caused by an organic lesion of some one of the abdominal viscera, as the spleen, the liver, the pancreas. In this species the vomiting is symptomatic; it is, however, declared to be both frequent and dangerous, though not a primitive affection, and consequently not strictly perhaps entitled to a place here, yet its danger entitles it to a consideration. A number of cases upon record show most satisfactorily, that lesions of any of the principal abdominal viscera may cause a vomiting of blood, either directly by blood being thrown into the stomach, and then evacuated from it by its own efforts, or indirectly by congestive irritation. For a number of such cases we refer to the work above cited.

2280. 5. This species is produced when nature directs her efforts towards the stomach, to relieve disease elsewhere situated; it is not often observed in acute diseases. In chronic affections, however, we have a number of cases upon record, especially by the older writers, in which hæmatemesis was followed by a return of health, where every circumstance seemed distinctly to declare, either the liver, the spleen, or the pancreas, was the seat of the original affection.*

Proximate Cause.

2281. We must regard hæmatemesis to be an hæmorrhagy, differing in nothing except location, from epistaxis or hæmoptysis. The same condition of the exhalents is present in this

* See Dict. des Science Med. loc. cit.

species as in the hæmorrhagies just mentioned; that is, the mucous membrane has its exhalents to pour out blood instead of mucus.

2282. Post mortem examinations of those who have died of hæmatemesis, present different appearances; if the disease has been very acute and suddenly fatal, no trace of disease has been observed. At other times, the mucous membrane has been found black; its vessels dilated, but very rarely ruptured. By injecting the trunks of the gastric arteries, M. Portal made the injected matter pass into the stomach itself—in a word, the mucous membrane was more or less inflamed.

2283. In those who died of the splanchnic species, the spleen has been found hard, even cartilaginous, or very soft, and its parenchyma distended with black blood. The liver has presented a variety of appearances, from simple engorgement, to confirmed scirrhus. The pancreas has, in some rare cases, lesions of a greater or less extent.

Diagnosis.

2284. At first sight, it might appear almost impossible that a vomiting of blood should not instantly be distinguished from hæmoptysis, as an effort to vomit is so conspicuous a symptom. Yet this is not so in every instance; we have known these hæmorrhagies twice confounded, though much pains was taken to ascertain the point in the commencement. Sometimes these two diseases complicate each other, which increases the embarrassment still more. Notwithstanding, therefore, that the action of vomiting is a remarkable and well-defined effort, it is occasionally simulated, when cough is very severe and paroxysmal, as we frequently see in hooping cough, when the fit is about to cease. Indeed, we have seen a number of instances, where the effort of puking was constantly excited during a long-continued spell of coughing. In these cases, had hæmoptysis been present, it might readily have been mistaken for hæmatemesis. In the former, however, there is almost always cough; the blood is frothy, and vermilion-coloured; in the latter, the blood is black, sometimes fetid, and most commonly mixed with mucus. It generally takes place at a much later period of life than the for-

mer, and is at times so unequivocally ejected by an effort of the stomach, or so evidently mixed with some of its contents, as to leave no doubt upon the mind. If, therefore, the discharge on the one hand be preceded by a spell of coughing, we may be pretty certain that the blood comes from the lungs; and the contrary. We must not take for granted, however, that the hæmorrhagy is necessarily from the stomach, because blood or coagula are observed in the stools; for we have seen this happen more than once in unequivocal cases of hæmoptysis.

Prognosis.

2285. Much on this subject may be learnt, from a knowledge of the remote cause; thus, if the patient has swallowed any poisonous substance; if he have received any violent mechanical injury on the abdomen, or the region of the stomach; if it have supervened a chronic visceral disease; if the efforts be severe and indomitable, and attended by large discharges of blood, and this be very fetid, or resembling tar, the case must always be regarded as one of great danger, but not one of absolute hopelessness. If, on the other hand, it has followed a fit of anger, a suppression of some customary evacuation, as the hæmorrhoids, the catamenia, the drying up of an issue, &c., if the body be otherwise sound, it is rarely fatal.

Predisposing and Determining Causes.

2286. It is generally agreed that the peculiar character of the female constitution, make them more obnoxious to this disease than males. Those who are easily put in a passion from slight causes, and frequently display irascibility; or who may be powerfully affected by moral causes, are more liable to hæmatemesis, than those of a contrary temperament. An indolent, luxurious life about the age of puberty; chronic abdominal affections; women who are irregular in their menstrea, a continued use of ardent spirits, &c. all tend to dispose the stomach to take on this hæmorrhagic effort.

2287. The determining causes may be any thing which shall embarrass the circulation of the blood in the vessels of the sto-

mach; the suppression of menses, or other discharges. The sudden application of cold to the body during perspiration, poisons, powerful emetics, or acrid preparations of mercury; falls, blows, pressure upon the stomach, aneurismal tumours, &c.

Symptoms.

2288. Previously to the access of hæmatemesis, the patient experiences not only the premonitory symptoms of hæmorrhagy in general, (p. 721,) but also such as belong to this particular species. Thus, anxiety, lassitude, uneasiness about the region of the stomach, its distention, nausea, and severe pain in the epigastrium—to these succeed others equally distressing, but more decided; for now blood is thrown up in greater or less quantity; fluid, or coagulated; pure, or mixed with some of the contents or products of the stomach. This effort is accomplished with more or less ease or difficulty; and this succeeded by more or less relief. This calm may however be disturbed by fresh returns of vomiting, and discharges of blood; the intervals may be longer or shorter, according to the force and nature of the exciting cause. After these spells of vomiting, the bowels yield, and give issue to liquid, and insupportably fetid stools.

2289. Fever rarely accompanies this complaint; though the pulse may be decidedly affected, both in its force and frequency; sometimes firm, at other times feeble, sometimes full, at other times small, &c.

2290. The vomiting spells continue to uncertain periods, as the blood may be more or less abundantly thrown into the stomach; and the renewal of each fresh effort is generally accompanied by symptoms which mark the progress of the disease, particularly if the spells are frequently excited, and likely to have an unfortunate termination. The stomach and left hypochondrium becomes distended; the countenance is changed; the face pale; the eyes hollow; the strength fails; fainting; and presently cold sweats and death.

2291. If the disease is disposed to a favourable issue, the whole of the symptoms abate their intensity; the quantity of ejected blood, is found gradually to diminish, and mucus to supply its place. The strength and appetite return, and digestion is soon naturally and healthily performed.

2292. Hæmatemesis may however terminate in some hopeless and distressing chronic affection; such as dropsy, hectic, chronic inflammation, &c.

Treatment.

2293. This will necessarily divide itself into, 1st, what may be proper during the continuance of the vomiting; and 2d, what may be necessary in the intervals.

2294. 1st. It is every way important to the relief of this disease, that we ascertain when practicable, the remote cause which has produced it. If it arise from substances taken into the stomach, their nature should be taken into consideration, that they may, if they are chemical, be decomposed if possible; or the irritation diminished, if they are acrid. These cases must be treated as the various poisons may require.

2295. If it proceed from no evident cause, and the system active, we have reason to fear inflammation, from the almost certain existence of congestive irritation. In this case, blood must be abstracted from the arm, if the force of the pulse justify the measure; if not, from the epigastrium, by leeches or cupping. The bowels should be immediately opened by a stimulating injection,* and if the feet and legs be cold, they should be placed in the mustard bath, (par. 2221,) or have sinapisms applied to them. The drinks should be of the mucilaginous kind, as flaxseed tea, slippery-elm bark tea, barley water, rice water, gum Arabic water. Dry cupping, blisters, or sinapisms to the region of the stomach may be also necessary; especially if the vomiting be obstinate, and the pulse has become feeble. At this time, much advantage may be found, from an enema with laudanum,† as it will tranquillize the stomach, and abate general suffering. The bleeding must be repeated if the pulse keep strong, or if the complaint be regulated by a periodical febrile movement; or in other words, the paroxysms must be treated upon the same general principles as regulate the treatment of intermittents. Besides

* For this purpose nothing answers better than a large table-spoonful of common salt, dissolved in a pint of warm water.

† A gill of water, and sixty or seventy drops of laudanum.

these general notions of the management of this case, attention should be paid to the species of this complaint, as constant reference should be made to the cause—thus we would not treat the constitutional hæmatemesis, like the accidental, &c. Dr. Chapman is equally convinced of the propriety of giving an emetic in this disease, as in the other hæmorrhagies spoken of before. Of this plan, we can say nothing from our own experience, having never tried the remedy but in one instance; but in this it did not benefit the patient—this, we had afterwards reason to believe, was a case of splanchnic hæmatemesis; in which we would not advise this remedy; in the other forms, the same objections do not attach; for nothing but palliatives can be useful in the symptomatic form of hæmatemesis.

2296. 2d. It is not sufficient for the welfare of the patient, that we arrest the discharge of blood from the stomach for the time being; our endeavours should extend beyond this—we should aim at preventing a return. For this purpose *much* will be required from the physician, and *more* from the good sense and moral courage of the patient himself. For it would be vain for the physician to lay down proper rules, if the patient will not strictly conform to them.

2297. We would in all cases of this kind recommend the most strict rules of diet—nothing stimulating or indigestible should be taken into the stomach; on the contrary, the most bland, (par. 2216,) should be persevered in, until such a condition of stomach is acquired, as will profit sooner or later by a more generous regimen—but let the patient obtain the leave of his physician before he venture upon a change.

2298. The bowels should be kept open by artificial means, if they require to be urged—for this purpose the simple rhubarb pill will be found to answer best; unless it be a case depending upon suppressed hæmorrhoids; then, the addition of aloes will be important.

2299. Exercise should not be neglected; especially by such as have no visceral lesions to contend with. If the strength has suffered much, tonics may be required; but they should not be of the stimulating kind—the mild vegetable bitters, and the sulphuric acid will answer best.

2300. We must never lose sight of the remote causes of this

complaint; for unless they be removed, we cannot expect to conquer this affection. Therefore in females, regard must be paid to their menses—if obstructed, our first endeavour should be to restore them; and so on, with the other evident causes.

CHAPTER XXX.

EPILEPSY.*

2301. THIS afflicting disease has triumphed over medical skill from the time of Hippocrates to the present moment; for we dare not but confess, that its treatment is as little understood at this time, as it was in his day. It is true that medical records furnish many examples purporting to be “cured epilepsy,” yet there is too much reason to believe, that some other convulsive disease has been mistaken for it, or else they have been cases of “sympathetic epilepsy.”

2302. Much confusion exists in the history and symptoms of this disease; so much so, that no definition has hitherto been given, that is not imperfect, and thus falls short of what it ought to be, or else is made evidently to embrace too much, and include part of the symptoms of some other convulsive affection. Thus, we find certain of the symptoms of hysteria frequently blended with those of epilepsy; and what is still more embarrassing, hysteria itself we have every right to believe has been called epilepsy; and cures of this terrible disease have been declared to have been effected, when the physician has only combated some nervous affection. Again, the convulsions incident to childhood, are uniformly included by authors, in epilepsy, with which they have perhaps in their pathology nothing in common; though they have one in their symptoms, namely, the con-

* “*Maladie tellement extraordinaire, tellement audessus de toute intelligence, et de toute explication relativement à ses causes et à ses symptômes, que les anciens ont cru qu’elle dépendait du courroux des dieux.*”—*Esquirol*.

tortions of the body—but convulsions are not the disease, they are only symptoms of disease. Had the convulsions of children the same pathological or anatomical derangement as epilepsy for their origin, we should have an hundred epileptics for one—for who has cured epilepsy? Or who has seen the convulsions from teething, or irritated bowels, perpetuated through life? Yet it is evident, were they pathologically the same disease, this must constantly happen; for we ask again, who has cured epilepsy? Or who does not admit the liability of children to convulsions?

2303. This disease has been defined, “convulsion with stupor,” by Dr. Cullen, and of which he makes three species, the “cerebral,” the “sympathetic,” and the “occasional.” Esquirol gives very nearly the same definition; namely, “a convulsive disease with a loss of consciousness.” It is evident that neither of these define the disease with the accuracy that is essential to its being well understood; for agreeably to it, hysteria, syncope, the convulsion attending great losses of blood, from teething in children, those which terminate hydrocephalus, &c. would be cases of epilepsy. It is much better, where definition cannot reach the essential characters of a disease, to give a general history of the symptoms as they most frequently occur, and not run the risk of obscurity for the sake of brevity.

Mode of Attack.

2304. The patient, if he be not lying, falls suddenly, and becomes instantly convulsed—in some instances every muscle of the body is agitated; at others, they are neither violently nor universally disturbed. The face is violently and frightfully distorted—the eyes protrude from their sockets, sometimes fixed, at other times much agitated; the face becomes red, then purple, and frequently black. The lips project, and often swell suddenly—the mouth is sometimes drawn aside towards an ear; froth is convulsively thrown from it; sometimes bloody from the wounded tongue; inspiration and expiration quickly repeated, making a hissing or sibilating noise. The jaws powerfully drawn together; sometimes including the tongue, which becomes dreadfully wounded; the grinding of the teeth both loud, and powerful; so much so now and then as to break them. At times

they are said to shriek violently—we do not believe this ever happens in the idiopathic or genuine epilepsy—this resembles hysteria, and may belong as a symptom to the hysterical sympathetic epilepsy. The hands are so convulsively shut, and the fingers made to press so violently against the palms, that they become sometimes wounded by the nails.

2305. The neck or throat swell; the external, and most likely the internal vessels of the head and neck, are so much distended as apparently to threaten bursting. The head executes movements in almost every direction, and to an extent sometimes, that seems to threaten the spinal marrow; or it is rigidly and immoveably fixed, until the paroxysm is about to subside. In a word, as above stated, every muscle is violently agitated, or rigidly fixed. The thumb is almost always included in the grasp of the fingers, and pressed strongly against the palm of the hand; the patient often strikes himself violently, if his arms are permitted to be free.

2306. The pulse is small, frequent, or extinct in the beginning; but as the fit begins to relax in severity, it becomes developed, hard, unequal, and full. Urine and fæces are involuntarily passed; and sometimes in the male of proper age, the semen is discharged. The face and portions of the body are inundated with a cold sweat; and sometimes blood has been discharged from the eyes, ears, and nose.

2307. After a continuance of these symptoms for a longer or shorter time, the convulsive motions are perceived to be less violent; the face loses part of its lividity; changes to a purple, and presently assumes nearly its former condition, if we except swelling of the lips, &c. The respiration becomes less laborious, the inspirations deeper, and the expirations longer; the pulse is frequent, but, this soon diminishes to its ordinary standard. The head feels giddy; the eyes look heavy, but stare on vacancy for some time; the limbs relax themselves, and seem to court repose, in which they are oftentimes indulged, by the patient falling into a sleep. From this they generally wake more or less refreshed. At other times, we have seen an habitual epileptic, get up and walk, the instant the fit had passed over, as if nothing had happened. Others, especially females, we have known on the contrary, to be confined to their beds for two or three days

after the paroxysm. In no instance that we have seen, does the patient retain the slightest recollection of his sufferings; though for the most part they complain of head-ache, are dull, and apparently have a sensation of shame; but this we believe is peculiar to a combination with hysteria.

2308. There is however considerable variety in the force as well as the frequency of epileptic paroxysms; while some are agitated with all the violence just detailed, others are but very slightly, though they may be very frequently affected. We knew one epileptic, who has but one fit each spring; others every few months, others more frequently, while others have them repeated upon every, and very slight occasions.

2309. The access of an epileptic paroxysm is often preceded by a very peculiar sensation, called "*aura epileptica*." It is described as a convulsive movement; pain; a sensation of cold, or vapour; it is felt in the head, the face, arms, hands, thighs, legs, toes, chest, stomach, abdomen, and uterus. This sensation or affection, is propagated along the members, the trunk, the neck, towards the head, and when it arrives at the brain, the patient instantly loses all consciousness; and either partial or general convulsions ensue; or they may be confined to the member or part primarily affected. The duration of the "fit" is very uncertain; it differs in different individuals, though pretty constantly the same in the same person. It passes sometimes in a few seconds; it may continue a few minutes, or it may last hours—the common period is however from five to fifteen or twenty minutes.

2310. Epilepsy has sometimes ceased spontaneously, upon the return of the catamenia, or of a suppressed hæmorrhagy; or of an habitual eruption, when it has been symptomatic, and depending upon the absence of either of these circumstances; but we believe it has never ended in this manner when it has been idiopathic. It has however more frequently terminated in idiocy, or mania. And even if it does not do this, it almost always leaves its characters upon the afflicted patient, if it has been of long standing—thus the features become enlarged, the lips thicken, and beauty is sometimes transformed into deformity. The size of the legs and arms are thin and out of proportion to other parts of the body, &c.

Diagnosis.

2311. There are several points of resemblance between epilepsy and several other affections; some of which are so marked that we have reason to believe, that one has been sometimes mistaken for the other. Thus in epilepsy, the patient falls suddenly from his feet—the same happens in sudden accessions of syncope and apoplexy; the same we have known to take place at the commencement of an hysterical paroxysm. Foaming at the mouth is a constant symptom almost in epilepsy; yet it is observed sometimes in apoplexy, asphyxia, and in hysteria. Involuntary discharges sometimes take place in epilepsy, so also do they occasionally happen in apoplexy certainly, and perhaps in other convulsive affections.

2312. Yet epilepsy differs from apoplexy, in not having stertorous breathing; in there being little or no convulsion; in the pulse being nearly or quite natural; in the paroxysm being vastly more prolonged, and terminating for the most part in two or three days. Epilepsy can scarcely be confounded with syncope, though the initial symptoms sometimes of both resemble each other very much. We knew a lady that would faint without any apparent cause sometimes; and at others, from the slightest—we have seen her suddenly fall upon the floor, be slightly convulsed for a moment, and then display all the genuine symptoms of syncope—that is, she would not breathe, the pulse would be perhaps extinct, death-like paleness, and the muscles of the whole body in a state of relaxation. It has often however been confounded with hysteria, and hysteria with it—hysteria almost always has premonitory symptoms, such as palpitation of the heart; globus hystericus; cold feet; disposition to cry or laugh; and the paroxysm is never so sudden. The character of the convulsions are different; they are more confined to one side in epilepsy, or in a single member. The throat swells in hysteria, as does the abdomen—wind, or borborygmi are almost constant; but above all, there is a recollection of what has happened.

Remote Causes.

2313. The remote causes of epilepsy, are said to be very numerous; among the most certain perhaps is hereditary predisposition. This seems to be very generally acknowledged; but the fact is not so generally known, or admitted, that other affections of the cerebral organs, appear to be as certain in their powers of transmission, as epilepsy itself—thus mania and idiotism, seem to perpetuate the same predisposition, as epilepsy does. Does this consist in that peculiarity of the nervous system, which Dr. Cullen terms mobility?

2314. It has been insisted on by some, that there is something in the general organization of the nervous system, that disposes to epilepsy; for say they, the female is more obnoxious to it than the male. It is said also, that the character of the female constitution, bears a strong resemblance to the peculiarities of infancy, and hence its liability to epilepsy; because, say they, children from a variety of causes, are more obnoxious to it than the more aged. But before the liability of the female constitution to epilepsy be predicated upon a resemblance to the peculiarities of infancy, two things should first be proved—1st, that this analogy exists; and 2d, that the female are more subject to epilepsy, than the same number of the male at puberty, or adult age.

2315. Now, as regards the first, there is no analogy between the two states of the system at the time designated; and if this were the case, it would prove the contrary of what they desire; since we must insist, that children under seven, or even ten, are very rarely afflicted with epilepsy; and when they are, it is almost sure to be traced to hereditary taint, or to some other very evident cause. That they are liable, very liable, to convulsions, we have admitted, (par. 2303,) but we must repeat, that “convulsion” is but the sign of disease; and however liable young children may be to irritations that cause convulsions, we utterly deny that they are to epilepsy. First, because the convulsions of children are almost, or perhaps always, preceded by signs that discover this affection about to take place, as is well known to every experienced nurse and observing physician. Second, because the phenomena are unlike; in the convulsion of children,

the eyes, the mouth, and the arms are principally affected. Third, when the paroxysm is over, the child lies for the most part in a state of stupor, even a long time, occasionally. Fourth, that the convulsions of children last as a general rule, very much longer, and are repeated very much more frequently, than in epilepsy. Fifth, that those children who may have recovered from the convulsions of infancy, seldom or never have them repeated in after-life—our experience does not furnish us with an instance, though we would not attempt to deny but such a consequence may have followed. Therefore, all that relates to the causes of convulsions in children, as teething, and affections of the stomach and bowels, should be stricken from the list of remote causes of epilepsy.

2316. 2d. We should however be obliged to admit, that the female is more liable to epilepsy than the male, if the accounts of their respective numbers in the Salpêtrière, and the Bicêtre, were correct; or rather, if the cases reported, purporting to be cases of epilepsy, be really and truly cases of genuine epilepsy, though it is altogether at variance with our own observations. We cannot pretend to fix the proportion, that we believe exists between the sexes, who may be afflicted with epilepsy, but at a rough guess, we should think there were three males to a female. Our present knowledge of such cases, would exceed this number, but from this we do not pretend to establish a rule, as proportion must occasionally fluctuate. In the hospitals just named, the imputed proportion, is considerably greater with females. In this however there may be great error, from confounding all convulsive diseases under one title.

2317. Errors in diet, too great exposure to the direct rays of a hot sun; the intemperate use of strong liquors; irritating substances taken into the stomach, are said to have produced epilepsy. The removing of eruptions of long standing from the skin; healing up of ulcers; the suppression of customary evacuations; and the sudden check of perspiration, have sometimes produced epilepsy in soldiers, agreeably to military surgeons; but these can only be exciting causes.

2318. Esquirol even confounds the occasional convulsions of eruptive diseases with epilepsy; for among the causes producing symptomatic epilepsy, he enumerates the small-pox, the measles, the scarlet fever when they are about to show themselves upon

the skin. Labour, anger, mortification, &c. have also agreeably to him produced epilepsy. That labour has had convulsions to accompany it sometimes, we well know—but these convulsions are not *epileptic convulsions*, strictly so called; first, because they always have premonitory signs a longer or shorter time—we have known instances in which head-ache, giddiness, and imperfect vision has preceded the convulsions many days, or hours; second, we have every reason to believe, that under the circumstances just mentioned, convulsions have been frequently prevented by the loss of blood; but genuine epilepsy is not prevented by this means, however carefully and regularly attended to; third, such patients as have escaped with life, from puerperal convulsions, have never had a recurrence of them, so far as we have observed; not even during their subsequent labours; fourth, in an epileptic female, whom we attended many years, we never observed the slightest injury to arise from the occurrence of a fit, during any period of pregnancy, in the height of labour, or immediately after—now, every one at all versed in obstetrics know, that the convulsions of labour, unless purely hysterical, are replete with danger.*

2319. And as regards the convulsions which precede eruptive diseases, every body knows they are free from danger, however alarming they may be in appearance; and these, like all those already mentioned as belonging to childhood, are never repeated in after life.

2320. With respect to the agency of moral causes, we have little to say from our own observation, never having seen an unequivocal instance of it; yet we can readily believe, that they may be among the most certain, and most common of the exciting causes—for they can be no other. On this point, *post hoc, ergo, propter hoc*, has been tenaciously and faithfully observed; yet it may not always be true. Esquirol cites a number of instances in support of the agency of these causes.

2321. When epilepsy has once taken possession of the system, slight causes, whether moral or physical, will sometimes produce a return of the paroxysm, provided the time for a return be at hand—but for the most part, they observe periodical move-

* See System of Midwifery, by the author, Art. "Puerperal Convulsions."

ments; and when the period has arrived, the "fit" takes place without the necessity of any exciting cause; as happens in intermittent fever. Our own experience, therefore, will not permit us to agree with Esquirol, that "the application of the same kind of exciting cause that produced the original paroxysm, though of inferior force, will produce a renewal of an epileptic paroxysm;" unless indeed, the period at which it is wont to return, be at hand. When causes operate in the manner declared by him, it is most probable that hysteria has much to do with the paroxysm. The lady whose case we have just mentioned, has often been tried by moral causes of apparently sufficient force to produce a paroxysm of hysteria in constitutions liable to this affection; yet with her we have never known them bring on her "malady," unless it may have been at the period of its return—we have witnessed her grief at the loss of a child; and we observed her agony at the sudden death of a husband to whom she was much devoted; but in neither instance did her epilepsy obtrude itself. Now, these "causes," as is well known, would have excited hysteria, and in some instances even for the first time, yet this lady had neither epilepsy nor hysteria, to accompany the grief occasioned by her bereavements.

2322. The remote causes of idiopathic epilepsy, must necessarily operate some change either in the brain, or its dependencies; but in what these changes consist, it is difficult, if not impossible at this time to prove. Many of the causes enumerated as capable of producing epilepsy, can only cause this disease by acting upon this condition; or in other words, when an epileptic paroxysm is called forth, the brain or its appendages must be in a particular condition, to be operated upon by these exciting causes; but that it is not essential to epilepsy to have these causes constantly present, to produce a "fit," since we see this take place without their agency. It would seem then, that the pathological condition of the brain or its appendages, may differ in degree; one, requiring the operation of some evident exciting cause; while the other subjects the system to periodical returns of convulsive movements without such agencies.

2323. If this be true, plethora, irritations of the digestive organs, and all the moral agencies, can be but exciting, and not predisposing causes to epilepsy. The same may be said of the sup-

pression of customary evacuations, or affections of the skin, &c. for we do not believe that either of them can produce that pathological, or anatomical condition in the brain and nervous system that is essential to true epilepsy—we admit they may give rise to convulsions, but we have already sufficiently insisted, (par. 2302,) that convulsions is only a symptom of disease, and is not the disease itself.

2324. So little positive is known of the pathology of epilepsy, that no two authorities scarcely admit the same proximate cause. In most instances, dissection has only revealed certain departures from healthy structure, and which may perhaps be claimed rather as the consequences of epilepsy, than its cause. We shall however relate in a very brief manner, the various observations upon this point, which have been collected with much industry by Esquirol, in his essay upon this subject, in the *Dict. des Sciences Med. Art. Epilepsie*.

2325. "Leduc has noticed the heads of epileptics are larger, the cranial bones thicker, and the sutures often effaced."

2326. "Bonté has seen the head deformed; and Morgagni has several times seen the same thing."

2327. "Bonté once found the occipital bones nine lines thick; and Zacchius found the inner table of the skull destroyed by caries."

2328. "Bontius saw a child of six weeks old thrown into an epileptic fit by the pressure of its cap, (beguin;) but which was cured by its removal." The same relates, "that a young man became epileptic from a stroke upon the head, in his infancy."

2329. "Bony concretions are frequently found upon the dura mater, and upon the falciform process—these are sometimes round, sometimes drawn out and pointed."

2330. Esquirol says, "in dissecting an epileptic, aged twenty-three years, who died in the fit, I found adhering to the internal face of the dura mater an osseous tumour of an oval form, eight lines in breadth, and depressing the superior convolutions of the brain."

2331. "The vessels of the meninges have been found dilated, engorged, varicose, containing fibrous concretions, and even bone."

2332. Morgagni says, "in a woman who had been epileptic

for two years, he found the lower part of the anterior third of the left lobe of the brain very soft; in eight epileptics, the brain was found soft by Greding. Morgagni, Greding, Meckel, and Boerhaave, found the brain hard, even callous."

2333. The capacity of the ventricles, the presence of more or less water, serous cysts developed in the substance of the plexus choroides, offer varieties without end, and "without furnishing any positive data."

2334. "Scirrhus, adipose, and osseous tumours have developed themselves in the ventricles and the substance of the brain. Bauhin and Borrichius have seen abscesses in the substance of the brain."

2335. "The pineal gland has been found to contain osseous concretions, very often, yet no conclusions can be drawn from the circumstance. Baillie and Sæmmering have found this gland preternaturally firm; Greding has met with it soft in twenty-five epileptics, and in twenty it was surrounded by serum."

2336. Wenzel has made many observations upon the glandula pituitaria, which he found in almost every condition it was susceptible of, without any particular alteration of the brain itself; he found many also in the pineal gland, "without these lesions enabling us to conclude whether they were the cause or the effect of epilepsy." Many other anomalies might be produced to prove, how little light has been thrown upon this subject by pathological research; and how unsafe it would be to draw any other inference, than, that so far, we know nothing of the pathology of epilepsy.

2337. We shall conclude this brief history of cerebral lesions, with the reflections of Esquirol upon this point. He asks, "what conclusions can be drawn from all these researches, particularly those of Bonet, Morgagni, Baillie, Greding, Meckel, and Wenzel? None, unless it is that the same lesions have been found in subjects who were not epileptic, as has been proved by Wepfer, and Lorry. Let us then honestly confess, that pathological anatomy has not up to this moment thrown the least light upon the immediate seat of epilepsy. But let us not be discouraged, nature will not always resist our efforts. What shall we say to the numberless reveries that have been promulgated upon the proximate cause of this disease? The ancients

attributed it to the influence of the moon, and to the vengeance of heaven, or to enchantment. Have the moderns explained the subject by their own systems? Where shall we find the matter that irritates the nerves? Who has seen the animal spirits; who has measured the power of their elasticity? Some have attributed it to the power of an archæus; to a tumultuous and confused movement of the vital principle or the rational soul. Hoffmann attributes it to a derangement in the course of the humours, which prevents the distribution of their spirituous parts. Some others declare it to be owing to a contraction of the dura mater, the envelopes of the brain, and the nerves, &c. &c."

2338. Esquirol proceeds to an analytical view of the causes which produce the symptoms that characterize, and the organs involved in epilepsy; but without its tending to any practically good purpose; for of the mode of curing this disease upon firm and rational principles, we are entirely ignorant: that there has been occasionally a cure of idiopathic epilepsy, we are disposed to hope; that there has been instances of success in the symptomatic, we have every reason to believe, though we fear not to the extent that medical record declares. For when these cases are carefully examined, too much reason is found for the belief, that hysteria under some peculiar form has been mistaken for it; and if appeal be made to the convulsions of childhood, arising from teething, &c. as instances of the cure of epilepsy, we utterly deny the sameness or identity of the diseases, and for the reasons already declared, (par. 2302.)

Prognostic.

2339. This disease, though eventually fatal, is rarely so in its commencement; and when it proves so, it is perhaps most frequently by the production of other diseases, or extreme exhaustion. The cases most decidedly intractable, are those which arise from hereditary predisposition. When it is sympathetic it is occasionally a curable disease; and this is also said of the idiopathic form. Those who may be attacked in early life with *epilepsy* remain incurable, unless a favourable change take place at puberty. Those attacked between the fourth and tenth year, may be cured by proper treatment; and if seized near the time

of puberty, are cured when that period arrives; if after puberty, they are sometimes relieved. Marriage cures no other than genital epilepsy; it augments the other species. Women incur great risk from epilepsy during pregnancy. When the "fits" become more frequent and increase in intensity, we have reason to fear death. Death does not take place during the paroxysm, but after it, from exhaustion. Epilepsy combined with mental derangement is never cured.

2340. It will be seen from this short detail of the prognostics in epilepsy, that much confusion prevails; or rather a constant blending of affections of a convulsive kind, with the true or idiopathic epilepsy. Thus the cases which are said to be relieved by puberty, cannot be idiopathic epilepsy; since it is relieved by a functional process of the uterus in females, and of the testicles in the male, neither of which can change the state of *disposition* of the brain and nervous system so entirely, as to prevent the action of other exciting causes. The same may be said of the effects of marriage; that is, it cures an affection of the uterus, called epilepsy, (which is nothing but a modification of hysteria,) while it augments a genuine epilepsy. We have already remarked upon the convulsions of pregnancy or labour, (par. 2318.)

Treatment.

2341. What plan of treatment has ever succeeded in curing epilepsy? We regret to answer, none! Has epilepsy ever been cured? We fear we shall but declare a most unwelcome truism, when we answer this in the negative. We mean not to deny that patients *supposed* to have had this disease, have been cured; and that others who were perhaps truly epileptic, *have got well*; but in the true meaning of the word, we fear it has never been *cured*. These assertions are founded upon the many hundred failures, to a single cure; and the same remedy not succeeding twice in the same hands, or perhaps ever again in the hands of any body. For it is a melancholy truth, that *a cure for epilepsy*, is no sooner announced, than it never again proves successful, however often, or faithfully it may be tried.

2342. Does not the multiplication of quack, or specific reme-

dies, emphatically declare, the impotency of every regular mode of treatment? Where now is the lauded power of the nitrate of silver, of arsenic, of steel, of zinc, of musk, of opium, the loadstone, the bark, the mercurials, and an hundred others of less power, but of equal celebrity? They have one and all passed into an oblivion from which they will perhaps never be recalled.

2343. Where convulsions, call them epileptic if you please, depend upon an anormal condition of some other organ than the brain, by treating such affections successfully, we may arrest the sympathetic affection; but in these instances, we only cure an affection of some organ in which the disposition to epilepsy did not exist, and altogether different from epilepsy; but we do not *cure* epilepsy strictly speaking; in this case, the convulsion is prevented, because the disease on which it depended has been relieved; and a proof that we did not cure epilepsy directly, is, that our remedies were not addressed to its seat, nor from their nature were they calculated to directly relieve epilepsy. It is agreed that nothing can be done in the "fit," except perhaps to abridge its duration—this is done sometimes by blood-letting; by cold water dashed in the face; by removing all confining ligatures from the throat and waist; by elevating the head of the patient, and giving him fresh air.

2344. Dr. Gregory lays down the following concise directions for the management of the patient in the intervals. 1. To remove all sources of irritation. 2. To moderate the afflux of blood upon the brain. 3. "The last, though not the least," to alter that morbid condition of the nervous system, on which convulsion depends.

2345. Let us see how these indications are directed to be fulfilled; and notice with what propriety the first can be considered as applying to the treatment for which the indication is laid down. In "*epilepsies* of infants and children much may be done by free scarifications of the gums; by the administration of an emetic; by occasional smart doses of purgative medicines; by the more liberal use of mild aperients and absorbents; and by strict attention to the diet and regimen." We have already said, (par. 2302,) that convulsions from teething, and intestinal irritation in children, are not the convulsions of epilepsy; we shall therefore rest our objections to the views of Dr. Gregory, upon what

was then said. If we are correct in *our* views, the fulfilment of this first indication cannot be looked upon as referring to epilepsy.

2346. And when it is proposed in epilepsy depending upon the state of the uterus, can the indication under consideration be fulfilled, by "the warm bath, or semicupium; *stimulating* enemata; *relaxing* medicines, as the *antimonial* diaphoretics, and the *different kinds of emmenagogues*; regular exercise; occasional purgatives; issues or setons." Will these remedies remove all the sources of irritation?

2347. "The second principle in the treatment of epilepsy is the obviating general plethora"—this is to be done by blood-letting, by diet, by exercise; abstinence from liquors, and bathing the head and neck with cold water; cupping, blisters, and the steady use of purgatives, &c.

2348. The third is to be fulfilled by "the exhibition of narcotics, as camphor, opium, hyosciamus, and stramonium." Now we would ask for information, whether a genuine epilepsy was ever benefited by the observance of these "principles?"

2349. Will it be fair to predicate the present incurable nature of epilepsy upon our own want of success in this disease? Certainly it will; for in our attempts to cure this disease, we have constantly followed the rules that have been laid down, and exhibited the remedies prescribed and extolled by others—we had no opinions at one time of our own upon this subject; for when we attempted to treat it, it was by implicitly following the rules of others. Our failures have been constant; and we are free to confess that we have never succeeded in curing epilepsy, properly so called, in our lives, though we have in one instance succeeded in relieving a lad who had periodical "fits," that followed on intermittent fever, by the use of Fowler's solution; and at present we have very much moderated the same kind of paroxysms in a man, who has had an intermittent of long standing, and by the same remedy—yet we dare not say we have ever cured epilepsy, especially as we do not believe that either was a case of this kind.

2350. From all this we must conclude; 1, that much confusion exists upon the subject of this disease, other affections being constantly called epilepsy; 2, that the convulsion from teething,

&c. in children; and hysteria in women, are not under any modification, epilepsy; 3, that the instances of relief, purporting to be cures of epilepsy, have been, (with very few, if any exceptions,) some other affections; 4, that to the present moment, we are not more enlightened as regards the pathology of epilepsy, than they were in the time of Hippocrates; 5, and that at this moment, it must be looked upon as an incurable disease.

CHAPTER XXXI.

CHOREA SANCTI VITI, OR ST. VITUS' DANCE.

2351. THE disease about to be described, acquired its name in Germany, where it was first noticed, in consequence of persons who suspected themselves to be afflicted with this curious convulsion, performing an annual pilgrimage to the Chapel of St. Vitus, where they danced night and day with the view of curing it; since that time, the Greek word choreia, or chorea, which signifies "dance," has been substituted.

2352. This affection was first well described by Sydenham; and since more extensively and accurately by Dr. James Hamilton of Edinburgh. Sydenham describes it as, "a kind of convulsion, which principally attacks children of both sexes, from ten to fourteen years of age. It first shows itself by a lameness or rather unsteadiness of one of the legs, which the patient draws after him, like an idiot, and afterwards affects the hand on the same side, which being brought to the breast, or any other part, can by no means be held in the same posture for a moment, but is distorted or snatched away by a kind of convulsion into a different posture or place, notwithstanding all possible efforts to the contrary. If a glass of liquor be placed in the hand to drink, before the patient can get it into his mouth, he uses a thousand odd gestures; for not being able to carry it in a straight line thereto, because his hand is drawn different ways by the convulsion; as soon as it has reached the lips, he throws it suddenly

into his mouth, and drinks it very hastily, as if he only meant to divert the spectators."

2353. To this description, Dr. Hamilton adds a number of circumstances every way important to the history of the symptoms, that discover the commencement, and mark the progress of this oftentimes very afflicting disease. He thinks those who naturally possess feebleness of stamina, or who may have suffered in their constitution from disease, are most obnoxious to chorea. The period of its attack is from eight to fourteen; but Dr. H. saw two females attacked with it, who had arrived at from sixteen to eighteen years. To this may be added, that we once saw it in a married woman of twenty-five, and this during pregnancy, and from which she was relieved by bleeding, purging, and the sulphate of zinc.

2354. Dr. H. says "the approaches of chorea are slow." This however, is not always the case; we once saw it in a little girl of seven years, suddenly induced, in consequence of a previous intermittent of four paroxysms. It is generally however, preceded by symptoms which denote a loss of power in the digestive organs; at the same time, some involuntary motion of different muscles may be observed, particularly of the face. The convulsive motions are not confined to any particular muscles; they may exist in those of the extremities, of the lower jaw, the head, or the trunk.

2355. These motions differ in degree or force; they are however constant, except during sleep; deglutition and articulation become impaired; the eyes become heavy; the countenance pale and vacant, even to the appearance of fatuity; which, if the disease persist, will really take place. Fever rarely exists; but the body wastes, and the digestion becomes impaired, as the common consequences of chorea.

2356. There are two species of chorea; the idiopathic and sympathetic; some have attempted greater divisions, without advantage to the mode of cure.

Idiopathic Chorea.

2357. By this term is to be understood, such instances of this disease, as are neither the symptom, nor the effect of any pre-

ceding disease. This may occur during any part of the period designated above. This species is generally preceded by feelings of uneasiness, paleness, head-ache, pains in the limbs, loss of appetite, &c.

Predisposing Causes.

2358. We have remarked above, (par. 2353,) that children and others of debilitated habits were more obnoxious to this complaint than those of confirmed health; and when the change of the constitution from infancy to puberty, is about establishing itself, the nervous system is very apt to be more disposed than usual to be acted upon; especially if the parents of such patients have been disposed to nervous affections. Indeed, it is evident, there is some circumstance connected with the condition of the nervous system at this period of life, that disposes to, or invites an attack of chorea; as it is rarely seen in adult age, and never in old age.

Exciting Causes.

2359. Whatever is sufficient to agitate the nervous system powerfully is sufficient, in patients disposed to this disease, to produce chorea; hence frights, anger, distress of mind, and even, according to Geoffroy, inflammations or frettings of the genital organs, will induce an attack.

Prognostic.

2360. This disease, when uncomplicated, is never we believe dangerous; it is therefore only necessary to attempt to ascertain its duration. This will of course be very much influenced, by the age, the nature or strength of the constitution, and the force and continuance of the exciting and predisposing causes. If the patient be very feeble, and the attack severe, the risk of its continuance will be increased, and on the contrary; but this is not constant. We have seen two instances of very obstinate chorea, in patients who were very far from being weak; and we have seen it removed very speedily in two others, where the patients

were very much debilitated. If it attack before puberty, it is sometimes immediately relieved by the eruption of the menses. We once visited a patient violently affected with chorea, and on which the slightest impression could not be made, though she was several times bled, liberally purged, and rigorously dieted, for three months; her pulse maintaining its force throughout the whole period, when she was suddenly relieved by the appearance of the catamenia, though the patient was under thirteen years of age.

Treatment.

2361. This disease has almost constantly been classed among the nervous affections; hence the place given it by both Cullen and Pinel; while Sauvage ranked it with the spasmi. These nosological locations, had a most unfortunate influence upon the treatment of this disease, for it naturally led to the exhibition of tonics and antispasmodics; hence the indiscriminate and almost universal use of bark, steel, camphor, opium, oil of amber, musk, zinc, all the vegetable bitters, and electricity, until Dr. Hamilton happily revived, and successfully extended, the practice of Sydenham in this disease.

2362. It occurred to him, "that the debility and spasmodic motions, hitherto so much considered, might not be the leading symptoms of the disease, but might depend upon previous and increasing derangement of health, as indicated by irregular appetite, and constipated bowels."

2363. "Under this impression with regard to the erroneous opinions which I had heretofore entertained concerning the nature of the disease, and the consequent improper treatment which I had employed for the cure of it, I resolved to alter my mode of treatment, in order that I might fulfil those indications which the new, and as I flattered myself, the more correct view of the disease had suggested."

2364. Under these impressions, he began the cure of chorea by purgatives; he commenced with the weaker cathartics, but he soon found the stronger were necessary, as almost constantly indurated fæces were discharged by them. He could not however determine by any sign, the cases in which these exist-

ed in the greatest quantity; he nevertheless came to the conclusion, that the duration of the disease, and the reduced state of the patient, give rise to the greatest quantities.

2365. In the commencement of the complaint, where the intestines retain their sensibility, and "before the fæcal accumulations become great, gentle purgatives, repeated as occasion may require, will readily effect a cure, or rather will prevent the full formation of the disease. In the confirmed stage, more powerful purgatives become necessary; they "must be given in successive doses, in such a manner that the latter doses may support the effects of the former, till the movement and expulsion of the accumulated matter are effected, when symptoms of returning health appear. Whoever undertakes the cure of chorea by purgative medicines, must be decided and firm to his purpose."

2366. The recovery from chorea is slow and gradual—but appetite is renewed, strength accumulates, and the patient is restored after a time to a usual state of health. But it is necessary after these favourable changes take place, that the bowels be occasionally moved by purgative medicine.

2367. Tonics may now be employed; the vegetable bitters, and chalybeates are the best for the purposes of the system. The regimen should be light and nourishing, and exercise in the open air should come in aid of the tonics.

2368. Geoffroy recommends for female patients, bleeding in the foot, or the application of leeches to the vulva, where the disease appears to depend upon the suppression of the menses, or where this discharge is due, but does not appear. In addition to the use of purgatives, we can with great confidence recommend the use of the lancet, whenever there is head-ache, febrile irritation, and an active pulse. During the whole of the time in which the depleting plan is carrying on, the diet should be exclusively vegetable, unless some circumstance of the stomach forbids its use—their drink should be water.

CHAPTER XXXII.

PARALYSIS, OR PALSY.

2369. THE disease under consideration, with several others, seem to prove, that every sublunary good is attended by a corresponding evil. The high order of mind granted to man, subjects him to evils, to which the humble and subordinate brute is exempt. The display of his intellectual faculties, or the exercise of his social virtues, subject the organ from which these benefits arise, to a variety of diseases. Among the most serious of these, are mental alienation, apoplexy, epilepsy, and palsy. The brain, though transcendent in power, is nevertheless most delicate and frail in structure; and though destined to endure much, it is nevertheless most vulnerable; and when it suffers lesions, the penalties are in proportion to the high destinies this organ has to fulfil.

2370. The disease now to be described, is not one of the least of the evils to which the brain and nervous system are liable—though less dangerous than apoplexy, it is infinitely more permanent, and thus perhaps becomes the greater evil; for it is not only followed by physical inability, but by serious moral evils and disqualifications.

2371. The male is more liable to this disease than the female; is this owing to less predisposition in the female, or to the greater exposure of the male to its causes? The latter is the more probable, as the male, from his peculiar and unalienable habits, must necessarily incur a greater share of risk; and we may safely add, his artificial, or voluntary habits, also subject him to the same liabilities; thus his high and luxurious living causes plethora, and plethora causes apoplexy, and consequently palsy.

2372. We say consequently palsy; for when idiopathic, it is only a “minor apoplexy.” Dr. Gregory however asserts, that “it will be found in practice, that palsy is much more com-

monly the precursor, than the consequence of apoplexy.”* To this we cannot assent; and for this, to us, sufficient reason, that we have never observed the order spoken of by Dr. Gregory; for in every distinctly recollected instance of idiopathic palsy, it has been preceded by apoplexy, or some lighter cerebral affection; but we cannot name a single instance of the converse of this position, though we are far from denying that it has occurred. We have seen an entire restoration of the mental powers, after apoplexy, though it was followed by hemiplegia; and one of these instances, a few days since, proved fatal in about forty-eight hours, by an effusion of water in the chest; the patient was sensible, to within five minutes or less, of his decease. We shall therefore refer the reader to what we have said on the causes and pathology of apoplexy, (p. 190, et seq.) as they will strictly explain, what relates to the production and consequences of idiopathic palsy; for the latter is only the sequence of the former.

2373. Yet there are circumstances connected with the phenomena of palsy that are both curious and important in a pathological and therapeutical point of view—namely, and especially, the loss of power in, or the controul over, the voluntary muscles of the part affected, yet leaving their sensibility unimpaired; while on the other hand, there may be a total loss of sensibility, with an entire command of the muscles of the part affected.

2374. “This curious fact,” says Dr. Gregory, “has perplexed physiologists in all ages; and various theories have been offered

* Dr. Potter, one of the editors of Dr. Gregory’s work in this country, makes the following correct observations; “we may imagine this position will be reversed, when we shall have made ourselves acquainted with the pathology of apoplexy. Hemiplegia can only be the effect of the want of that sensorial power, which is distributed to the nerves from the brain in health; and although all the more prominent symptoms of apoplexy may not be present, the paralysis clearly demonstrates, that there must have been some injury done to the nerves at their origin, which disabled them in the performance of their ordinary functions. If we do not adopt this theory, we are not able to account for the state of the nerves in which palsy consists. We observe many instances of palsy preceded by slight affections of the brain; but in all such cases, if we had examined the state of the circulation, we should have discovered a tense pulse, a furred tongue, and a great molestation of the sensorium.”—*Gregory’s Practice of Physic, Vol. II. p. 45.*

in explanation of it. In the present state of our knowledge, however, regarding the functions of the brain and nerves, they must be considered as altogether hypothetical."

2375. Why *all* that has hitherto been said with a view to elucidate this seemingly inexplicable phenomenon, should be looked upon as hypothetical, in the opinion of Dr. Gregory, we are at a loss to determine; since Mr. Charles Bell has clearly shown that for the purposes of *muscular motion*, and of *sensation*, there are separate and distinct nerves; and from what he has very clearly demonstrated upon this subject, there can be no mystery in the insulated sufferings of nerves; for though tied up together in the same fasciculus, they act as independently of each other, as though they were widely separated. As Mr. Bell's views of the independent functions of nerves are highly interesting, and may be altogether new to many, we will give his account of them in his own words.

2376. "In the view which I have taken of the nerves of the human body, there are besides the nerves of vision, smell, and hearing, four systems combined into a whole. Nerves entirely different in function extend through the frame; those of *sensation*; those of *voluntary motion*; those of respiratory motion; and lastly, nerves which from their being different in the qualities that distinguish the three others, seem to unite the body into a whole, in the performance of the functions of nutrition, growth, and decay, and whatever is directly necessary to animal existence."

2377. "These nerves are sometimes separate, sometimes bound together; *but they do not in any case interfere with or partake of each others influence.*"

2378. From these statements, no difficulty seems to arise in the explanation of the phenomena presented in hemiplegia, or other palsies; for, as above hinted, that portion of the medulla oblongata or other portions of the brain, or nervous system, may suffer a lesion, that shall implicate the nerves of motion, or of sensation, or of both. Generally speaking however, it is the nerves of motion that are principally affected; while the integrity of those of sensation may remain perfect, or even a little exalted, as is proved by formication, the action of blisters, &c.

2379. The loss of sensation is much more rare; but we are

not without some remarkable instances of this kind, one of which is recorded in the *Mémoires de l'Académie des Sciences*, for 1743. A soldier, after having lost accidentally all sensibility in the left arm, continued to exercise with the same freedom as ever; so that he was enabled to continue the manœuvres with his gun.

2380. The loss of sensibility, or of the power of voluntary motion, are almost the only phenomena presented by a paralyzed limb; though occasionally we see a swelling or œdema, in both the hand, arm, foot, and leg of the affected side. The pulse is said to be weaker in the paralytic side, than in the well side—this might be taken for granted at first sight by some; yet it must not be too hastily admitted, for there is much difficulty in making the comparison; for as happens with almost every body, the artery is strongest in the right arm of a right-handed person, and the reverse; therefore there is much doubt on this subject, nor can it be established with any certainty either one way or the other, nor is it of any consequence, except as a physiological fact.

2381. Another remarkable circumstance arises with respect to palsy, which is, that the lesion in the brain is always found on the opposite side to the paralysis. This also appears to admit of explanation, from the late discoveries in the anatomy and physiology of the brain and nervous system; though it has puzzled physiologists from the time of Hippocrates, almost to the present moment. For what was conjectured with regard to the decussation of nervous fibres, by Aretæus, (Gregory,) has been confirmed by late and accurate observation.

2382. Dr. Gregory says, “the principle of *decussation* seems to be generally admitted; but the difficulty consists in determining its seat; some placing it in the corpus callosum, others in the tuberculum annulare, the medulla oblongata, or the medulla spinalis.” If this be offered as an objection to the doctrine of *decussation*, it is but a feeble one; since if either of these parts be the seat, it is every way sufficient to account for the phenomenon of the lesion in the brain being on the opposite side to the paralysis; and if it be essential to point out one of these parts, we would name the medulla oblongata, in which it has been traced beyond objection, (Horner.)

2383. The temperature of the paralytic limb, is not so uniform as in health, as might be reasonably supposed, when we consider the probable agency of the nervous system in the production of animal heat. And it might offer some novel views of this process, could it be determined by well-directed experiments, in which state of the limb, animal heat is most extensively evolved; whether when it is deprived of its sensation, or of its locomotive powers; or whether this process is affected equally in either of these situations.

2384. Mr. Earle* is of opinion, that there is a considerable decrease of heat in a paralytic limb, as they appear to be disqualified from preserving a fixed or uniform temperature; that they are much disposed to acquire the heat of communication, and that they are injured by a degree of it, that would not be hurtful to a sound limb.

2385. The natural and vital functions are for the most part but little injured in hemiplegia, if we except perhaps a little tardiness of the bowels—but this is not by any means constant. We have at this time, an aged hemiplegic patient, whose bowels are most perfectly regular, though not able to take the least exercise. This case was preceded by an apoplexy of moderate force, and short continuance. Some of the features are wont to suffer in this species of palsy, especially the mouth, and occasionally the eyes. In the case just alluded to, the mouth was much drawn aside at first, the eye was swelled, and in a strong light there was slight strabismus. The mouth, in the course of a few months, was restored nearly to its natural condition, but the affection of the eye continues. In consequence of the affection of the mouth, most paralytics slaver or drivel very much from the injured side; and the same want of power to retain the saliva, disqualifies them from swallowing liquids. The speech becomes indistinct almost always, to a certain extent; and almost all paralytics find some words of more difficult utterance than others. The tongue, when thrust forward, becomes curved or inclined to one side, in consequence of the unequal powers of its muscles.

2386. It is rare for the patient to retain his mental faculties in their full vigour; they gradually fail, even to extinction some-

* Medico-Chirurgical Transactions, Vol. VII. p. 179.

times—but to this there are exceptions; for in the instance already noticed, we have never been able to observe the slightest change; the same powers of reasoning, the same happy choice of words, the same precision in the order of his business; and the same amenity and gentleness of manners, as has ever characterized his best health.

Prognostic.

2387. Unpromising as appearances almost always are in hemiplegia, instances now and then occur of entire recovery. I. M. aged sixty years, had hemiplegia to follow a slight apoplectic attack—his left eye, the side of his mouth, and tongue were apparently more affected than the side; that is, he could not speak to be understood; the eye was nearly closed; the eyelids considerably swelled; the tongue protruded a little beyond the lips; and the saliva flowed incontinently from the mouth. All muscular power was not destroyed, as he could move both the leg and the arm a little, by a very strong exertion of the will. He remained for a few weeks without much alteration; he now however began to show signs of amendment; by the oedema leaving the eyelids, and the eye itself resuming its natural appearance; his mouth becoming straighter, and retaining the saliva better; the tongue began to perform its offices with more success, for he could now articulate; and the arm and leg obeyed the will to a certain extent, though very imperfectly. After this, his improvement was no less rapid than secure; for there was no threatening of relapse, and at the end of a year, he was perfectly relieved, and remains so to this time. His recovery is so perfect, that no one unacquainted with his former situation, would for a moment discover that he had ever been paralytic. He is now nearly seventy years of age, and is obliged, from the nature of his avocation, to walk several miles daily.

2388. This however, it must be confessed, is a rare case—as for the most part, the “stroke,” as it is called, is more commonly repeated, than recovery to ensue; for against a repetition, there seems to be no absolute security; for this may take place as suddenly as unexpectedly, and prove fatal in the instant. At other times, the improvement is extremely slow; and seems to

arrive to a certain point, from which it never stirs; in this case, the patient may drag on for many years, a miserable existence; and is at last perhaps carried off by apoplexy.

Paraplegia.

2389. By this term we understand the entire loss of power of the lower half of the body. This species of palsy is less frequent, though more disastrous than hemiplegia; the urine flows involuntarily; the sphincter ani cannot retain the fæces when they are urged into the rectum, and consequently both are discharged without the power to prevent them, or perhaps the consciousness that it has taken place.

2390. This species, like the one just considered, Dr. Baillie has shown, may depend upon some pathological change in the brain, like that causing hemiplegia. This complaint is usually slower in its march than hemiplegia; a numbness or stiffness in the lower limbs are first felt; but by and by the patient is unable to walk, or to support himself, soon after which, the distressing symptoms above mentioned, are found to follow; and after, (sometimes,) a long period of suffering, the patient dies; but this is more frequently from exhaustion, than from a renewal of the "stroke."

2391. We are told, that dissections have proved, that cerebral lesions have been found in this disease, as well as in hemiplegia. And Dr. Baillie says, he has known it to be preceded by head-ache, drowsiness, impaired vision, loss of memory, dropping of the eyelids, and eventually a loss of power in the lower extremities. Few recover from paraplegia.

2392. There are a number of local or mechanical causes enumerated by authors as having produced paraplegia; as a diseased spine produced by a mechanical cause; incurvations from scrofula or rickets; inflammation of the covering or the substance of the nerve; irritation of the bowels, &c.

Partial Palsies.

2393. Notwithstanding the progress that pathology has made, and is now daily making, there are many things connected with

the affections of the brain and nervous system, that are extremely difficult, if susceptible of explanation in our present state of knowledge. Hence many instances of partial paralysis do not appear capable of an explanation, by referring their causes to lesions of either the brain or spinal marrow, or to local causes, as far as can be detected by any anatomical change of structure. We are therefore obliged to admit that the cause of palsy is sometimes inscrutable.

2394. Palsy of a partial kind has followed falls, blows, or solution of continuity; it has been produced by pressure upon an individual nerve, as by a ligature, tumours, fractures, luxations, by serous, sanguine, or purulent effusions. Plethora alone has been said to give rise to palsy; the suppression of accustomed evacuations of any kind; excessive purging; intemperate use of spirituous liquors; narcotic, acrid, corrosive substances taken into the stomach; emanations from lead, mercury, and arsenic; enervating pleasures; fits of passion; grief; disappointment; frights; or other severe exercises of the mind, &c. &c.

2395. Now it is not difficult to perceive or understand how some of these causes may induce partial palsy; but others are beyond explanation in the present state of our knowledge. The action of any of the mechanical agents just enumerated, can be readily understood, when they are brought to act in a particular manner upon a nerve; but when causes act upon the brain generally, and palsy follow, we are obliged to assume the fact, and give up the attempt at explanation; thus the action of moral causes is altogether beyond our comprehension. Considerations like these, has led Dr. Powell* to the opinion, "that paralytic affections, both partial and general, often originate in a peculiar condition of the *nerves alone*; that they are independent of any morbid affection of the blood-vessels of the head; and that they are produced in many instances by cold, and in some by sympathy with particular states of the stomach, or other distinct local irritations." Of the latter kind, Dr. Physick and myself attended a lady who had a palsy of the arm to follow not a very severe indigestion, and of which she entirely recovered, by remedies altogether addressed to the stomach.

* Gregory's Practice, Vol. II. p. 51.

2396. But the most common cause of partial palsy is unquestionably from lead. This is frequently met with among painters, plumbers, workers of mines, manufacturers of white lead, and all such as are obliged to work in this metal or its preparations. Local applications of this substance has produced partial palsy; we knew the eyelid paralyzed, by having it painted with white lead and lake, to hide its blackness, from a blow. Dr. Cooke* gives the following account of the symptoms of palsy from lead, as taken from Dr. Clutterbuck's work upon this subject.

2397. "A weakness of the hands is the first thing perceived; the patient is unable to grasp any thing with firmness. This weakness seldom extends itself above the wrists, but he is tormented with pains in the shoulders and upper-arms, resembling chronic rheumatism. The weakness soon increases, so that he loses altogether the use of his hands; he is unable to support the hand in a line with the fore-arm, and he can with difficulty lift it to his head. The fingers are incurvated, and he is unable to extend them voluntarily; not that they are rigidly contracted, for they can be easily straightened by any extraneous force; they remain bent, because the tonic powers of the flexors, exceed somewhat that of the extensor muscles. No diminution of the sensibility of the skin is perceived to accompany this paralytic state of the arm, the affection seems confined to the muscles alone; the legs are seldom affected in the same manner as the arms are found to be."

Treatment.

2398. Though no plan of treatment, however well devised, will be always certain to relieve palsy, nevertheless, an ill-directed one is sure to increase its evils. There is no disease more empirically treated than palsy; the vulgar, and but too many of the *initiated*, seem to have but one principle to govern their therapeutical views, namely, to restore power, by stimulants applied to the part affected, or internally, with the same intention.

* Gregory's Practice, Vol. II. p. 52, note by Dr. Colhoun. Dr. C. has not designated which of Dr. Cooke's works he has taken his quotation from; it is not at p. 110 of his "Nervous Diseases."

It is therefore not to surprise us, that so few recover from this distressing disease. We may safely say, that few diseases require a more strict attention to the state of the circulation, or a more cautious and judicious application of remedies, than the disease in question.

2399. If we advert to the causes of palsy, or trace its intimate relation to apoplexy, we shall in an instant perceive the impropriety of stimulants, and be convinced of the necessity of depletion, either general or local or both, as the exigencies of the circulation may require. We are aware that much prejudice is entertained against, "weakening remedies" in palsy; and that it would be much easier to gain the consent of the patient or his friends, to administer the most violent stimulants, from which death might quickly follow, than to draw a few ounces of blood, that might probably save his life.

2400. Notwithstanding the decided necessity of depletion in many instances of palsy, it is not always so obviously indicated as to leave no doubt upon the mind of its propriety. It therefore requires sometimes much discrimination to detect the necessity of depletion; and no inconsiderable judgment to apportion its quantity; we may however often in these dubious cases, derive advantage from observing the effects of even moderate stimuli upon the nervous and sanguiferous systems. For should any substance have been carelessly or injudiciously exhibited, under an impression, or otherwise, of its necessity, if its qualities be wrong, that is, over-stimulating for the state of the system, though feeble in the rank of this class of medicines, it will often betray its incompatibility, by flushing of the face, general uneasiness, increase of heat and thirst; and thus discover a marked phlogistic state of the system.

2401. The pulse will however generally conduct us safely in such cases, if it be properly consulted, together with the other phenomena, that the system presents at the moment. If the pulse be full and slow, or unusually quick or frequent; if there be heat, or a pricking sensation in the skin, head-ache, or drowsiness, flushed cheeks, high-coloured and scanty urine, and white tongue, the loss of a few ounces of blood is distinctly indicated, either by the use of the lancet, or cups or leeches—if the pulse

be quick or frequent, by the lancet; if sluggish, by cups or leeches to the back of the neck and temples.

2402. Purging is next in importance; it should be pretty constantly maintained, especially in recent cases, to break in upon, and to prevent the habit of determination to the head, and this is of more consequence than might at first be imagined; for it is in the commencement of such attacks that such accumulations are most to be feared; and we very effectually overcome this disposition from fixing on the brain, by diverting the flow of blood from it and throwing it upon the intestines, from whence it can be more easily discharged by cathartics, than from the brain, when the determination sets that way. In young subjects, the neutral salts and magnesia, (par. 337,) seem to answer best; in older and aged people, the more active cathartics should be used; as jalap and cremor tartar; or aloes, rendered active by combination with rhubarb, as directed at par. 293. Calomel is oftentimes a valuable addition to the other purgatives; especially where the appearances of the *fæces* discover a redundancy or deficiency of bile.

2403. Blisters to the neck, and these repeated occasionally, have been found highly serviceable, after due depletion. Other stimulating remedies have been advised, such as electricity, galvanism, stinging with nettles, mustard, from none of which have we ever seen the slightest benefit derived—for a momentary sensation excited upon the skin, can never change the pathological condition of the brain, which gives rise to the disease. A strict attention should be paid during the whole course of the disease, to the diet of the patient; this should consist of the lightest and most digestible of the vegetable substances—very little or no animal food should be indulged in, even after the disease has become chronic; for one of the best chances of recovery is afforded by not interfering, by stimulating articles of diet, with the recuperative powers of the system. Every kind of liquor must be forbidden.

2404. The trials made in this country of the *nux vomica*, do not seem to justify much confidence in its powers; of the *rhus toxicodendron*, and the *arnica montana*, we can say nothing.

2405. The cerebral paraplegia is to be treated upon the same general principles; but we fear, that no plan so far can be relied

upon. Dr. Baillie however thinks he has derived advantage from cupping, setons, and blisters to the nape of the neck, and free purging by the more active cathartics, as the extract of colocynth, jalap, and the neutral salts. He thinks he has seen benefit follow frictions to the lower limbs, for an hour at a time, twice a day; from electric sparks, tepid bathing in fresh and salt water.

CHAPTER XXXIII.

COLIC.

2406. A good deal of latitude is given to this word; it is made to signify almost any acute pain in the abdomen or intestinal canal, especially if it observe alternate increase and diminution. It is true, that each variety of this affection, be its seat or its cause ever so different, has something in common with the rest. Hence all who may be afflicted with this complaint, experience pain of greater or less severity, or of longer or shorter duration, about the navel. The character of the pain however, differs a little as its remote cause may differ; one patient may represent it as a twisting sensation in the bowels; while another will describe it as a sensation from distention. Wind is heard to pass from one portion of the intestines to another; the patient tosses himself about from place to place; sometimes he anxiously solicits pressure upon the abdomen, at other times he cannot bear the slightest touch. Sensations of cold are experienced in various parts of the body; but especially the feet and legs. If the disease be violent, the pulse is small, slow, or unusually frequent, or extinct; in this case, the face is pale, the features shrunk, and the whole body covered with cold sweat. The bowels are almost always costive; though occasionally there may be diarrhoea; nausea almost always attends, frequent belchings of wind, of various tastes, and sometimes vomiting.

2407. The symptoms just detailed, are for the most part common to all colics; yet each variety seems to have its own charac-

ters, though they are not always so strongly marked as to remove all doubt for which variety we are obliged to prescribe. The embarrassment created by this, is not however always of great consequence, as a general mode of treatment is necessary, be the cause of the variety what it may. We shall however for the better understanding of the nature of each, divide them into, 1, the crapulous or flatulent colic; 2, the bilious colic; 3, the ileus, or dry belly-ache; 4, the painter's colic, or the colic arising from lead.

I. *Crapulous, or Flatulent Colic.*

2408. This colic most frequently arises from either too much food being taken into the stomach at one time, and thus producing indigestion; or the quality of the food may not be suitable to the condition of the stomach. In both instances, there may be a great extrication of gas; so much so sometimes, as to distend the stomach and bowels enormously, and to create not only the severest sufferings, but also the most alarming symptoms. The causes of colic in these instances, are sufficiently palpable, and may always be detected by proper inquiry into the nature and the quantity of the substances taken into the stomach; but occasionally we have seen this colic produced without any fault in either the quantity or quality of the ingesta. This appears to arise from some condition of the nervous system, as it is almost always preceded by some moral cause, of a distressing or vexatious kind.

2409. This last form of flatulent colic, we have seen take place in the course of a few minutes, and be attended by a suite of the most alarming symptoms; the stomach and bowels have been violently distended; creating the most intense suffering, and exciting the most just apprehensions. We attended a lady, for many years, who was subject to this kind of colic; in her it was always produced from her mind having been disturbed in one way or other previously. In this case the symptoms were so violent sometimes as to threaten immediate death—we have seen her cold as marble, pulse extinct, and drenched with ice-cold sweat. She was however almost always relieved by the same remedies—namely, a large warm sinapism to the stomach, which was

suffered to produce considerable irritation; one to each leg, and a tea-spoonful of Hoffman's anodyne liquor, repeated once in twenty minutes or half an hour, until gas began to escape from the mouth; and this would take place when the spell was about to terminate, in surprising torrents, until the stomach appeared quite empty and relieved. But it required several such discharges before the paroxysm would cease, for one *secretion* and discharge of gas, (for such it appeared to be,) would follow another, for two or three hours together. When this affection was more than usually obstinate, much advantage was derived from an enema of a pint of water, three tea-spoonfuls of the tincture of assafoetida, and as much of the spirit of turpentine; this was sure to procure an immediate discharge from the bowels of flatus and fæces.

Diagnosis.

2410. This affection cannot well be confounded with any other, as its remote causes are almost always obvious—it is unlike enteritis, with which alone it can be confounded, as it is almost always unattended by pyrexia; by the pain being more severe at one moment than at another; by his being disposed to lie upon his belly, or even able to bear pressure, and by the frequent discharges of gas from the mouth by belchings.

Prognosis.

2411. This disease rarely fails to terminate favourably, if the patient be of a good constitution. But if the stomach be frequently disturbed by indigestion, or its powers weakened by over-stimulation, it may prove fatal, by inducing chronic inflammation. Death it is said has followed the sudden and excessive distention of the stomach, as has paralysis.

Treatment.

2412. For the most part, this disease is of easy management, requiring but little more than a free evacuation from the bowels by castor oil; with fifteen or twenty drops of the essence of pep-

permint, or a tea-spoonful of Hoffman's anodyne liquor, given two or three times if the pain persist. But sometimes, the stomach requires immediate relief, by discharging the offending cause—when produced by over-eating, or from large quantities of crude substances, or unripe fruit, a few grains of ipecacuanha so as to cause puking, will instantly afford relief; especially, if this be followed by a dose of laudanum, either by the mouth, or by enema.

II. *Bilious Colic.*

2413. This affection is at first perhaps seated in the liver itself, as it is always preceded by symptoms, which if they do not distinctly declare this organ to be the cause, yet show some unusual one to be operating. It commonly shows itself during the prevalence of autumnal complaints, as bilious fever, diarrhœa, cholera, &c. If the liver itself is primarily affected, and that it is, is rendered probable by the season of the year at which this colic appears, and the frequency of other diseases, in which this viscus is involved, it is presumable, that the bile itself, has been secreted not only in an acrid, or otherwise unhealthy condition, but in very much too large a quantity. Now if either of these conditions obtain, the intestines may be thrown into spasm, and thus produce the colic in question.

Symptoms.

2414 Several of the symptoms which mark the commencement of this colic, are precisely those which usher in fever in the autumnal months. Such as head-ache, nausea, vomiting of bile, and a disagreeable or bitter taste in the mouth; but instead of being followed by a distinctly marked fever, the bowels show signs of being unduly stimulated, or irritated by the presence of some offending cause. Gripping pains are felt throughout the belly, a sense of fulness or of distention, costiveness, or tenesmus, with very imperfect evacuations. Should these symptoms be neglected, or not be removed by the remedies administered, fever of greater or less force is pretty sure to follow, and this

attended by much head-ache, thirst, lassitude, and pain upon any motion that will exercise the abdomen. The tongue is foul, the pulse commonly not much accelerated.

2415. We have occasionally seen a well-marked fever, with considerable tenderness of the epigastrium or abdomen, attend this form of colic. When this takes place however, the circulation is rarely equal; for the feet and legs are sure almost to be cold, while the head is very hot, and the face even flushed.

Treatment.

2416. There are few diseases, that have so many certain cures, or popular remedies as colic; most of which are of a highly stimulating kind, and which are administered with a most liberal hand, no matter how improper or preposterous they may be. There are few evils arising out of vulgar errors, that so loudly call for redress, as the domestic treatment of colic—we are certain we have seen it cause death in more instances than one. The vulgar should be taught to look upon this disease as one of much danger, and always requiring nicety of management; and that the administration of a single improper remedy, may convert a disease of comparative simplicity, into one of complication, and eventual danger.

2417. The indications of this colic must be derived from the state of the pulse, and the condition of the bowels. Should the pulse be active, and other signs of arterial excitement be present, the patient should lose blood in proportion to the powers of the system, and the force of the disease. If there be tenderness in the epigastrium, a foul tongue with red edges, if there be nausea or much head-ache, the patient should lose blood immediately, either by the arm, or from leeches over the region of the stomach, though the pulse be not very active.

2418. If the bowels be costive, care should be taken to remove it as speedily as possible; 1, by cathartics; 2, by enemata; 3, by blood-letting; 4, by warm bath.

1. *Cathartics.*

2419. Cathartics should never precede blood-letting, when the latter is required, if it be practicable to command it on the instant. But should this operation not be indicated, they should be given forthwith. As we believe the liver to be always more or less implicated in bilious colic, we have thought much advantage has been derived by first giving a few grains of calomel, (six or eight,) letting it be followed by some milder purgative, as castor oil, or magnesia and Epsom salt. Indeed, we may even find a few grains of jalap, (twenty,) a very proper auxiliary to the calomel. But where the stomach will bear the castor oil, it is decidedly the best remedy to follow the calomel. Much mischief is often done in colic, by giving large doses of medicine at a time, or from a false notion that the very active or even drastic purgatives are required. Our rule constantly is, to give small doses of the milder cathartics, and repeat them at moderate intervals, (once an hour,) until the effect is produced. Should the stomach be so much exasperated as to reject every thing that is offered to it, we should not increase its irritability, by presenting offensive articles to it; but a brisk injection should be given immediately. In such cases we should give nothing for a time but two or three grain doses of calomel, once an hour, until twelve or fifteen grains be given—we should then desist, and have recourse to,

2. *Enemata.*

2420. These should be made, at first, pretty stimulating; a pint of warm water, and a table-spoonful of table salt, may be given with great and speedy advantage. Should the first fail, a second should be thrown up the rectum, in fifteen or twenty minutes, but made less stimulating. Should these not prove efficient, another may be administered, of simple flaxseed tea, followed by a second or a third. Should these remedies be unsuccessful, and patient continue to puke, leeches or cups should be applied to the epigastrium, provided it is thought inadvisable to draw blood from the arm, which by the by rarely happens. It is

worse than idle, it is positively cruel, to urge the patient to swallow medicine while his stomach revolts at the very name of it. The sickness may however be appeased very often in such cases, by the following mixture, provided there is no suspicion of inflammation:—

R. Bis-carbon. sodæ	-	ʒiiss.	Take Bi-carbonate of	
Pulv. g. Arab.	-	ʒij.	soda	- - 1½ drachm.
Ol. menthæ	-	gut. iv.	Powdered gum	
Sacch. alb.	-	ʒij.	Arabic	- 2 drachms.
Aq. Seltzer vel font.		ʒiv.	Oil of mint	- 4 drops.
M.			Sugar	- - 2 drachms.
			Seltzer, or com-	
			mon water	- 4 ounces.
			Mix.	

Of this a table-spoonful may be taken every half hour, until better.

3. *Blood-letting.*

2421. Sometimes in these cases, nothing but the abstraction of blood will reconcile the stomach, and this may be done as above directed, by either the lancet, cups, or leeches; and where there is a necessity for this, the above mixture should not be given until this has been done—then, if the puking persist, it may be given. Indeed, the loss of blood becomes indispensable, whenever the constipation is obstinate, the stomach irritable, the tongue red and dry, and the urine high-coloured and scanty; for inflammation is about to take place, or has already done so. After these remedies have been faithfully tried, we must have recourse to the,

4. *Warm Bath.*

2422. This very popular remedy is often very much abused, by its indiscriminate employment. The warm bath, like blistering, opium, and sweating, has its point of efficacy. For if it be too early employed, it is altogether inadequate to the end in view; and if left too late it is sure to do mischief, by calling the blood to the capillaries of the surface, at a time the internal and larger vessels cannot spare it. The proper time then, is immediately after the depletion has reduced the force of the circulation, and when the larger internal vessels can spare some blood

to the capillaries of the surface without injury. The water should be from 106° to 110° of Fahrenheit; he should continue in the bath until he complain of feeling weak, or faintish; and should he experience a desire to discharge from his bowels, it should be permitted even in the bath, rather than to fail to have it take place.

2423. Unfortunately for the interest of the patient, he becomes unreasonably impatient of relief, or his friends are too solicitous about this being effected, even at hazard; opium is therefore proposed; the young practitioner too readily yields to the suggestion, and it is administered at a time when it serves but to increase every existing evil. This medicine therefore can only be useful when exhibited after due depletion, and when the exigency of pain demands it. It should therefore never be given before the *opium point* arrives, and then, if given by the mouth, it should be in combination with calomel, in the proportion of four grains of the latter to one of the former, if the dose of opium requires repeating—if it do not, eight or ten grains of calomel may be given. But laudanum never answers so well in these cases as when given in injections. A tea-spoonful to a gill of warm water is about the common proportions.

III. *Ileus, or Iliac Passion.*

2424. This form of colic is the most dangerous, but fortunately at the same time, it is the most rare. All periods of life, from the infant to old age, may be liable to it. Dr. Good defines ileus as follows: “gripping pain, vomiting, and costiveness, accompanied with retraction of the navel, and spasms of the muscles of the abdomen.”*

2425. In investigating the symptoms of a painful disease of the bowels, it is always important to understand the condition of the alvine discharges previously to the attack. For if it be ileus we have to contend with, it will almost always be found that there has been a constipation of some standing, though the patient may declare, that he has had daily a discharge; in this we must not be deceived if the patient be; for it will almost always be found under these circumstances, that a kind of tenesmus, or

* Vol. I. p. 121.

a very trifling evacuation of hard fæces, has been mistaken for a proper discharge.

2426. The pain in ileus is of a very acute kind, especially near the umbilicus; it however suffers occasional abatement; though this is sure to be followed by a renewal of suffering. There is a retraction of the abdominal muscles, particularly during the painful periods of the disease. The feet and hands are cold; the pulse indicating no great constitutional sympathy; the abdomen is not sore upon pressure; nor is it distended by disengaged flatus, though certain inequalities, and occasionally hardnesses may be discovered beneath the abdominal coverings. The stomach is sometimes affected very early in this disease; in two instances we have witnessed, vomiting was almost the initial symptom. This symptom never fails to increase, if the constipation of the bowels be not soon relieved; it is generally at first, bile, and the common secretions of the stomach, and perhaps of the duodenum; but these vomitings may be accompanied by the stercoraceous contents of the large intestines, or even by a part of the injections that have been thrown into the rectum; thus proving beyond doubt, that the valve of the colon has been forced by the inverted action of the intestines. If the bowels fail to be opened, the vomiting becomes almost incessant, and the distress of the patient is great beyond description; for the little intervals between the efforts to vomit, are filled up with severe hiccoughings. The hands and extremities are cold as death, and clammy with sweat of the same temperature; the pulse is thread-like and fluttering, or perhaps extinct. About this time, or perhaps a little before the symptoms become so dire, the bowels yield, and the bed is deluged with fæces; the inexperienced friends suppose that the disease has relented; and that hope may now be entertained—but unfortunately, there is no ground for such expectation, for the speedy death of the patient too soon convinces them of their error.

Causes.

2427. A variety of causes may be assigned for ileus; from the simple neglect of procuring evacuations, or avoiding constipation, to the unnatural and complicated habit of swallowing knives,

&c. The swallowing of the stones of several fruits, as cherries, plumbs, &c. under the vulgar expectation, that they are more healthy when eaten in this manner, *as they are said to promote digestion*. An inordinate secretion of bile of an unhealthy quality; acrid substances taken into the stomach; drastic cathartics; calculous balls; scybala; violent passions or emotions of the mind; scirrhus tumours, &c. &c. Spasm and inflammation of the intestines, have also given rise to ileus, in a manner no less extraordinary than incomprehensible. Of this kind are those cases related by M. de la Peyrouse,* and Dr. Gartshore.† In these cases the intestines have become twisted into “nooses and knots, in which the portion forming the encircling cord or bridle has been drawn so tight as to produce strangulation, and render gangrene inevitable. In one instance, the bridle not only produced strangulation and gangrene, but cut through the intestine on the opposite side to the mesentery, making an opening of an inch in length.”‡

2428. Ileus may arise from intus-susception, as well as from spasm or inflammation; the mechanism of intus-susception is not however very well understood, though its explanation is attempted by Dr. Good. Neither this condition of the bowel, nor inflammation itself, however, are essential to ileus, if we regard the testimony of Stoll, Haller, or Morgagni.§ Indeed, intus-susception takes place very frequently in children, without their deaths having been preceded by ileus.

Diagnosis.

2429. This disease cannot be well mistaken; its characters are too strongly pronounced to create embarrassment upon this point. The retraction of the abdominal parietes; the relief afforded by pressure; the moderate excitement of the system; the want of distention from flatus, and the absence of tympanitis, will distinguish this disease from both peritonitis and enteritis.

* Memoires de l'Academie Royale, Vol. XXIII.

† Med. Obs. and Inq. Vol. IV.

‡ Dr. G.'s case just alluded to.

§ Good, Vol. I. p. 123.

Prognosis.

2430. As this disease is one of great violence, as well as of great obstinacy; and as the parts implicated in the disease are of vital importance to life, but have themselves no great tenacity for it, the result of any given case must necessarily be most uncertain. Indeed, the recoveries from ileus are declared by Dr. Gregory to be very few, yet the disease occurs sufficiently often to make us ask an important question, "is ileus necessarily so fatal a disease, as is declared by Dr. Gregory, as to justify in the majority of cases, an unfavourable prognostic?" We think not—we shall presently advert again to this point.

2431. Yet to enable the inexperienced practitioner to form a judgment upon any given case, we will state, that so long as the bowels do not yield, notwithstanding the most unwearied application of the best devised means; and the puking continues of bile, porraceous matter, or above all fæces, the case must be looked upon as extremely menacing, if not hopelessly dangerous. If with these there be hiccough, suppression of urine, cold sweat, fluttering or extinct pulse, the patient must be regarded as moribund, if not absolutely in articulo mortis.

2432. On the other hand, if the bowels have been made to deject their contents; if pain moderate in proportion to the alvine discharges; if the vomiting diminish, or the throwing up of fæces cease; if the pulse become fuller, softer, and slower; if the skin become warm and moist, and there is a plentiful flow of urine, we may entertain a rational expectation, that the disease will yield, by a proper perseverance in judicious means. The pathology of this disease will be readily understood from what has already been said.

Treatment.

2433. From the history of the symptoms of this disease, it will be evident, that the first object of attention is to remove the obstruction from the intestines; this must be effected by indirect and by direct means. The indirect means, are bleeding from the arm, and leeching the abdomen. From the little excitement

betrayed in the beginning of this complaint, bleeding is too often neglected, until it becomes almost too late to employ it; and this in our opinion is one of the greatest causes of the fatality of the disease; for we are far from agreeing it is necessarily so fatal as it proves to be. The next great error in the management of this disease, is the ill-founded and injurious distinction between spasm and inflammation, as causes of it. We shall not stop to inquire into the pathological differences of these two states; for in a practical point of view in this instance, it is of no importance whatever; since one will quickly, if not relieved, be converted into the other. Suppose it to be spasm—is any antispasmodic to be compared to the lancet, under these circumstances? Our experience declares there is none. If there be inflammation, will any one dispute its supremacy?

2434. Bleeding should therefore be immediately had recourse to; but do not let the loss of ten or twelve ounces of blood be called by that name, unless it be attended while flowing, with a disposition to syncope. To this condition of the system must blood-letting be carried, even in the beginning, as a general rule; and if cathartics have failed, or enemata have been unavailing, after fair trial, it become absolutely necessary. However hazardous or rash this may appear to the inexperienced or timid practitioner, we can vouch both for its safety and success, in a number of instances, where the cases have been looked upon as desperate.

2435. Leeches are valuable adjuvants in ileus; they should be employed however after general bleeding, unless the case will not permit its employment previously. The leeches should be placed over the whole abdomen, and in such number as to secure the effects wished for, from a general bleeding. We may now employ our direct means.

2436. After these evacuations have been premised, we may then advantageously begin with our purgatives. The choice of these is of the utmost consequence; for the improper selection of these remedies, constitutes the third cause of the danger from ileus. From the obstinacy or the long continuance of the constipation, it is wrongly imagined, that the drastic purgatives are absolutely required to overcome it; than which, there can be no greater error.

2437. Castor oil is the best possible remedy in the commencement of the disease, and before puking takes place—but after this, it cannot be urged with any possible advantage, as it will be rejected as fast as swallowed. But if this be agreed upon, it should be given by the table-spoonful in a little hot coffee every hour, until two or three ounces have been taken—it must now be desisted from, and recourse had to enemata, which should be made to act by their bulk, rather than by their stimulus—for this purpose, rich flaxseed tea, and molasses, answers exceedingly well, strong soap-suds may be used with advantage.

2438. Should these be rejected without bringing with them an adequate quantity of fæces, or be returned unaltered, a large quantity should be forced into the bowels, by throwing up syringe-ful after syringe-ful, as directed by De Haen, until a large quantity be thus disposed of. Much advantage may be derived from a long flexible tube being passed up the rectum, as it will better secure the introduction of the contents of the syringe. Many stimulating injections have been advised in these cases, and upon the same false principle as the active purges are recommended—we have never seen them successful, though we have known them to be injurious. For their action and effects are precisely like those of the drastic cathartics—that is, they increase the inflammation or irritation of the mucous membrane, and prevent the effusion of serum; while the mild ones abate the irritation, and solicit the effusion.

2439. The neutral salts are also valuable, so long as the stomach will retain them—they should be given in small, but often-repeated doses, until so much has been taken, as to lead to the conclusion that more will not succeed. It is in this state of things, that bleeding and leeching are so promptly successful. We once attended a case of this kind, in which all the ordinary means had been tried without benefit—that is, large doses of calomel had been taken, many active purgatives had been swallowed, and she had been timidly bled. The patient had not had a passage for nearly two weeks; had fed plentifully, and moreover was sedentary; she was in great agony; vomited incessantly; and was extremely feeble. We proposed that the patient should be placed upon her feet, and bled in this position, *ad deliquium animi*; to this the attending physician, Dr. Budd, consented. It was how-

ever distinctly stated to the friends of the patient, that there might be even hazard in the means we are about to adopt, but that there was a much greater chance of success; but in all events, that the case was one of great danger, and if not relieved, would certainly prove fatal. Every thing was left with us. The patient was taken out of bed, and a vein was opened while she was standing; a large orifice was made, and the blood flowed pretty freely, until about twenty ounces were drawn; she now complained of being fainty; and before the arm could be tied up, she dropped on the floor, and at the same instant, the room was nearly deluged with fæces and urine. She had no farther pain, and recovered rapidly.

2440. When the stomach will retain nothing, calomel is the only remedy we can urge upon it. This should be tried in small doses; as it is the only proper mode to exhibit it. It is a monstrous error, in our opinion, to give large doses of this medicine, when a cathartic effect alone is desired—for certain it is, that small doses are vastly more sure than larger doses. In these cases, we give two or three grains every hour, in a little dry sugar,* until twenty or thirty grains are taken, being confident, that beyond this quantity in twenty-four hours is never useful or necessary. After this quantity has been given, and the patient has been freely bled, mild enemata can now be employed with advantage; for we are pretty certain that the disease will yield. If it do not, the bleeding or leeching should be repeated, or the warm bath, as directed, (par. 2422,) may now be an important auxiliary. We have seen a case, which we shall presently relate, in which the croton oil was advantageously employed.

2441. Where the pain has continued to be great, and the vomiting persevering, we have seen the spirit of turpentine, in thirty drop doses every hour, afford much relief. We have applied it, we think with advantage, to the abdomen; and found it useful, we think, in the enemata, especially after an extrication

* Some recommend the calomel in the form of pills; but these are much more liable to be thrown up, than in the way we have mentioned; as this becomes spread over the coats of the stomach, from which it cannot be detached easily.

of gas has taken place, which sometimes happens when the disease is pretty far advanced. We have never blistered in these cases, nor have we ventured upon emetics, as advised by Stoll. Besides these means, many irrational and daring practices have been occasionally pursued for the relief of this disease; such as dashing the legs with cold water, cold bath, drinking large draughts of cold water, rolling the patient in the snow, &c.

2442. Hitherto we have said nothing of opium; a drug that is so often successful in pain, that it naturally suggests itself, whenever this exists. Its powers however are very decided in ileus, when its exhibition is well-timed; but unfortunately it is used in every stage of the disease, without the slightest reference to the state of the system, and this forms the fourth cause of danger from ileus. It answers an admirable purpose in the form of enema, (the only way, by the by, it should be exhibited,) after bleeding has been duly performed; and the enemata have produced an irritable condition of the rectum; and when it becomes important to give to the remedies exhibited by the mouth, time to operate. Then a wine-glassful of rich flaxseed tea, and a teaspoonful of laudanum, thrown up the rectum, will almost always secure some repose to the patient. Should the first enema be rejected, a second or a third should be given, at short intervals—or a suppository of six grains of opium may be introduced beyond the sphincter ani.

2443. The following case, in our view, has much interest; we shall therefore take the liberty to relate it in detail. September 13th, 1824.—We were called this morning at five o'clock, to Mrs. M. whom we found labouring under severe pain in the umbilical region, with an incessant vomiting of fæcal matter; her skin cold, shrunk, and wet with perspiration; the pulse tense, small, and frequent—bowels much constipated. She had taken a number of purgative medicines before we saw her, and had received a number of injections, without benefit. The stomach would retain nothing a single moment, and the injections returned as soon as given. To be bled sitting up, until she felt faint; a drop of croton oil every hour, until it operate; warm water and molasses to be thrown up the rectum, syringeful after syringeful, until the bowels were filled with it.

2444. 11 o'clock, A. M. We saw our patient six hours after

the first visit. We found her much relieved; lost about twenty ounces of blood before she became faint—blood very sizzly—four drops of croton oil had been given, which sat well upon the stomach; she received six large syringes of molasses and water. The bowels yielded almost immediately after the bleeding, and the injections—she had large bilious stools of a yellow colour, but without smell. An injection of a gill of water and a teaspoonful of laudanum, and the loss of more blood, in case of a return of pain—two drops of croton oil immediately.

2445. 5 o'clock, P. M. Free from pain; no vomiting since the morning—the croton oil procured several more loose stools—the laudanum was not used, nor the bleeding resorted to, as she continued to be free from pain—a wine-glassful of weak chicken water, every hour or two; toast tea in small quantities for drink.

2446. 14th.—9 o'clock, A. M. Complains of a little pain around the navel—pulse a little accelerated, with some warmth of skin, owing most probably to the use of the chicken water. An ounce of ol. ricini. 6 o'clock, P. M. Oil operated pretty freely; free from pain and fever—diet, a little thin sago or tapioca—drink, as before.

2447. 15th. Found the patient sitting up in bed, though she had passed rather an unquiet night, owing to the operation of her medicine. In these discharges was voided a ball of the size of a pullet's egg, and of an egg-like shape, with many small stones, of which we received seven, they not having preserved the rest. They were of irregular shapes, smooth, pretty highly polished, and of a fine brown colour, interspersed with bright yellow streaks—the brown tone, was precisely the same as the tamarind seed; the large mass, was evidently formed by aggregation or deposition, as the different strata of which it was composed, could be distinctly seen. They were deposited in the museum of our medical college.

2448. 16th. Free from complaint; passed another small stone. 17th. Perfectly well.

Observations.

2449. The patient was attacked on Easter Sunday, with an intermittent, which lasted a week—during the greater part of the summer, her bowels were alternately constipated, and relax-

ed, with a pretty constant pain about the navel. Regular in her menses; forty-two years of age, and the mother of nine children.

2450. On the 9th of September, 1824, she was attacked with vomiting, and pain in the abdomen; bowels very costive; she took a large dose of aloes, but it did not operate. She remained in this situation until the 14th, when we were called, and found her in the state above described.

2451. This case, as well as the one mentioned before, demonstrate clearly the importance of bleeding *ad deliquium animi*, even after the formidable symptom of throwing up the *fæces* had taken place; we have known but one case of fatal ileus for many years, and that we did not see till within three hours of death.

IV. *Colica Pictonum, or Colic from Lead.*

2452. This colic is peculiar, because it has necessarily for its cause the application of lead. This is determined by the liability of those who work in the preparations of this metal, or are concerned in its various preparations. It may however take place in those who have no direct concern, either in its manufacture, or in its use—thus this metal may be conveyed into the system, or be made to act upon it, in various ways. Its fumes may be breathed, as those who are in the environs of smelting furnaces, have frequently experienced; indeed, in such situations, animals are said to have suffered from the same cause; and we know it has been repeatedly produced by sleeping in a newly-painted room, or from even remaining a long time in an atmosphere loaded with emanations from white lead paint. It may, and it very often has been conveyed immediately to the stomach, by wines which have had their acidity corrected by the sugar of lead, or by litharge. Water which has stood a long time in a leaden vessel, or has been conducted by leaden pipes, has been accused of producing this colic; of this however considerable doubt may be justly entertained, as the experiments and observations of Dr. Percival appear to be conclusive, though the contrary opinion is maintained by Pariset and others.

2453. Lead in its metallic form does not appear to have any unfavourable influence upon the system, either externally applied or internally deposited—for it has long been the means of making pressure externally, in the umbilical hernia; and balls have been

retained for many years in various parts of the body, without being followed by the slightest injury. But when in a state of oxyde, or in form of a salt, it has when applied been followed by paralysis, or other inconvenience, (par. 2396,) and Sir Astley Cooper witnessed the same misfortune follow the use of a collyrium, in which lead entered. It may also be conveyed to the stomach by the saliva, or more abundantly swallowed by eating with unwashed hands, as Good informs us he prevented it in a painter, by advising the careful washing of his hands.

2454. When lead is introduced in solution into the stomach, its effects are more obvious upon the digestive organs than upon the nervous system. Yet we know from experience, unless influenced by idiosyncrasy, the acetate of lead may be taken for a considerable time, without the slightest inconvenience; and it is applied daily externally to large and oftentimes to very irritable surfaces, without any evil consequence following. It is nevertheless, a metal that should not be trusted too far, when it can be avoided, as it produces consequences every way troublesome, as well as difficult to remove.

2455. When about to produce mischief in the alimentary canal, as colic, we find costiveness of an obstinate kind induced; rendering the fæces at the same time hard, and having them formed into little balls, resembling those evacuated by sheep or goats. The mouth is bitter, and the tongue foul or even dry. A sensation of weight or dragging is felt about the epigastrium; nausea, and sometimes painful and obstinate vomiting. The belly now becomes sore, but not always to the touch; borborygmi are almost constantly heard; the whole abdomen the hips, the loins, the umbilicus, and the stomach, become in turn the seat of pain, which seems to be relieved by pressure sometimes, but augmented at others. A sensation like globus hystericus is felt in the throat; acid, or acrid eructations; hiccough; the abdominal parietes are hard and soft in places; tumours of unequal size may be discovered below them, which often change their place. Painful tenesmus, extreme agony, and loud and fearful cries now follow, and continue with more or less force, until the paroxysm is removed by proper applications. This however is of uncertain duration, as remedies may be more or less judiciously selected, or as they may be more or less effi-

cient. Pain more or less acute has continued for years without much aggravation or diminution, and seems to afflict more by its obstinacy, than by its severity. In these chronic cases, the belly becomes contracted at one time and relaxed at others, but always experiencing more or less inconvenience.

2456. Fever rarely attends this disease in the beginning, though the circulating system is singularly and decidedly affected—the pulse is uniformly of an unnatural hardness; nor is this an evanescent condition, or easily conquered, as it persists until every other symptom disappears. The breathing is also affected, in consequence of a convulsive motion of the diaphragm and abdominal muscles. The brain does not appear to be much or acutely affected, though head-ache, giddiness, loss of memory, and anxiety are observed—we have seen delirium but once in this complaint.

2457. The limbs are affected oftentimes severely in this disease; not so much during the paroxysm, as after it has passed. In protracted cases, much inconvenience is experienced in all the limbs, as pains resembling rheumatism, or inability to move, bordering on paralysis, are almost sure to follow.

Diagnostic.

2458. This disease may be confounded with enteritis, when it first invades the system, especially in young subjects; but attention to the occupation, or the probability of exposure to the influence of lead, will lessen the difficulty of distinguishing these affections from each other. The pain in this colic, is more confined to the umbilicus, and diffuses itself to the neighbouring parts; the patient is also able to bear pressure; indeed, he often presses himself against the edge of a table with a view to relieve himself; the absence of febrile motion for the most part; and the almost constant state of retraction of the abdominal muscles, strongly mark this disease.

Prognostic.

2459. If much puking, fever, heat of skin, accelerated pulse, little or no urine, and that high-coloured and offensive, obstinate

constipation, swelling with tenderness of the belly, cramps in the legs, and hiccough attend, the augury must necessarily be bad. But if the contrary of these symptoms obtain; especially if the stomach is quieted, the bowels give way, the skin become soft and disposed to moisture, and the urine be plentifully secreted, the disease will almost always yield to well-selected remedies, and a proper course of treatment.

Pathological Appearances.

2460. Never having had an opportunity of examining a body destroyed by colica pictonum, and feeling it highly important to its treatment that its pathology should be understood, we have selected Pariset's account of the appearances on dissection of patients who had died of this disease.*

2461. "On opening the dead bodies, the intestines, but especially the colon, are found contracted in several portions of their length, and filled in the intervals of these narrowings, with a dry, hard matter. On the stomach we may observe red or brown spots, and the bowels have the appearance of being bruised. The bladder often betrays marks of great irritation, especially near its neck; the mesenteric vessels, and the whole system of the vena porta, are filled with blood."

Treatment.

2462. Though we do not in general discover in colica pictonum a well-marked, or distinctly-formed, pyrexia, it is nevertheless certain, that in this disease the arterial system is materially affected, together with local inflammation, as a tense and vibrating pulse, (par. 2456,) and as post mortem examinations declare. It must therefore be certain, that the proximate cause of this disease is inflammation produced by the action of lead, in some one or more of the intestines, and occasionally the stomach itself. It has been owing to the absence of the signs of phlegmasia, as indicated by the condition of the sanguiferous system on the one hand, and the presence of violent pain, espe-

* See Dict. des Sciences Med. Art. Colique.

cially when it assumes an alternate, or spasmodic form, on the other, that the proximate cause of colica pictonum has been looked upon as a derangement of the nervous system. But this is a very partial, and we may add, imperfect view, of what, on the one hand, may constitute phlegmasia, and on the other, neurosis.

2463. For modern pathologists have most satisfactorily proved, that inflammation, and this to a very considerable extent, may exist without the ordinary signs of this condition, (such as an accelerated pulse, heat of skin, or thirst;) and on the contrary, that the latter signs do not prove to a certainty, the former, or the inflamed state of a part; and consequently, that pain, on the one hand, accompanied by heat, and an increased arterial action in the part, as in certain of the neuralgiæ, do not absolutely prove the presence of inflammation, so on the other, the absence of these signs do not prove its non-existence.

2464. It appears, however, every way certain, that neither of these conditions continue long idiopathically, in either of the systems just mentioned, (par. 2463,) for they will soon mutually involve each other; and theoretically, perhaps, it might appear a matter of indifference, in which of these systems the irritation commence, if this would be the certain result; but it may be highly important in a therapeutical point of view. For if the primitive impression be upon the nervous system, it is every way certain, it will not be long confined to it; as it will pretty quickly manifest its influence upon the circulating system. Or, if we suppose the irritation to be originally in the sanguineous, it will be confined to it but a short time before the influence of the irritation will be felt by the nervous system.

2465. If it be certain then, as declared by some, that the action of lead is always *immediately* upon the nervous system, it is nevertheless no less certain, that the circulating system will be quickly implicated. In a limited, or a purely hypothetical view, it might be insisted, that our remedies should be addressed to the nervous system in attempting the cure of colica pictonum, as there must be a period under this consideration of the subject, that it would be idle, if not injurious, if it were treated as a disease of the sanguiferous system. We admit this to be theoretically correct; but if acted upon, it would be highly mis-

chievous in very many instances, as this state of things is not only, (most probably,) very evanescent, but so extremely obscure, that we should find it difficult to determine its pure and uncomplicated existence, or when this was about to cease.

2466. For these reasons we must regard a phlogosed condition of the intestines to be the most probable, as well as by far the most common, in *colica pictonum*. So far, we have seen nothing in the acute form of this disease, to lead us to suppose, that the irritation, or influence of the remote cause of this disease, is confined, beyond an imaginary period, to the nervous system; and consequently, to act upon the presumption, that it is constantly so, would but ill comport with what we learn from the examination of the dead body. (par. 2461.)

2467. Our own experience therefore is so entirely in favour of the antiphlogistic plan of treatment; and our success has been hitherto so uniform, that we should find it difficult to lay down a plan of treatment essentially different from that suggested for *ileus*. It may however be proper, or perhaps useful, to say, that in a recent and obstinate case, that after pretty extensive bleedings, general, as well as local; the various mild cathartics, and the repeated employment of the warm bath, we found equal parts of castor oil, and spirit of turpentine, in half ounce doses, once in two hours, to open the bowels with great certainty. We are disposed to believe, that these evacuations were the effect of this combination, and not a coincidence; as this patient had a severe relapse about a week after we had taken our leave of him; for which he had again to undergo a discipline pretty similar to the first; and he was again operated on by the castor oil and the turpentine.

2468. But notwithstanding our conviction, that the disease is essentially an inflammation of the intestines under some particular modifications of the (perhaps) nervous system, we are nevertheless obliged, as a matter of common honesty, to rely upon the truth of the treatment about to be mentioned, but which puts all theory, or pathology, to defiance—this is, the almost exclusive treatment of this disease by large and repeated doses of alum. For the better understanding of the treatment of this disease by this method, we will transcribe a case, with the rou-

tine of practice that was pursued in it. It is taken from the "Archives Generales de Medicine, tom. xviii. an. 1828."

2469. It is declared in the title to this paper, that the cases were collected under the eyes of M. Kapeler, physician-in-chief to the Hospital of St. Anthony, by M. D. Montanceix. We have taken the case at random; only taking care to have one of the several, that contrasts the practice of "de l'Hospital Saint Antoine," with that of "de la Charité."

2470. "CASE III.—J. Maiseau, of a strong constitution, bilious temperament, aged forty years, a cooper, was brought into the hospital of St. Anthony, on the 27th February, in a condition that was at first mistaken for intoxication; this was followed at intervals by a furious madness, that disposed the patient to attack every body around him. He thought every body had a design on his life, and upon the slightest noise would put himself on the defensive. If we attempted to press upon his abdomen, he would get into a rage, and threaten severely. He however would appear comforted by the pressure. The pulse was extremely slow. Not knowing any thing of this man's history, we could not account for his conduct; his papers however were now brought to us. We found by these that Maiseau had been several times treated for colica pictonum. One of these papers declared the patient had left the "Charité" on 11th of February, cured of a metallic colic, after a stay of three months in that institution. From this testimony we did not hesitate to give him a drachm of the sulphate of alumine, and a purgative glyster. Three hours after this he had a tranquil interval, and he passed the night pretty quietly. No stool.

2471. "28th. More quiet, but his mind constantly wrong; pulse very slow; the abdomen painful; the patient tossing his head continually in all directions; his eyes staring; tongue dry and red; (two drachms of alum; a purgative enema every two hours; flaxseed tea.) At four o'clock in the afternoon the patient recovered his senses; he answered questions properly, and had no recollection of what had passed; colic constant; he lost his sight, (amaurosis;) he trembled in all his limbs. No stool; (two drachms of alum; two purgative injections.) 29th. More pain, and trembling; return of appetite; loss of sight continues.

Four stools during the night; (prescription the same.) 1st. March. In same condition. 2d. Begins to distinguish objects; (prescription the same.) Nourishment. 15th. Recovered his sight entirely, from the 3d to the 12th; he took every day a drachm of alum. Several boils appeared successively on his body, and on the thighs. He left the hospital perfectly well, after having been there forty-five days."

2472. Alum is by no means a new remedy in colica pictorum; it was first proposed, we believe, by Dr. Grashius as a specific in this disease.

CHAPTER XXXIV.

SCROFULA.

2473. IN treating this subject we are every way aware, how little can be said that would be satisfactory, either as regards its pathology or its treatment. We can only, therefore, give a brief outline of this interesting, but inscrutable disease. To trace it through its diversified meanderings; to point out its modifying powers, and its various, and afflicting terminations, would require a volume, instead of the few pages our present design can spare to its investigation; and more especially, as many of its consequences, become the province of the surgeon.

2474. The influence of this disease is so pervading, as to give rise in itself to a temperament, that is called the "lymphatic temperament." Its seat is principally confined, if not altogether, to the lymphatic glands, or the lymphatics themselves. The bones, however, together with the structures connected with the larger joints, have been supposed also to be the *seat* of this disease; and giving rise to affections of the spine, the morbus coxarius, white swelling, &c. In cases, in which the bones are involved, it is said there is deficiency of earthy matter, and an over-quantity of gelatine; but if this be admitted, it only proves an imperfection in nutrition, and not an affection of the bones themselves, arising independently of any condition of the

lymphatic glands or system. And of the other glands, not lymphatic, which are said to be involved in this affection, as the testicles in males, the mammæ in females, the thyroid gland, and the tarsi, they become so, only perhaps in proportion, as lymphatics may constitute a part of their structure; and consequently, do not form an absolute exception to the rule, that "scrofula is confined to the lymphatic glands or system."

2475. The constitutions most liable to the scrofulous taint or diathesis, are such as are marked by certain physical peculiarities. As the blond complexion, consisting of light and silky hair, white skin, blue eyes, blooming cheeks, the veins easily traced, the upper lip, *columna nasi*, and lower parts of the nostrils, rather swelled; long and slender fingers; the chest narrow, and the shoulders projecting. The muscular system is soft and relaxed; in a word, the whole physical arrangement of the body betray marks of feebleness, or delicacy. In this diathesis, however, the mental faculties are often precociously acute, and vivacious.

2476. In such diatheses, the presence of almost any other disease, serves as an exciting cause, to the latent disposition; and especially, those that are wont to run into a chronic form; and hence the frequency of complication. Indeed, it sometimes happens, that we have no evidence of the existence of this predisposition, until it is thus roused into action, whatever reason we may have to suspect the existence of the temperament, from the presence of physical signs. At other times, the lymphatic glands are found enlarged, and discover themselves in various parts of the body, but especially in those of the neck. These, however, in some instances, remain stationary during life; while at other times they gradually develop themselves, by a slow and peculiar inflammation, ending most commonly in ulceration. The sores produced by the suppuration of scrofulous glands, are always difficult to heal; and the whole progress to this condition is accomplished with much difficulty; the pus, if it deserve the name, resembles whey with small flakes, like the curd of milk, or is ichorous, and excoriating. The ulcers have ragged edges, and heal with high cicatrices. The surface of the sore is slightly red, with feeble-looking granulations, which for a long time resists every attempt to make them heal.

2477. There is perhaps no tissue in the body, that may not have scrofula developed in it, because none, as far as we know, is without a lymphatic apparatus of some kind or other. Thus the brain, the lungs, the liver, the spleen, &c. &c. are reported by Laennec, Louis, Andral, Broussais, and many others, to be frequently studded with tubercles, which appear to have a lymphatic origin. No period of life perhaps is exempt from scrofulous development; but the parts which take on this action, seem to be influenced by the period of life, or the advancement which the organ makes towards its final perfection; for after this is accomplished, the liability seems to be diminished. Thus the tendency to scrofulous complications, is very much diminished after the person has passed the thirtieth year. But previously to this, there is no certainty, that phthisis or other affections connected with a scrofulous diathesis, may not be developed.

2478. It is owing, almost certainly, to the transmission of this predisposition, that consumption may with so much propriety and certainty, be looked upon as hereditary. And, though the scrofulous taint may not manifest itself in the lungs, it may in some other viscera, or in the lymphatic glands themselves, strictly so called. Scrofula, like consumption, (or more properly perhaps, scrofula in the form of phthisis,) gout, and epilepsy, may fail to be transmitted, or to be developed in certain instances, where there may be hereditary claims to it; yet the constitutions of such persons must always be looked upon with suspicious fear. We do not, however, pretend, to deny from what has been said, that this diathesis cannot be generated in constitutions that are not influenced by hereditary disposition; for this certainly must be the case, for the cause or causes which was capable in the first instance to generate scrofula, may combine to produce it in others. It would seem agreeably to observation, that long exposure to certain causes, may even in an untainted constitution, produce the scrofulous tendency; as climate, air, mode of life, and disease itself.

2479. Thus, warm climates are comparatively free from scrofula, while the people of countries of low temperature are obnoxious to it; so are the inhabitants of cities when compared with the surrounding countries; in Great Britain, witness the poor people of the large, and crowded manufacturing towns; those of

filthy habits, sedentary, and indolent withal, are very liable to this disease; and to these causes we may add, the directly debilitating effects of scanty food, or unwholesome diet.

2480. In a practical point of view, the knowledge of the occasional causes of scrofula, may lead to the prevention of its development, though we may never be able to destroy the predisposition. Indeed, we may safely say, that the absence, or the withdrawing of the exciting causes, may do more, than prevent the immediate development of the disease; it may diminish the susceptibility to development, which would be a great point gained.

2481. Our attention then must be mainly directed against the full or partial development of this disease; and much may be done where every thing essential to this end can be commanded. When compatible with the condition or means of the patient, a change of climate would be highly advantageous; and where this is impracticable, much may be done by avoiding all unnecessary exposure to cold and wet—this may be effected or guarded against, by additional clothing, and especially of the woollen kind, and avoiding all unnecessary exposure. Flannel, or fleecy hosing next the skin is of much consequence, and should extend over the whole of the protected surface of the body. Females should be particularly circumspect in this particular; they should invariably wear worsted stockings, flannel drawers, and chemises. The city air should be changed for that of the country; and particularly that from salt water, when it can be commanded; for by this, two advantages are derived from the one source; pure air, and sea-bathing. In employing, however, the latter remedy, much care is necessary—indeed it should always be under the direction of the physician, who will not permit it when there is cough, or other visceral disease; or too little vigour in the constitution, to produce a sufficient and healthy reaction.

2482. Well-managed exercise, is of great consequence to scrofulous habits; the regular feats of a properly-governed gymnasium, is of all others perhaps the best, as the exercise can be always accommodated, to the existing powers of the patient, and gradually augmented as strength and agility increase. It will also give a habit of early rising, as the practice of the gymnasium is best performed early in the morning.

2483. A generously nutritious diet, should be adopted; all unnecessary stimuli should be shunned. The stomach should be gratefully stimulated by the vegetable mucilages, as the rice, sago, tapioca, arrow-root, &c. together with as much animal food as is necessary to preserve its tone, but not sufficient to oppress it. All crude substances should be carefully avoided—all unripe, or ascescent fruit, should be forbidden.

2484. We have little reliance in general, upon medicine in this disease; though it is every way important to keep the bowels well regulated—for this purpose we believe the simple rhubarb pill is the best. Should the glands threaten suppuration, it must be avoided as long as possible, by attending to the state of the system—that is, keeping down arterial action, by gentle purging, a nutritious, but a vegetable diet, and by the frequent bathing of the part with cold salt and water. If suppuration have taken place, the diet should be more generous, but never stimulating—tonics may be given in combination with the compound syrup of sarsaparilla; and the sores washed two or three times a day, with a decoction of carrots.

PRESCRIPTIONS.

TOAST WATER.

Take a piece or slice of stale sweet bread; toast it gradually until quite brown, and then immerse it suddenly in cold water—covering the vessel for a short time.

TOAST TEA.

Toast bread as directed above; crumble it in a tea-pot, and pour boiling water on it—when cold, strain.

APPLE WATER.

Roast two or three apples, and while hot, pour a pint of boiling water for each apple; beat them well up, and when cold, strain for use.

TAPIOCA, SAGO, AND ARROW ROOT JELLIES.

Take a table-spoonful of either of these substances; pour on either a pint of cold water, and boil it gently until it is a transparent jelly—sweeten with loaf sugar to your taste, and grate on it a little nutmeg, or season with lemon juice. The arrow root and water should be mixed intimately before boiling—this is not necessary with either of the other substances.

COLD CUSTARD.

Take the yolk and white of an egg, and one table-spoonful of the best brown sugar; beat together in a vessel, until the tenacity of the white of the egg is entirely destroyed—add gradually, (stirring it constantly,) half a pint of cold water, and two tea-spoonfuls of rose water, and a little grated nutmeg. A wine-glassful of this may be taken every two or three hours.

SIMPLE CERATE.

Take olive oil, fresh hog's lard, and spermaceti, six parts, bees-wax four parts—melt together slowly.

BASILICON.

Take of hog's lard, eight parts; white resin or rosin, five parts; bees-wax, two parts—melt together slowly.

SPIRIT OF MINDERERUS.

Take of the carbonate of ammonia, in powder, two ounces. Add by small portions, with frequent stirrings, as much distilled vinegar, as shall be sufficient to saturate the ammonia exactly.

N. B. This should always be made fresh.

CHALK JULEP.

Take of prepared chalk, one ounce; white sugar half an ounce; gum Arabic, quarter of an ounce; spirit of cinnamon, two ounces; water, two and a half pounds.

Rub down the gum with four ounces of water. Then rub the sugar with the spirit of cinnamon, or four drops of the oil of cinnamon; then mix the whole together.

This should be made fresh. A table-spoonful of this may be given frequently to an adult, during the day, and a tea-spoonful or more to a child.

GLOSSARY,

EXPLAINING THE TECHNICAL TERMS USED.

A.

- Abscess*, a collection of pus or matter.
Abdomen, the belly or paunch.
Abdominal viscera, the contents of the abdomen.
Abortion, miscarriage.
Antiphlogistic, medicines that reduce an inflammatory habit.
Axillary, belonging to the arm-pit.
Anormal, unnatural or unhealthy state.
Aponeurosis, the tendinous coverings of the joints.
Ægophonism, is the trembling or jerking sound of the voice, like the bleating of a goat.

B.

- Bronchophonism*, the sound of the voice in the large bronchial tubes.
Bronchial respiration, the sound of the respiration as it exists in the larynx, trachea, and larger bronchial trunks.
Blowing or puffing respiration, is observed sometimes when the patient is breathing quickly and by fits; during inspiration the air appears as if drawn from the auscultator's ear; while in expiration, it seems as if blown into it.
Borborygmus, a rumbling noise in the bowels, occasioned by wind.

C.

- Cardia*, the upper, or left orifice of the stomach.
Catamenia, the monthly discharge of women.
Chyle, a white fluid produced by digestion.
Colyrium, a wash for the eyes.
Coma, lethargic drowsiness.
Congestion, accumulation of blood in a part.
Crisis, termination of a disease by some sign.
Cathartics, purging medicines.
Chronic, long-continued disease.
Capillaries, the minute hair-like vessels of the system.
Crepitous rattle, resembles the sound produced by the crepitation of salt exposed to heat, or that produced by blowing into a dried bladder.

D.

- Diaphragm*, a muscle which separates the belly from the chest.
Dorsal, belonging to the back.
Duodenum, the first bowel below the stomach.
Dyspepsia, depraved digestion.
Diaphoretics, medicines to promote perspiration.
Diaphoresis, perspiration.
Diathesis, a disposition or affection of any part.
Diagnosis, discriminating one disease from another.
Diuretics, medicines that promote the secretion of urine.

E.

- Enema, or Enemata*, injection, or injections.
Excitability, the capacity to be acted upon by stimuli.
Excitement, the action produced by the application of stimuli.
Exfoliate, the act of casting off dead bones or scales.
Epidemic, diseases that prevail generally, attacking many at the same time.
Endemic, diseases affecting a particular people or country.
Engorgement, accumulation of blood in a part.
Exacerbation, moment of increase of a fever.
Exanthemata, acute eruptive diseases.
Expectorants, medicines to promote spitting.
Erythema, a slight inflammation of the skin or other parts.
Erysipelas, St. Anthony's fire.

F.

- Farinaceous*, mealy.
Febrile, feverish.
Febrifuge, that which has the power to remove fever.

G.

- Gangrene*, a mortification, or nearly the loss of life of a part.

H.

- Hæmorrhages*, spontaneous bleedings from any part of the body.

I.

- Idiopathic*, an original affection of a part.
Iliac passion, dry belly-ache.

L.

- Lateritious*, brick-coloured.
Leucorrhœa, the whites.
Lumbar, belonging to the loins.

M.

Miasm, sing. *Miasmata*, plur. any fume or effluvia capable of producing disease.

Meninges, coverings of the brain.

Mucus, a peculiar tenacious secretion.

Mucous, that which partakes of mucus.

Metallic tinkling, a sound resembling the striking of a cup of metal, glass, or porcelain.

N.

Nausea, sickness at stomach.

Normal, natural or healthy state.

O.

Œsophagus, the gullet.

Ophthalmia, an inflammation of the eyes.

Oxygen, basis of vital air.

Oxygenation, acquiring oxygen.

Orthopnœa, a difficulty in breathing in which the patient cannot lie down.

P.

Pectoral, belonging to the breast.

Physical, that which relates to natural agents—that which is opposed to moral.

Physiology, the doctrine which teaches the use and actions of living parts.

Plethora, fulness of blood.

Pus, the matter found in abscesses, and other parts, after inflammation.

Pustule, an ulceration of the cuticle, with an inflamed base containing pus.

Paroxysm, an access, fit, or exacerbation of a disease.

Phlegmasia, inflammation.

Phlegmonous, inflammatory.

Pro re nata, as occasion may require.

Prognosis, foretelling the event of a disease.

Pathology, morbid appearance of diseased parts.

Pathognomonic, characteristic symptoms of a disease.

Purulent, consisting of pus.

Post mortem, after death.

Percussion, the striking of the chest with the extremities of the fingers so as to make it render its sound.

Pectoriloquism, *perfect*, is the transmission of the voice through the stethoscope, when applied to the chest.

Pulmonary respiration, is the sound or slight murmur rendered by healthy lungs, on the application of the funnel-end of the stethoscope.

R.

Rickets, a disease of the bones.

Rattle, expresses the sounds besides those of healthy respiration, which give rise to the sensation of air passing through a fluid in the lungs.

S.

Sanguiferous system, the blood-vessels, both arteries and veins.

Scirrhus, a tumour affecting glands.

Scrotum, the bag under the penis containing the testicles.

Secretion, the separation of various fluids, and other matters, by glands from the blood.

Symptomatic, arising from, or indicative of some other affection.

Syncope, fainting fit.

Subsultus tendinum, a convulsive motion of the sinews of the wrist.

Synochus, a sub-acute inflammation.

T.

Tenesmus, an ineffectual urging to go to stool.

Tormina, a griping pain.

Tubercle, a small, hard, superficial tumour, circumscribed and permanent, or suppurating partially.

Type, the peculiar character assumed by a disease.

U.

Uterus, the womb.

Utero-gestation, the term of pregnancy.

V.

Vesicate, to blister.

Vesication, blistering.

EXPLANATION

OF THE

PLATE OF THE PATTERNS FOR BLISTERS.

- Fig. 1. Pattern for blister to go between the shoulders.
 2. " " " for the chest of a female.
 3. " " " for the chest of a male.
 4. " " " for the side.
 5. " " " for the calves of the legs.
 6. " " " for the chest of a child.
 7. " " " for behind the ear.
 8. " " " for inside of the thighs—these differ from those for the calves of the legs, in being a little broader.

Fig. 1.

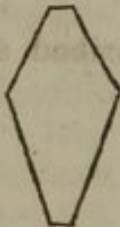


Fig. 2.



Fig. 3.



Fig. 4.

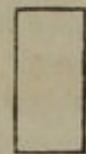
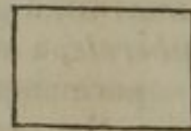


Fig. 5.



Fig. 6.

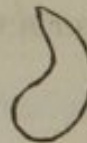


Fig. 7.

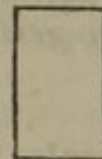


Fig. 8.

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