

Researches and observations on the causes of scrofulous diseases / by J.G. Lugol ; tr. from the French, with an introduction, and essay on the treatment of the principal varieties of scrofula, by W. Harcourt Ranking.

Contributors

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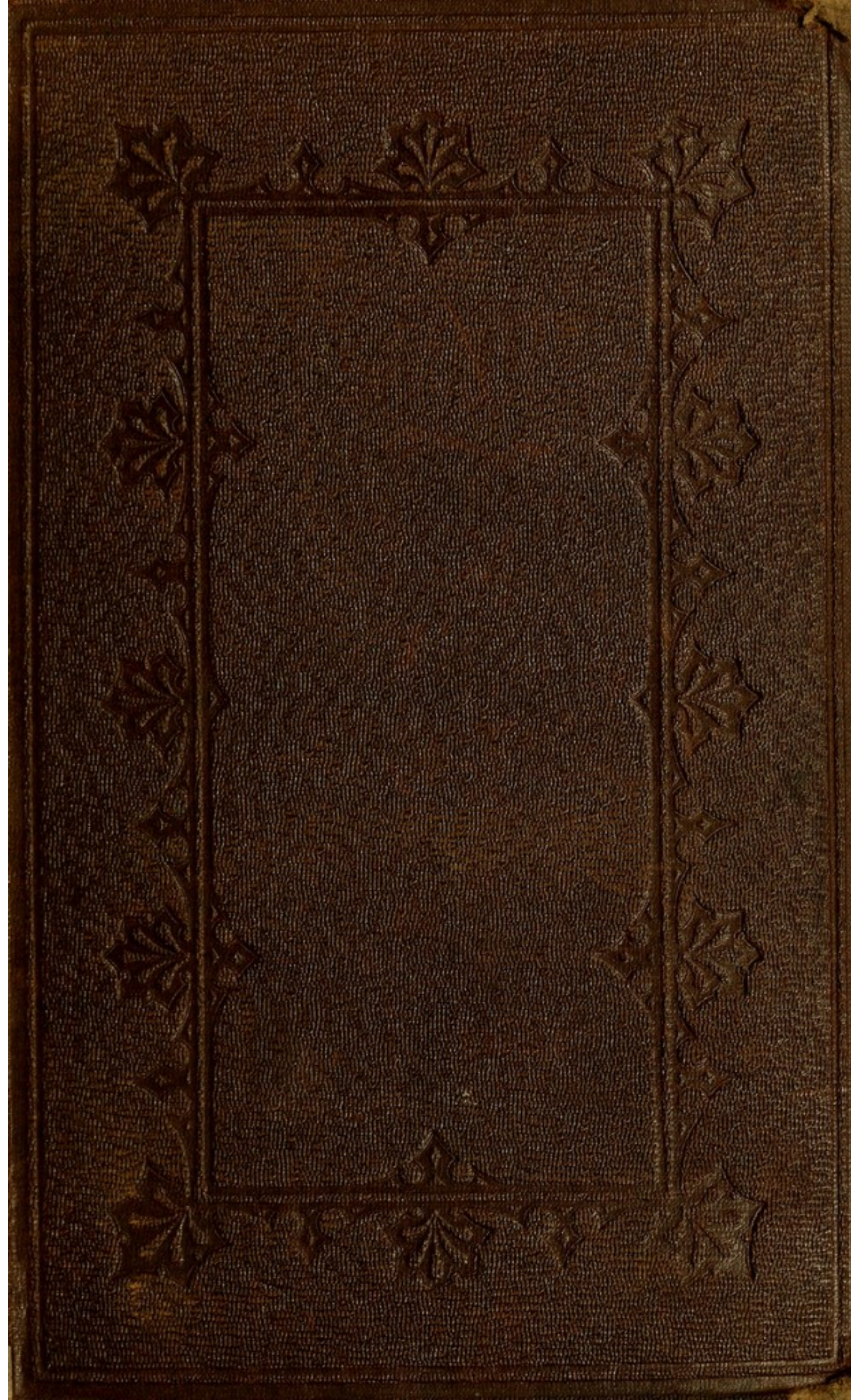
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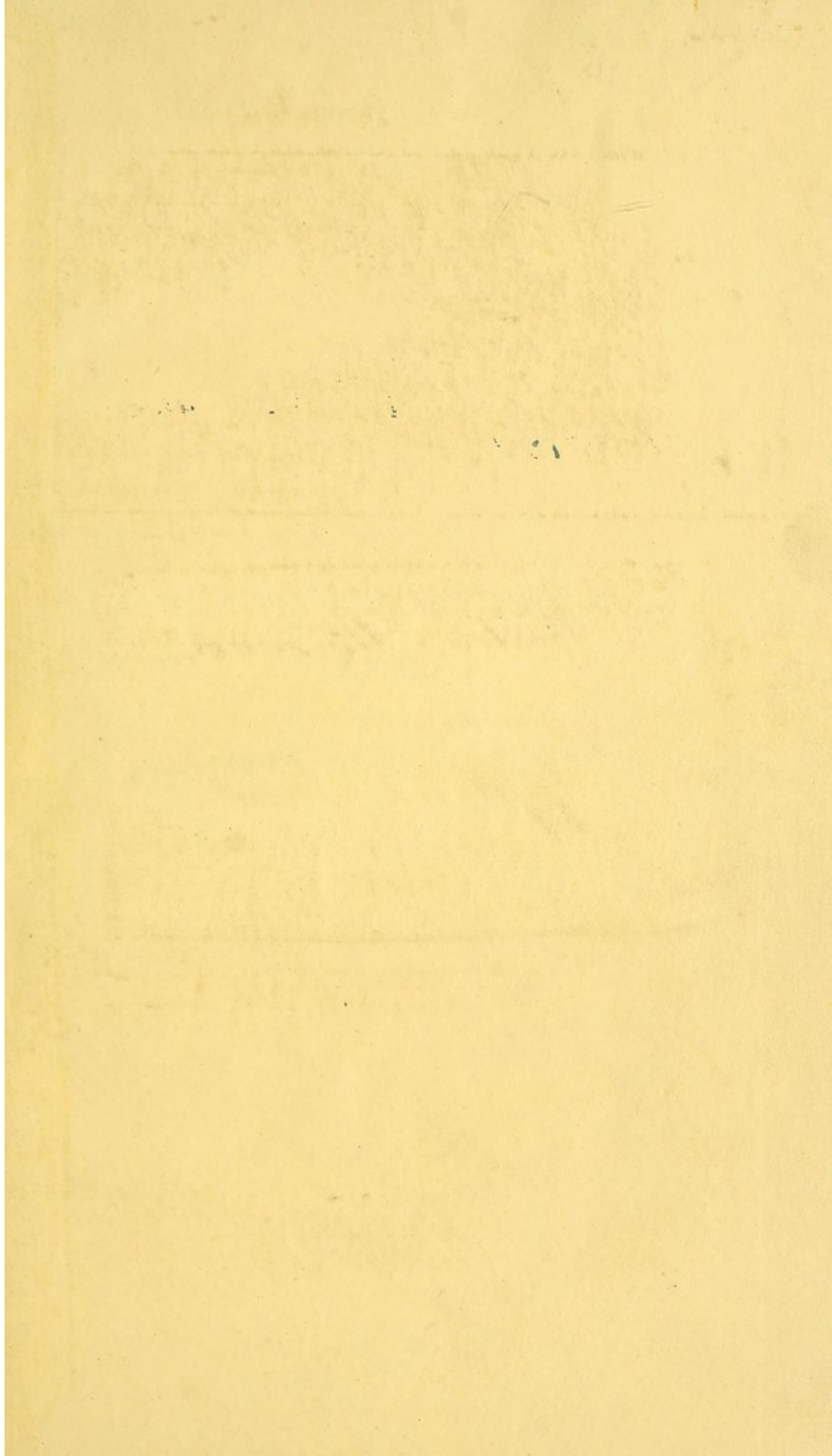
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RESEARCHES AND OBSERVATIONS
ON THE CAUSES OF
SCROFULOUS DISEASES.

TESTIMONY OF THE MEDICAL PRESS.

"It is the first part of this 'ten times revised' work which M. Lugol has just published, and after a careful perusal of its contents, we are able to say without hesitation, that it is one of the most valuable monographs that have been presented to the medical public for many a year, and is calculated to deeply modify the views of the profession with regard to the pathology of scrofula."—*Lancet*, June 3d.

"No one can turn to this additional work, embodying an account of M. Lugol's experience in a particular and most important department of his labours, without the liveliest expectancy and interest. It is with feelings of this character we opened the volume, and we have not been disappointed."

London and Edinburgh Monthly Journal of Medical Science, August.

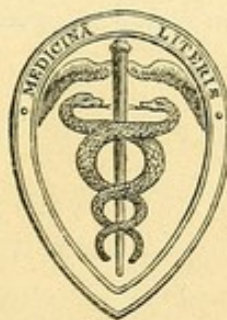


RESEARCHES AND OBSERVATIONS
ON THE CAUSES OF
SCROFULOUS DISEASES.

BY J. G. LUGOL,
PHYSICIAN TO THE HOSPITAL OF ST. LOUIS, &c.

TRANSLATED FROM THE FRENCH,
WITH AN INTRODUCTION, AND AN ESSAY ON THE TREATMENT OF THE
PRINCIPAL VARIETIES OF SCROFULA,

BY
W. HARCOURT RANKING, M.D. CANTAB.
PHYSICIAN TO THE SUFFOLK GENERAL HOSPITAL.



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TRANSLATOR'S INTRODUCTION.

ὦ παι κρεόντορ, ὡς ἀληθὲς ἦν ἄρα
ἐσθλῶν ἀπ' ἀνδρῶν ἐσθλὰ γίγνεσθαι τέκνα
κακῶν δ' ὅμοια τῇ φύσει τῇ τοῦ πατρός ?

EURIPIDES *apud Stobæum.*

To introduce the following important Researches by a panegyric upon the scientific character and acquirements of their author would be a work of supererogation. The name of Lugol is, as it were, identified with the subject of Scrofula; and his former labours in the investigation of that disease have already placed him in the first rank among those who have contributed to the advancement of science and to the benefit of mankind.

As it is possible, however, from the universally interesting nature of the present Researches, that they may come before the notice of some to whom the name and reputation of their author are not so familiar, it may be advisable, in order to invest them in the eyes of such persons with the authority to which they are so justly entitled, to mention briefly the circumstances under which they have been given to the public.

The present work has been composed at the close of a brilliant and successful medical career of more than thirty years' duration, throughout which M. Lugol has almost exclusively directed his attention to the intricate and extensive subject of scrofulous disease. To naturally strong and untiring powers of observation, he has added opportunities of prosecuting his investigations, such as rarely fall to the lot of one individual. He has been now more than twenty years physician to an institution which, from its size and number of inmates, may be said to resemble a town rather than an hospital; and in this extensive field he has had the superintendence of one hundred and fifty beds, constantly filled with all possible varieties of scrofulous disease.

The out-patient department also of the Hospital of St. Louis is inconceivably extensive; pitiable and loathsome objects, of all ages and degrees of infirmity, there daily crowd around him for the benefit of an experience which is only equalled by his urbanity and kindness of heart. In addition to this, M. Lugol has for thirty years enjoyed one of the most extensive private practices in Paris; he has there long been the chief authority upon the subject of scrofula, and has numbered among his patients the wealthy and titled classes of every European country. The observations, therefore, which he commenced among the poor have been re-observed among the rich; and, however humiliating may be the reflection, he has ascertained that, on this point at least, there is no difference between the scion of royalty and the "beggar's brat;" they are both in an equal degree amenable to the great curse of civilized nations, and neither the luxury of

the one nor the misery of the other is able to effect any very considerable modification in its manifestations.

With such opportunities of study, it is scarcely necessary to urge upon the reader the importance which should be attached to the opinions announced in the following pages; they are the opinions of perhaps the only man in Europe who is capable of doing justice to a subject of such immense interest as is that of the causes of scrofulous diseases.

In importance scrofula is second to no disease by which mankind is afflicted. Considered in its fullest extent, it is said to affect, in a greater or less degree, nearly a third of the human race; and to that division it imparts so marked a peculiarity of temperament as, in the words of our author, to constitute them "almost a specific variety of our species."

It commences its ravages even before birth; for, according to the opinion of M. Lugol, it is the cause of by far the majority of spontaneous abortions to which females are subject. Nor is it a matter of surprise that such should be the case; for abortion is commonly the consequence of disease and death of the embryo, and it is scarcely to be expected that the progeny of a diseased parent can acquire sufficient vitality to be enabled to reach the full term of intra-uterine existence. After birth, scrofulous disease declares itself under a variety of forms, many of which have not until lately been referred to their proper nosological position.

The earliest months of infantile life are replete with danger and suffering in the offspring of scrofulous parents. The process of dentition, so simple in a child of perfectly

sound constitution, is, in the scrofulous infant, a period of unceasing anxiety and difficulty. The appearance of every tooth is the signal for convulsions, diarrhœa, or severe pustular cutaneous eruptions. A year or two later, the scrofulous child becomes infested with intestinal worms, which multiply, in spite of every precaution, both as to food and medicines. The location of scrofula in the mucous membranes is announced by ophthalmia, and purulent discharges from the ears, nose, and vagina. In the skin and cellular tissue, it produces numerous and extensive abscesses, eruptions on the scalp and behind the ears, and one form of that most intractable disease, lupus. It invades the cervical, axillary, inguinal, bronchial, and mesenteric glands, giving rise in the former to obstinate and unsightly ulceration. Caries and necrosis of the bones, and white-swelling, are also scrofulous affections; it is the most common cause of hydrocephalus; and pulmonary consumption is but the last in the train of its numerous manifestations.

But independently of these special indications of the presence of the scrofulous habit, the existence of this habit complicates and imparts severe and often fatal characters to many diseases, the course of which is otherwise simple and easily controlled. Thus measles and whooping-cough, which are trivial complaints in healthy children, excepting in the course of epidemics of unusual severity, are, in the scrofulous, obstinate and often fatal.

Pregnancy also and parturition, which, being natural processes, are passed through with but little inconvenience in healthy women, are often periods of great suffering and danger in women of the scrofulous habit; and, according

to the observation of M. Lugol, these times are not exempt from difficulty, even in healthy females, if they are impregnated by scrofulous men. This latter observation is, in truth, but a corollary to the remarks lately made in reference to spontaneous abortion.

The author enters upon the subject of the present work by avowing his ignorance of the proximate cause of the scrofulous diathesis; he contents himself by stating that the vice or taint, whatever it may be, is hereditary, and that it is invariably declared by the deposition of tubercle.

In maintaining the hereditary nature of scrofulous disease, M. Lugol accords with most writers, both of his own and of this country; his opinion, however, differs from that in ordinary acceptation, insomuch as he denies the power of external agents to produce scrofula, except the predisposition be present. Certain anti-hygienic conditions, such as insufficient food, impure air, cold and damp, have generally been regarded as capable of rendering a healthy person scrofulous; even those, as Baudelocque, who deny that power to cold and damp, still believe that impure air is capable of inducing the morbid predisposition, and that it is in reality the deleterious agent which is to be blamed, even when others are seemingly in operation. Lugol, as it will be seen, makes no such exception; and he supports his opinion by a minute investigation into all those circumstances which are supposed to give countenance to the doctrine, as the *regime* of prisons, camps, &c.

It must be stated, however, that in maintaining hereditary causes to have the exclusive power of producing scrofula, he gives a much more extended signification to the term *hereditary* than is usually accorded to it: he does

not limit the application of the term to the transmission of the disease by parents themselves scrofulous; but affirms that several other conditions of parental health may manifest themselves in the offspring, under the form of scrofula. Were this not the case, and if it be true, as he asserts, that not more than one scrofulous person in five lives to perpetuate his species, the disease would necessarily soon be extinguished by the death of its victims.

The several conditions under which scrofulous children may be procreated, independently of the actual presence of the disease in the parent, are either congenital or acquired. In the first category he places the case of parents who are labouring under consumption.

That an intimate connexion exists between scrofula and pulmonary consumption has long been recognized by the profession, and is admitted fully in the writings of Hamilton, Carswell, Sir James Clark, Roche, Andral, Canstatt, &c. Every experienced physician must many times have had occasion to remark the prevalence of consumption in scrofulous families, and that the children of parents who have died phthisical, frequently manifest one form or other of scrofula. M. Lugol, however, insists upon the connexion between the two forms of disease, in stronger terms than any preceding writer; he regards consumption as the *natural death of the scrofulous*, and declares that he has been able to ascertain the existence of that disease in one or other parent of more than half the patients who have come under his notice. He further states that he has, as a general rule, discovered the presence of pulmonary tubercles in those who have died of scrofulous diseases.

The truth of the latter observation derives the strongest confirmation from the well-known law established by M. Louis, that tubercles never exist in any part of the body, after the age of fifteen, without also being present in the lungs.

There is a numerous class of persons who enjoy an average state of health as adults, but who have been subject in childhood to enlarged cervical glands, ophthalmia, or some other form of scrofulous disease. These persons do not hesitate to marry, nor would they in general be dissuaded from so doing by their medical adviser. According to the observations, however, of our author, they are seldom in a condition to become the parents of healthy children. The same unhappy lot is also said by M. Lugol to await those who, although they do not themselves exhibit any signs of scrofulous disease, have brothers or sisters in whom the disease is manifest. It is an axiom with him, that if one child in a family be scrofulous, the others must of necessity inherit the predisposition also.

These and many other opinions of our author are not recognized by the profession to the full extent; but it must be remembered that, as the subject had not previously been investigated under similar points of view, we are not in a condition to criticise his opinions. His ample experience and the energy with which he has devoted himself to the subject of his present Researches, must be our guarantee that if he have not developed the exact truth, he has, at all events, made a near approximation to it.

Among the acquired conditions of parental health which are capable of inducing scrofula in the offspring, Lugol

mentions the presence of the syphilitic cachexia, venereal excesses, too great youth or too advanced age in the parent, and the existence of certain cerebral disorders, as epilepsy, insanity, &c. It is an opinion of ancient date, that scrofula and the venereal disease were intimately connected. Some authors, as Astruc, Portal, Camper, &c. even went so far as to affirm that scrofula is nothing more than a degeneration of syphilis. This opinion is, however, ably controverted, both by Baudelocque and by the author of the present Researches. The arguments made use of by both are similar, having reference chiefly to the existence of scrofula long prior to the introduction of the venereal disease, and to their total dissimilarity on the point of contagion. The subject is discussed at length by Baudelocque.*

Lugol considers early marriages to be a fruitful source of the propagation of scrofulous diseases, both in the higher and lower classes. He does not allow that men in general are capable of procreating a perfectly healthy offspring below the age of twenty-five, and consequently regards all marriages contracted previously to that age as precocious. To this cause, coupled with that of intermarriage, he attributes, in a considerable degree, that degeneration of the families of the nobility, which has been observed in all countries, but more especially in Spain.

But if persons who become parents too early run the risk of producing scrofulous children, the chances are still more decidedly against the offspring of parents advanced in years. It is scarcely necessary to insist upon this

* Etudes sur les Causes de la Maladie Scrofuleuse, p. 34 et seq.

subject in the abstract, as the world in general is willing to admit its truth; but our author's limitation of the age at which the power of begetting vigorous children ceases, may not be so readily acceded to. According to his observations, the reproductive faculty in man begins to decline about the age of forty-five, and is greatly deteriorated after fifty-two or fifty-three. Whether the advanced age of the parent be the sole cause of the circumstance in many cases may be doubtful; but it is unquestionable that there are few large families in which a marked difference cannot be observed between the constitutional vigour of the elder and younger children.

Among other results of the investigations of M. Lugol, we find that the existence of certain diseases of the nervous system in the parent, as epilepsy, insanity, &c., is frequently the cause of the procreation of scrofulous children. That this should be the case we are prepared to expect, as the connexion between epilepsy and insanity with the scrofulous predisposition, has long been recognized. Dr. Cheyne,* in alluding to this subject, speaks in the following distinct terms with respect to epilepsy: "We conceive that epilepsy is as certain a manifestation of the strumous diathesis as tubercular consumption, psoas abscess, or hereditary insanity. We have no recollection of a case of cerebral epilepsy in a patient who, when due inquiry was made, did not appear to inherit a strong predisposition to scrofula." Evidence of an equally strong nature, respecting the alliance of mania with scrofula, is to be found in the writings of Dr. Cumin.†

* Encyclopædia of Practical Medicine. Art.—Epilepsy.

† Ibid. Art.—Scrofula.

There is no opinion respecting scrofula more generally diffused among medical men as well as the public, than that it may lie dormant in one generation, and reappear in the next. The opinion accordingly will be found in most writers on scrofula, from Boerhaave* downwards. M. Lugol considers the opinion to be utterly gratuitous, and believes that it has originated in the habit of regarding those diseases only as scrofulous, which produce external disfigurement. In his idea a man who springs from scrofulous parents, and who is the father of scrofulous children must himself be scrofulous also, for he cannot transmit to his posterity what he does not himself possess.

A long chapter is devoted to the consideration of the important subject of the marriage of scrofulous subjects. The author's opinions are decidedly unfavorable to marriage in such individuals, and he criticises severely the opinion of Bordeu and others, who assert that scrofulous disease is benefited by the revolution in the system which is induced by the intercourse of the sexes. He believes on the contrary that married life is highly detrimental in scrofula, and adduces many instances, more particularly of females, in which the scrofulous predisposition which had until then lain dormant was called into activity by the circumstances incidental to that condition.

The unhappy state of the married scrofulous female is described in this chapter, with a fidelity which cannot fail to bring to the recollection of the reader many instances among his own acquaintances. Sterility and its accom-

* "*Silente sæpe morbo in genitura dum ex avo derivatur in nepotem.*"
Aphor. 1075.

paniments of vexation and envy, is the lot of some ; repeated abortions, inability to nurse, and the death one after the other of a sickly race of infants is the prospect of others ; in all a life which might have been tolerable in celibacy, is rendered by marriage a period of sorrow and suffering.

That a matrimonial connexion should not be formed by a person predisposed to scrofula, without deep deliberation, is admitted by every one ; but few are to be found, unfortunately, who will hesitate when the question is one which regards either themselves or their relations. Rank, influence, wealth are inducements of far greater weight than those which are offered by the dictates of prudence and moderation. Human nature and selfishness are inseparable, and if man will seek gratification even at the risk of his own health or life, it cannot be expected that he will be deterred from the pursuit of it by any considerations having reference to beings yet unborn. Hopeless, however, as the task may be, it is nevertheless the duty of the medical man to oppose the marriage of scrofulous patients with all his power ; for without some restriction in this direction, all other attempts to check the progress of scrofulous disease will be utterly unavailing.

Closely allied to this subject is that of the marriage of blood relations. It has been long observed that in the human species as well as in animals, the race deteriorates by the frequent union of different individuals of the same stock, by "breeding in and in," as it is called ; hereditary disease is in such cases certain to be transmitted to the descendants, for it will usually be found to exist at the same time both on the father's and mother's side. It may

possibly admit of doubt whether evil would result from the union of two relatives springing from a perfectly healthy family, if such a one could be found ; but as scrofula affects more or less one family in three, there can be no doubt of the pernicious effects of intermarriage as a general rule. The instances in which the marriage of cousins has been followed by idiocy and mania, and other scrofulous symptoms in the children, are of too frequent occurrence to allow of any misapprehension on the subject. The author of the present work remarks in strong terms upon the impropriety of the step, attributing to it the many evident degenerations of royal and noble families in all countries, and alleging it as a cause for the great prevalence of scrofula in certain districts.

Another of the opinions entertained by former writers on scrofula, as Bordeu, Van Helmont, Boerhaave, &c. is that the disease may be communicated by the milk of a scrofulous nurse : the question is considered by M. Lugol, and decided in the affirmative, but he at the same time cautions us against the too ready admission of this cause, as parents will often accuse the nurse of being the originator of the scrofulous symptoms in their child, in order to screen themselves from the imputation of an hereditary taint. Whether we admit the possibility of the actual transmission of the scrofulous habit by the breast-milk of the nurse or not, it must be clear that the milk afforded by a scrofulous woman cannot be of the same nutritious quality as that of a woman in sound and robust health ; and therefore cannot be suitable to the wellbeing of the infant. Insufficient food being one of the most potent causes of the development of scrofulous symptoms where the predispo-

sition is already in existence, the nursing of the child of a scrofulous woman, which is in all probability scrofulous itself, upon the milk of a scrofulous nurse must necessarily be the means of all others the most likely to confirm the existence of the taint; and it may therefore be safely laid down as an axiom in the management of scrofulous children that they ought not to be nursed by the mother, excepting in particular cases, in which she and her family are robust, and the scrofulous habit is clearly derived from the father.

But independently of the detriment to the child, the act of suckling is most injurious to the scrofulous woman herself, for she has rarely a good supply of milk, and its elaboration does not take place without making injurious demands upon her constitutional powers.

The second portion of this work contains the author's reflections upon the reciprocal influence of scrofula and the several diseases to which infantile life is amenable. The first overt symptoms of scrofulous disease not unfrequently make their appearance immediately after an attack of smallpox, measles, hooping-cough, &c., and the latter diseases are therefore generally considered not only by the parent but by medical men to have been the actual source of the scrofulous habit. This M. Lugol distinctly denies, believing that no combination of circumstances can render a child scrofulous who is not born with the taint in his constitution.

The diseases of childhood, such as eruptive fevers, &c. exhibit very different degrees of severity in different families. Some children entirely escape these diseases, or if they do contract them, their course is simple and easily

controlled; others on the other hand suffer severely, and often fatally. This difference depends entirely, according to our author, upon the different constitution of the children; he even affirms his belief that few children die of measles or hooping-cough, who are not scrofulous. Similar observations are made with respect to some other infantile diseases which often immediately precede the outbreak of scrofula. Such are the catarrhal condition of the mucous membrane, to which the term mucous fever is applied by our continental neighbours, the growing fever, intestinal worms, &c. The common opinion in regard to these affections, as in the case of the eruptive fevers, is that they are the direct and sole cause of the scrofulous disease which develops itself as their consequence. Lugol clearly exhibits the fallacy of this opinion, and asserts that these diseases are in reality a proof of the previous existence of the scrofulous habit,—that they are in fact symptoms of scrofula.

The observations of the author upon the subjects of pregnancy, abortion, and delivery, are the most original in the whole book, and are well worthy of attentive perusal. In the scrofulous female the period of pregnancy is marked throughout by sufferings to which a healthy woman is comparatively a stranger, and abortion is of infinitely more frequent occurrence in the former than in the latter. The most common cause of abortion, in the opinion of M. Lugol, is the presence of the scrofulous habit in one or other parent, and the cause is more likely to come into operation when the fault is on the side of the father. Where both parents are scrofulous, he looks upon miscarriage as an almost inevitable event, for it is impossible

in such cases that the germ, imperfect from the beginning, can arrive at maturity. The great frequency of miscarriage in some families is a matter of every-day observation, and the most trivial occurrences, as slipping of the foot, a ride on horseback, &c. are alleged as the causes which have induced them. The author endeavours to point out the absurdity of these views, by showing, on the one hand, that, if such circumstances were in reality capable of producing such effects, few children would ever be born alive, for that all women, whatever be their station, are more or less exposed to some of them; and, on the other hand, that the most powerful medicines and accidents of the most fearful kind fail to cause the uterus to throw off the embryo in a perfectly healthy woman. Cases are on record in which both legs have been crushed, without the occurrence of miscarriage, and in criminal attempts at producing abortion, doses of medicine have been given, or violence used which has caused the death of the mother without inducing the expulsion of the foetus. The occurrence therefore of repeated abortions in a family should not only awaken the attention of the medical attendant to the constitutional state of the parents, but should be to him an indication of the probable character of the future state of health of any children which may happen to be born alive.

In the third part of the work, M. Lugol enters upon the consideration of a subject of the greatest interest in the study of scrofulous diseases, namely, the share which external or occasional causes have in their production. Contrary to the prevailing opinions of the present day, M. Lugol's investigations upon this point lead him to the conclusion that, although cold and damp, impure air, in-

sufficient food, &c. undoubtedly operate most injuriously upon the health of those who are exposed to them, they nevertheless have no specific power in the production of scrofula : in other words, that no combination of injurious circumstances, however capable they may be of inducing the development of scrofulous disease, the predisposition being present,—can in any case make a person scrofulous who is born free from the scrofulous taint. This may appear a startling announcement to those who are in the habit of tracing disease to the circumstances which have immediately preceded its outbreak, and satisfied that they have found its cause, exhibit no anxiety to make further inquiries. But it appears to me that a little reflection will convince us, that the opinion of M. Lugol is not so untenable as it may seem at first sight to be. There is much reason to believe that the effects of the anti-hygienic agents above alluded to have been greatly exaggerated in reference to their power of producing scrofula. It is certain at least that the subject has never yet been investigated in that philosophical spirit, which should enter into all medical questions. It is very true that scrofula frequently shows itself under circumstances in which many of the agents injurious to health are combined ; but, as is well observed by M. Louis, before we can fairly estimate the influence of these agents in the generation of tubercle, we ought to be aware of the extent of their power in the production of other chronic affections. Is scrofula or tubercle, in fact, more frequently the consequence of bad living, &c. than chronic irritations of the stomach and bowels, of the liver or kidneys ? Now this is a question which, in the present state of medical statistics, cannot be

satisfactorily determined ; but it is one which it is absolutely necessary should be set at rest before any definite conclusion can be arrived at with reference to the influence of those agents in producing tubercle.

We may, however, learn not to overrate that influence by the consideration that, although scrofula appears, in many cases, to be intimately associated with the agents alluded to, that it nevertheless very frequently arises under circumstances in which it is impossible that they could have come into operation. The disease is not confined to the poor, the ill-fed, the badly-lodged ; it is seen in equal intensity in the abodes of luxury ; and more than one royal family may be mentioned in which its ravages are manifest. In cases like these, it is impossible to accuse either cold and damp, or bad food, or even impure air, of being the cause of the disease. Moreover, we occasionally see many of the alleged causes of scrofula in active operation, without that disease being the consequence. The town of Boves, for instance, as mentioned by Baudelocque, is situated in the midst of a marsh, and its inhabitants are constantly exposed to cold and damp, and without, it is fair to presume, any compensation in the way of superior food, or well-ventilated houses, but scrofula is rarely seen among them ; while, on the other hand, Madrid is exposed to ravages of that disease in a fearful degree, although it is situated in a lofty plain, which is so dry that there is frequently a scarcity of water. And again, pulmonary consumption, which is but one form of scrofula, is as common a disease on the dry and lofty rock of Gibraltar as in our own climate ; for in one locality, it destroys 6·5

per 1000 of the troops in garrison, and in the other 6·4 per 1000.*

In respect also of the privation of wholesome food, as a cause of scrofula, it may be stated that where persons previously healthy are exposed to bad or insufficient nourishment, scurvy, dysentery, low fevers, and not scrofula, are the common consequence. Take for example, the instance of soldiers, who are men chosen for their physical and constitutional vigour, and who are, therefore, the most fitting subjects for the investigation. In these men, the effect of cold and damp and privation of every sort, is not to produce scrofula. During the siege of Thorn in Prussia, in 1708, which lasted only five months, 5000 of the garrison are said to have died of scurvy, but no mention is made of scrofulous disease. The same thing also occurred in the siege of Alexandria in 1801. Surely if bad food, cold, &c. were alone able to generate scrofula, it would have shown itself under the circumstances above alluded to ; and if it had done so, the notice of its occurrence would not have been omitted in the medical reports of the day. So also in the case of prisoners ; before the legislature paid that attention to the rights of humanity which now distinguishes its operations,—the cold, and damp, and all but starvation to which they were exposed, induced scurvy of the worst form ; but it is not stated that scrofula was more frequent in them than among the same number of individuals in any other situation.

These and a host of similar instances, which might

* Reports on the Health of the Army. By Major Tulloch.

be adduced, if it were necessary, appear to force upon us the conviction that, in order that bad food, bad air, &c. should be productive of scrofula, the co-operation of some other power is necessary which is equally consistent with the occurrence of the disease under circumstances in which the former can have no existence. That power, I believe, as stated by M. Lugol, to be hereditary predisposition. In subscribing to this opinion, however, I am far from regarding the effects of cold, impure air, &c. as unimportant; on the contrary, I believe that, injurious under every state of the constitution, they are specially pernicious in the scrofulous habit, and are the main exciting cause of the disease when the predisposition pre-exists.

But there is another point of view under which we may reflect upon the power of these agents. Although they may not be able to induce a scrofulous habit in a person of a sound constitution, it is not improbable, as is asserted by the author of these Researches, that they may reduce a healthy man to that condition of reproductive debility which shall cause him to become the parent of a scrofulous offspring. It has been demonstrated that other depraved states of parental health, besides the presence of the scrofulous diathesis, may develop themselves in the offspring under the form of scrofula; and if old age and debauchery render a man liable to become the father of a scrofulous progeny, it may fairly be presumed that the man whose frame is worn down by labour, semi-starvation, and sorrow, will not escape the same unhappy lot. A medical essay is not the place for a discussion upon political economy; but it might be well for our rulers to reflect, whether, in the short-sighted economy with which the

poor of this country are maintained, they are not directly extending pauperism, by directly conducing to the production of a scrofulous instead of a healthy race of children. How often has the hale labourer, whom misfortune has compelled to seek an asylum in the crowded receptacles of poverty, left his temporary abode with a constitution permanently debilitated, and only to become for the future the parent of a feeble race of infants, themselves soon to be the claimants of that niggardly charity, to the effects of which their own sickly existence may be attributed!

In the latter portion of the work, M. Lugol notices the opinion which was at one time prevalent, that scrofulous diseases are contagious: it need scarcely be said that he entirely denies the fact.

No instance of the transmission of the disease by intercommunication has ever occurred, either within his own knowledge or that of MM. Alibert or Richerand, both of whom at one time had the superintendence of the scrofulous wards of the Hospital of St. Louis. The question, however, has been completely set at rest by the failure of attempts to inoculate scrofulous pus, which have been undertaken by Kortum, Lepelletier, &c.

Before I conclude the introductory notice, it is incumbent upon me to make a few remarks upon the manner in which I have attempted to conduct the important duty of translation. Two faults, of equal magnitude, may commonly be laid to the charge of those who endeavour to transmute the ideas expressed in one language into another, which differs materially in its idiomatic construction;—the one is a slavish adherence to the literal interpretation of

the original, the other an unwarrantable freedom in its modification. It has been my anxious wish to avoid both these extremes; to give, on the one hand, a fluent English version of the following Researches, without in any manner interfering with their exact value and meaning. How I may have succeeded it is not for me to judge.

I have thought it requisite to make some trifling alterations in the method of arranging the articles and selections. I have likewise made two or three condensations and omissions of unimportant or over-diffuse matter; but I trust that this may be considered to enhance, rather than to detract from the clearness and value of the work.

In reference to the Essay on the Treatment of Scrofulous Disease, which I have added, after mature consideration, and by the counsel of those friends whose opinions I have ever regarded with respect, I may be allowed to state that it is intended to be no more than a sketch of the important and extensive subject of which it professes to treat. I therefore claim for its slender texture, the indulgence of those who may have been induced to expect a more laboured production. It will be seen that some important scrofulous diseases, and among them pulmonary consumption, have been left unnoticed. This has been done advisedly; for, had it been possible to do justice to that subject in the short space which I have allotted myself, no advantage could have followed the reiteration of the many plans of treatment, the failure of which from time to time, but too plainly demonstrates the hopeless character of that fearful disease. To have alluded to any of the barefaced charlatanisms which even licensed physicians have condescended to advance in these latter days,

in juxta-position with the present Researches, would have been to insult their honest and indefatigable author.

I should be doing an injustice to my own feelings, if I were to allow these pages to go forth without publicly expressing my sense of the high and courteous conduct of Dr. Cowan of Reading, in yielding to me the task of accomplishing what he had himself contemplated. One apprehension, however, must necessarily be mixed up with the feelings of gratification which such courtesy has afforded me; it is, that the profession having been led to expect a translation of the present Researches from the pen of that talented and learned physician, may, on that account, be less lenient in their animadversions upon an undertaking which, it is to be feared, is far below the standard to which his former labours have declared him to be capable of attaining.

W. H. R.

BURY ST. EDMUNDS, SUFFOLK;

Nov. 1844.

AUTHOR'S PREFACE.

IN the Lectures which we formerly delivered upon internal pathology, we insisted with peculiar earnestness upon the subjects of the diagnosis and treatment of the more common diseases. We were at that time, as now, firmly convinced that a due acquaintance with the science of medicine is not to be acquired by the investigation of maladies of rare and exceptional occurrence, so much as by the diligent study of those which present themselves daily in the practice of our profession, and in which, therefore, it is of the utmost importance that the student should receive early and solid instruction.

Impressed with these ideas, we could not fail to devote ourselves to researches connected with scrofulous diseases, especially as unusual opportunities of so doing were continually offered to us by our position; and as the subject, moreover, from its embracing the infirmities by which the human race is most frequently afflicted, becomes the most interesting in the whole range of pathological inquiry.

Scrofula commences to manifest its fearful effects in the earliest periods of intra-uterine existence, for it is the ex-

citing cause of spontaneous abortion, by which a fourth, at least, of the objects of its invasion are extinguished before they see the light. After birth, it arrests their development both physical and moral; while it complicates the diseases and disturbs the evolutions of childhood and youth. Its actual presence is revealed by a great number of morbid conditions, the common origin of which has not, up to the present time, been generally recognized, and which conditions have therefore been described by authors as so many distinct diseases.

The attacks of scrofula are sometimes confined to particular mucous membranes; in other cases, it involves several of them simultaneously; and in rarer instances, the entire mucous system is implicated: thence arise inflammatory affections of the eyes, ears, and nostrils, leucorrhœa, intestinal worms, mucous fevers, &c.

Scrofula also frequently fixes itself upon the skin; in which case, it causes chilblains on the hands, face, and feet; eczematous eruptions on the lips, eyelids, and ears; pustules of acne scattered over the forehead; pustules of lupus grouped in various forms upon one or more regions of the tegumentary system; with ulcers more or less numerous, and of varied extent. It is the source also of those pedicular maladies which, like the affections caused by the presence of intestinal worms, are perpetually reproduced until the constitution of the subject has undergone a thorough regeneration.

The localization of the complaint in the cellular tissue is announced by the production of repeated abscesses, the suppuration of which is abundant and interminable. When the osseous system is specially invaded, we have

caries, necrosis, and rachitis, in all their gradations. It is seldom that the disease is confined to one bone; on the contrary, it generally happens that several are simultaneously affected, and, in some rare instances, every bone in the body is attacked in rotation. But whatever be the number of bones diseased, or the degree of that disease, the affections are in all cases identical in nature.

These scrofulous affections of the bones not only greatly resemble each other, but they have likewise the closest affinity to the inflammatory affections of the eyes and ears; to the cutaneous ulcerations, pustules, and abscesses before alluded to; the sole point of difference is in their seat. So true, indeed, is this assertion that the above lesions may be seen to alternate with, and succeed each other, and occasionally even to coexist in the same individual.

To speak of scrofula of this or the other organ as distinct diseases is in reality an error; it is in all cases the same malady, although it may attack more particularly at one time the mucous tissues; at another, the cutaneous; and at another, the cellular or osseous, without localizing itself specially in either of them. The invasion, therefore, of scrofula upon one organ should lead us to anticipate its speedy development in another; indeed, we often, in such a case perceive, for the first time, that the disease has already been in existence, although perhaps under characters not recognized as essential to its nature.

The same general remarks may be made in reference to the sanitary condition of families. When scrofula shows itself with a certain intensity in one child, we may assuredly expect to see it develope itself in the brothers and

sisters ; for in the majority of the other children the predisposition, and in some the characteristic signs of the disease itself, will be discoverable. It is the same with the collateral branches of the family ; but in the present place I shall do no more than allude to the subject, having considered it at some length in the main part of this work.

Whatever may be the number and variety of the symptoms of scrofula, they nevertheless possess one common physiognomy, by means of which the taint may be recognized at first sight. The question will probably be asked,—what is this scrofulous taint ? We shall not attempt to reply to the question so propounded, for the reason that it does not admit of a satisfactory solution. We can only affirm that the existence of the taint, whatever it may be, is congenital ; and that it is invariably revealed by the development of tubercles, a production which is, in fact, the very essence of scrofula,—its anatomical and pathognomonic sign,—one which in itself characterizes the disease, and is the basis of the value of all its symptoms. In other words, if a patient be affected with tubercles, whatever be their seat, in our eyes he is scrofulous. Whether he labours under ophthalmia, cutaneous ulcers, cold abscesses, caries of the bones, or white-swelling, if tubercle either exists or has existed in himself or any member of his family, the scrofulous character of those maladies is rendered indubitable.

In our opinion tubercle has the same origin and mode of formation as any one of the organs of the body ; it is itself a kind of organ, and, like the liver or spleen, endowed with its own peculiar life ; like them also it has a spontaneous development. It is a pathological production which mo-

difies deeply all the elements of the organism, and consequently of function also. It impresses upon the objects of its invasion that peculiar temperament or constitution (*complexion*) which has been called the tubercular,—an original constitution from which are derived tubercle itself, and a host of maladies improperly termed scrofulous.

In the development of the diseases which this constitution engenders, is comprised the medical history of the patient, his brothers and sisters, and his other blood relations. We have so frequently repeated our investigations of the disease under these three points of view, that we do not hesitate to assert that they express with the most rigorous exactitude the natural progress of the phenomena of the scrofulous taint.

Our convictions indeed, in this respect, are so deep that we know not in what words to express our astonishment that facts so clear and of such common occurrence have found no place in the archives of medical sciences and this although they were made known in the first course of lectures which we delivered in the Hospital of St. Louis in 1828, and though we have demonstrated them frequently during the succeeding years to the pupils of that institution. It has, therefore, appeared probable that the publication of our labours would shed some light upon a subject most deeply and directly interesting to society; and that by so doing we should accomplish some real progress towards its diagnosis. It is certain that the information afforded by the best writers is not only foreign to the ideas which we shall promulgate upon this important subject, but is even diametrically opposed to them. This we shall prove by a simple remark upon the

usual practice in the present day, which no one will be disposed to contest.

A mother, we will say, has four children, all of whom are scrofulous. She applies to the central office for their admission to an hospital: the first having a white-swelling is sent to a surgical ward; a second has tubercles in the lungs, and is placed under a physician; a third has ophthalmia,—they send him to an eye infirmary; the fourth suffers from cutaneous tubercles, and this one alone is considered scrofulous, and is accordingly placed in the Hospital of St. Louis. Who will deny that these four children bear in their constitutions the germ of a common taint, and yet to what different modes of treatment will they be subjected? These are not the only sub-divisions into which the domain of scrofula is parcelled out; there are others which it is unnecessary to mention, as our meaning is, we hope, sufficiently clear.

Such is the practice of the present day in reference to the subject of scrofula; it is but the too faithful application of theory. This theory, however, is faulty in all its bearings. It supposes differences in these diseases where none exist; it assigns to each a special mode of treatment, when in reality, being of the same nature, they require the same medicinal applications. These arbitrary sub-divisions are the results of the infancy of diagnosis; they cannot be sustained in the presence of those general considerations which have brought these different morbid states into distinct relation with each other, and have shown their affinity to the tubercular constitution.

The frequency with which scrofula occurs among the different members of the family which it invades, and its

coincidence in the different branches of the same race, are sufficient, in our opinion, to prove that all scrofulous affections are of the same nature, and destitute of any essential difference.

But this doctrine, already so evident upon the foregoing considerations, becomes irresistible when we go back to the origin of these complaints, and discover that they are all hereditary. The transmission from parent to child is, in fact, the usual cause of scrofulous diseases, and the only one which we have been able satisfactorily to acknowledge and establish. The investigations into the pathological and accidental causes, so called, of scrofula which we have undertaken, prove to a demonstration that the notion of their existence is deceptive ; while, on the other hand, our researches into the sanitary condition of parents who engender scrofulous children have furnished results constantly identical. We have ever discovered the closest relation between the health of parents and that of their offspring ; so much so that we have given expression to the fact in the epigraph of the present work.

The particular facts upon which our ideas respecting the hereditary transmission of scrofula have been established were not chosen from among the most uncommon or most striking instances ; on the contrary, they are deduced from the every-day occurrences in practice ; and there is not one which may not be witnessed many times in a year by any one who will devote himself to this species of investigation.

We shall perhaps be thought too prolix upon the subject of hereditary transmission of scrofula, but we are unwilling to neglect any opportunity of studying the nu-

merous sources of scrofula. It is not, in fact, until we have analysed hereditary influences in all their aspects, that we could hope to enter with advantage upon another question of paramount importance to families and to society, namely, that of the marriage of scrofulous individuals.

Since scrofula is generally transmitted by the parents, we are led by a natural consequence to point out, as the most usual source of the propagation of this malady, those marriages in which the health of the affianced parties has never been the subject of inquiry. Our opinions have the support of incontrovertible facts,—facts which carry with them this plain and absolute injunction, that, in order to procreate a healthy progeny, every germ of hereditary disease must be eradicated.

We do not wish to disguise the fact, that the doctrine which we profess has nothing in common with even the most recent writings on the causes and diagnosis of scrofulous diseases; nay, more, we avow that it is in direct contradiction to what we ourselves taught prior to the institution of these researches. This diversity of opinion is caused by the negligence which those authors who have written upon scrofula have exhibited with respect to clinical instruction: they appear indeed, for the most part, merely to have paraphrased the readings of their hours of study. We follow a different plan; we speak of nothing which we have not seen, nor write but to promulgate observations which we have made personally at the bed-side of the sick. We have not enunciated a single thought, of which we are not able to recall the initiatory fact, as well as the majority of those facts which confirmed it.

We entertain the most profound conviction of the accuracy of these observations; we would even affirm that every physician has witnessed facts similar to those which might, at first sight, appear the most singular; but which facts are, nevertheless, not less exact than those of more ordinary occurrence. The mention of them will probably recall to the reader the recollection of some parallel instances which he has seen in the midst of other occupations, and which, for that reason, he has not analysed.

The observations made in the following pages are expressed with the most perfect frankness, for our convictions are sincere, and we have no intention of any personal criticism. The physician who writes at the close of his career possesses the double advantage of being able to speak from actual experience, and of being emancipated from that partiality which is so often the cause of error at a less mature age.

AUTHOR'S INTRODUCTION.

SCROFULA induces a vast number of infirmities : these infirmities are widely distributed, and, for the most part, terminate fatally. The inquiry, therefore, into their causes cannot be otherwise than interesting and important.

Are scrofulous diseases occasioned by the external agents which surround us, which unceasingly modify our corporeal conditions, and which are capable of inducing profound alterations in our health ? The air which we breathe, the materials which minister to our support, labour, fatigue, the influence of certain diseases and certain localities, have all or any of these agents power to invest our species with the scrofulous habit ?

We shall see in the course of the present work that scrofula, in the greater number of instances, develops itself not only without appreciable external cause, but even in the very midst of circumstances apparently the most conducive of robust health ; that, although it shows itself as a sequence of certain diseases, it does not originate in them ; that it prevails endemically in certain districts without our being able to assign a reason for its so doing ;

and that in the workshop of the artisan, where all the occasional causes of disease are, so to speak, accumulated, the effects of these causes, in other respects so injurious to the inmates, appear nevertheless not to evoke the characters of scrofula, excepting in the way of procreation; we shall see, in fact, that it is at least doubtful whether external causes do actually engender scrofula, and at the same time, that the most direct and the most frequent cause of this disease is hereditary transmission.

So general indeed is the latter cause that we may venture to assert its existence in some cases even in which it cannot be formally recognized; for, in such instances, it is more difficult to discover a cause of external agency for the disease than to assign to it an hereditary origin.

The transmission of scrofula from parent to child is too common an event not to have been noticed in all ages. We shall see, nevertheless, from the extraordinary facts by which we shall establish this point of doctrine, that the laws of this transmission have not yet been enunciated; that the subject has even been misunderstood in many respects, authors having been contented to regard hereditary transmission in a single point of view,—that in which it follows the actual presence of scrofula in the parent. It has, however, in reality, many other sources, the intimate study of which is indispensable to the comprehension of the entire bearing of hereditary causes.

In order to discuss the subject of the causes of scrofulous diseases in a manner consistent with its importance, it would not have sufficed to adduce such observations only as may be found in the works of preceding writers; it has been necessary to commence the study *de novo*.

We have undertaken the task in a position of all others the most favorable to this kind of research; and have continued the study of particular facts until we have ceased to meet with anything new, and long after we had repeatedly confirmed our own observations. Such, indeed, is the experience which we have gained by sixteen years' labour with a special object; that we have been able to embody the causes of scrofulous diseases in a tabular form, the exactness of which is rendered evident by the circumstance that we no longer encounter any individual case which cannot readily be referred to one or other of the causes there established.

A perusal of the principal divisions of this table will immediately demonstrate the immensity of our subject. Had this table been produced before us as a *programme* of our labours, it might well have daunted the most ardent wish for the advancement of science; it was not, however, compiled till after the completion of these Researches, and for the purpose of reducing them to their simplest expression.*

The hereditary causes of scrofula being those the presence of which was clearly determined in the great majority of our observations; their analysis may advantageously form the first part of this work.

The second part will contain the consideration of the so-called pathological causes of scrofula; we shall also

* This table was presented to the Academy of Sciences in January 1840, in the course of a lecture upon the causes of scrofulous diseases, delivered before that learned body.—AUTHOR.

analyse the relation of the disease to the principal morbid conditions to which childhood is subject, for the purpose of showing that these morbid conditions do not, as is commonly supposed, render a child scrofulous; but that, in cases in which scrofula declares itself as a consequence of such diseases, the tendency to that affection pre-exists in the individual, and is likewise manifest in the family. We shall observe that scrofula, so far from being itself an effect of the diseases of childhood, is, on the contrary, the agent which ordinarily complicates those maladies, and imparts to them their severe and often mortal characters.

The third part of these Researches will be reserved for some remarks on the occasional and external causes. On this point also our views will be found to be different to those which science has entertained up to the present time; it will be our province to prove, contrary to established opinions, that none of the agents considered as occasional causes produce a necessary effect as in the case of hereditary transmission; that moisture for instance does not always give rise to endemic scrofula; that the disease is not observed at all in certain damp situations, while it exists extensively in others which are dry and elevated.

Scrofula, moreover, occurs sporadically at every age, in both sexes, in all social positions, in every season and in every country; it is in all cases specifically the same disease, however widely the circumstances of the affected individual may differ, and whatever may be the geometrical position of the country they inhabit. Its nature is the same in England, in Spain, and in Russia; nor have we been able to discover any difference as regards scrofulous

disease in the persons of young Creoles from our colonies the Antilles ; the only circumstance connected with the latter which we have noticed, is that their disease is aggravated by a sojourn in our climate.

Does not this identity of scrofula amidst external influences of the most opposite kinds, prove beyond a doubt that the cause of the disease is not to be sought for externally to the individuals affected, but that its germ resides in their own constitution ?

Although the occasional causes which are generally considered capable of inducing scrofula, do not appear to us sufficient to convert a healthy into a scrofulous person, they are nevertheless deserving of careful study, for the following reasons : first, that they are highly pernicious in all conditions of health ; secondly, that they are preeminently so when they operate upon a constitution already imbued with the scrofulous taint ; and lastly, because the reunion of these causes, (the accidental and the original,) so degenerates certain populations, that they can scarcely do otherwise than propagate a scrofulous offspring.

In the light in which we have examined the causes and course of scrofulous affections, all classes of society have appeared upon a par ; neither the luxury of the one, nor the misery of the other have prevented a mutual resemblance in their infirmities. The individuals affected are so isolated as it were by this common resemblance, that they may be said to form a specific variety of the human race, a variety which multiplies itself, quite independently of any external circumstances under which it may happen to be placed.

We shall demonstrate, in a separate work shortly to be

published, that tubercle is the anatomical character of this variety of the human family; and that is the element which is associated with, and gives the impress of an identical nature to all forms of scrofulous disease.—The work alluded to is completed, and has merely been delayed, because it was believed that our theory of tuberculization would be better understood, by the previous publication of the present Researches.

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SYNOPTICAL VIEW OF THE CAUSES OF SCROFULA.

The causes of scrofula are

- 1, Hereditary,
- 2, Pathological,
- 3, External.

ORDER I. HEREDITARY CAUSES.

<div style="display: flex; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: 2em; margin-right: 5px;">{</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: 0.8em;"> Constitution of parents who beget scrofulous children. </div> </div>	<div style="display: flex; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: 2em; margin-right: 5px;">{</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: 0.8em;"> Inheritance of scrofula. </div> </div>	<p>Characters of hereditary transmission.</p> <ol style="list-style-type: none"> 1. The general occurrence of the disease in the family. 2. The mortality occasioned by it.
	<p>These characters to be studied in</p> <ol style="list-style-type: none"> 1. The family itself. 2. The different branches of a common stock. 3. In the children of different marriages. 	

I. ORIGINAL CONSTITUTION.

- a. Scrofulous parents,
- b. Phthisical parents,
- c. Parents who were scrofulous in infancy,
- d. Parents not scrofulous, but having scrofulous brothers and sisters,

II. ACQUIRED CONSTITUTION.

- a. Syphilitic parents,
- b. Parents who have committed venereal excesses,
- c. Parents too young,
- d. " too old,
- e. " disproportioned in age,
- f. " who have not the relative power of the sex,
- g. " who are paralytic, &c.

beget scrofulous children.

- I. Certain hereditary causes cannot be referred either to the original or acquired habit of the parent.
- II. Parents may not exhibit scrofulous symptoms until after they have begotten scrofulous children.
- III. Hereditary scrofula never misses a generation.
- IV. The causes of hereditary scrofula may exist simultaneously and in variable number.
- V. Marriage is the common cause of the propagation of scrofulous diseases.

APPENDIX.

- I. Scrofula is common among orphans and foundlings.
- II. The germ of the disease may be transmitted by the milk of the nurse.

ORDER II. PATHOLOGICAL CAUSES SO CALLED.

- A. Certain diseases of infancy (are said) to stand in the relation of causes of scrofula; these are:
 1. Smallpox.
 2. Measles.
 3. Hooping-cough.
- B. Many morbid states which are regarded as causes of scrofula are, in reality, premonitory signs of the disease.
 1. Catarrhal fever.
 2. Growing fever.
 3. Laborious dentition.
 4. Worms, lice, &c.
- C. Pregnancy and delivery may be the exciting causes of scrofula.
 1. Pregnancy exercises a marked influence over the progress of scrofulous diseases; again, scrofula reacts upon the product of conception, and produces abortion.

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Abortion may be caused

 - a, by the health of the father;
 - b, by the health of the mother;
 - c, by the two combined.
 2. Delivery may cause the development of scrofula.
 3. Delivery is laborious in scrofulous women, because they are generally deformed in the pelvis.
- D. Erysipelas sometimes precedes the invasion of scrofulous diseases; and exercises a favorable influence over their progress.
- E. Syphilis complicates and aggravates the progress of scrofula and *vice versa*.

ORDER III. EXTERNAL OCCASIONAL CAUSES.

- A. Endemic scrofula.
 1. Endemic scrofula is in no way dependent upon locality.
 2. Endemic scrofula may be produced

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a. by importation of scrofula;
b. by the antiphlogistic treatment of syphilis;
c. by intermarriage of relations.
- B. Occasional causes properly so called.
 1. The invasion of scrofula is generally spontaneous.
 2. Scrofula is not contagious; it cannot be inoculated.
 3. Moisture and other occasional causes exercise a pernicious influence in scrofulous diseases, but do not produce them.

This proposition is established—

 - a, by particular facts;
 - b, by general facts, such as

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a, régime of prisons;
b, " camps;
c, " vessels.
4. Certain occasional causes, as bad air, insufficient food, &c., weaken a population, and cause individuals exposed to their influence to beget scrofulous children.

ON THE CAUSES
OF
SCROFULOUS DISEASES.

PART I.

ON THE HEREDITARY TRANSMISSION OF SCROFULOUS DISEASES, AND ON THE HEALTH OF PARENTS WHO BEGET SCROFULOUS CHILDREN.

THE first part of this work, as is indicated by its superscription, may be divided into two chapters. In the first we shall study the characters by which the hereditary transmission of scrofula is to be recognized. In the second, we shall seek for the principle of this transmission, by an examination of the sanitary condition of the parents, and institute a special investigation into those different states of constitution which may offer a physiological explanation of the scrofulous degeneration of offspring.

CHAPTER I.

ON THE HEREDITARY TRANSMISSION OF SCROFULOUS
DISEASES.

THE hereditary transmission of scrofulous diseases may be recognized chiefly by the two following characters: 1st, the general occurrence of the disease in the family infected; and 2dly, by the mortality which it occasions. We shall devote a separate section to each.

SECTION I.

On the general Occurrence of the Disease in the Family affected.

THE first and most striking fact which we meet with in the study of scrofulous diseases is the frequency and generality of their occurrence in the family affected. This fact, however, although usually recognized, is sometimes difficult to be observed, for the reason that scrofula rarely attacks all the members of a family at the same age, or in the same manner and degree; and also from the circumstance that the disease may attack them in succession, whereby the chain of evidence is interrupted.

But there is one circumstance to be observed in scrofulous families at first sight, which is a certain *complexion* or bodily constitution common to all the children; this is

called the family constitution or temperament. It is this *complexion* which reveals the fatal predisposition to scrofulous disease; it is the first sign which announces the participation in the malady by all the members of the family, and which points out the existence of hereditary influences, as well as the nature of the diseases by which the children are threatened. On this account we think it right to consider the subject of this temperament at some length prior to entering upon the other characters of the hereditary transmission of scrofula.

§ 1. *On the scrofulous constitution.*

Scrofulous families may be known at once by the general aspect of debility which pervades the children; their state of health is at the best negative, and totally deficient in the attributes of robust and healthy organization.

There is always a greater or less want of harmony in the external configuration of scrofulous children; their trunk and extremities are not proportionably developed; but the limbs are either too long or too short, with large joints, and are awkwardly attached to the body. The median line is frequently not in the centre, the lateral halves of the body appearing unequal and as it were improperly joined together. This conformation, which depends upon irregular development, is of the worst augury as regards future disease. It is not uncommon to observe a want of union in one or more portions of the median line, as in cases of hare-lip, fissured palate, and deficiency of portions of the *linea alba*. In certain scrofulous children, the chest is keel-shaped, the different divisions of the sternum being distinctly visible beneath the skin, and tilted forwards. The ribs are, in such cases, variously dis-

torted, and the antero-posterior diameter of the chest greatly exceeds the lateral.

This vicious conformation may, in favorable cases, improve progressively between the ages of eight and twelve years; and even where the change does not take place at this period, we may still hope that puberty will operate beneficially in remedying the deformity. It must not, however, be disguised that this anormal condition of the thoracic parietes is more commonly persistent, and by preventing the due expansion of the lungs, betrays plainly that the taint of scrofula has struck deep root into the system.

Scrofulous individuals are generally of small stature, but occasionally, on the contrary, they attain to an unusual height. These two extremes admit of explanation upon one and the same principle, namely, that the vital power has not sufficient vigour to regulate the formation of the organs, so that they are either arrested in their development, or permitted to arrive at an exaggerated degree of nutrition. The mouth of scrofulous persons is either small and arched, or much too large; the first and second dentition, but especially the latter, is tardy, and the teeth are dark coloured and friable. The spongy portion of the bones is much too abundant in proportion to the compact tissue and to the surrounding soft parts. This condition of the osseous system is rendered very evident by the following signs, which may coexist in various combinations:—the malar bone is too prominent, and the lower jaw too much developed, giving a peculiarly rickety appearance to the individual; the extremities of the long bones are too large, and the feet and hands attain in many cases a disproportionate and most ungraceful size: the pubes, the sacrum, and the ischia are often hypertrophied to a degree which, in females,

may be productive of serious inconveniences in after-life by offering an obstacle to parturition. The body of the long bones is ordinarily of small caliber and slight.

The growth of scrofulous subjects presents in different instances the very opposite extremes. We have frequently in the wards of the Hospital of St. Louis young persons, of twenty years of age, who have scarcely been more than one metre thirty centimetres in height* [4 feet 7 inches nearly]; one in particular was not, at twenty years of age, more than one metre twenty centimetres [under 4 feet] high, and did not grow at all during the four years which he passed in the hospital.

We have not unfrequently, for the instruction of the pupils, placed side by side with this patient other scrofulous individuals of the same age who were one metre sixty and even seventy centimetres in height [5 ft. 6 in.] Some were even taller than this, one of them named Collot was of the unusual height of one metre ninety-five centimetres [6 ft. 4 in. nearly.] In these tall persons, however, there is no more symmetry or proportion than in those whose growth has been arrested; they have generally a head too small for the trunk; they carry themselves badly, and are utterly without energy.

The digestive organs of scrofulous patients are generally in a state of atony, in consequence of which the assimilative functions are continually disturbed. Many scrofulous children are never hungry; they do not eat a sixth part of the food which a healthy child of their age would consume. This loss of appetite is probably caused by a catarrhal condition of the mucous membrane of the primæ viæ, analogous to that which affects the lining membranes of the eyelids, nasal passages, or vagina.

* The French metre is 39·370 inches, the centimetre 0·393 inch.—TRANSL.

Those children who do not eat, because they are feeble in constitution, become more and more feeble, because they do not eat; and the hope of amelioration is but small while the functions of the digestive apparatus are so imperfectly performed. The deficiency of appetite requires immediate attention, for the consequences of its long duration are most serious. The most successful plan of treatment is to exhibit purgatives, as equal parts of rhubarb, jalap, and calomel, in the first instance, and when the bowels have been well evacuated to commence with the preparations of iodine.

We are at the present time in attendance upon a family of five children, in all of whom the appetite is most irregular and feeble. None of the children are of the usual height; the eldest, a girl of sixteen, is not more than one metre forty-five centimetres in height, and has not yet menstruated. These children have very black teeth, and are subject to a red patchy eruption on the face.

In other but less common cases, the appetite is voracious; but the food does not nourish; in fact, the strength of such individuals is as much deteriorated as it is in those whose appetite is below par. This state of the alimentary canal coincides in general with an habitual pastiness of countenance, at this time often a precursory sign of pulmonary tubercle; the eyes are dull; the breath fætid; and the patient is annoyed with a constant itching of the nose.

The alvine functions are irregular, constipation usually alternating with diarrhœa. The skin and cellular tissue are either extremely attenuated, or in a state of remarkable hypertrophy. In many scrofulous persons it is dry and covered with lichen or prurigo, but in others it is occasionally bedewed with partial acescent perspirations.

The physiognomy appears to be in advance of the age

during the period of infancy alone; for in after years the contrary is observed; the limbs resemble those of a younger person, not having either the development or the strength proportionate to the age. A kind of nonchalance or mental apathy is a frequent characteristic of this constitution. We frequently notice children who can only be induced to walk by dragging them along by the hand, so great appears to be the disinclination to movement.

This apathy is one of the worst signs of the scrofulous temperament, and becomes itself the cause of the progress of the disease. For this reason, exercise ought strictly to be enjoined, and so admeasured as to neutralise the effects of the previous indolence.

Mothers not uncommonly complain that their children, especially the girls, carry themselves badly; that they allow their heads to fall forward as if they found a difficulty in sustaining its weight. This they cannot help. They sustain the weight of their bodies ill, because the muscles of the spinal column are atrophied, and, in common with the other muscles of the body, deficient in tone. An additional cause of the imperfection of the figure is to be found in the want of harmony above alluded to between the different portions of the skeleton; a condition which is but the rudimentary state of those deformities which become more conspicuous at the period of puberty.

Scrofulous children are subject to a spontaneous feeling of lassitude, which is aggravated rather than relieved by repose. Sleep fatigues more than it renovates them, and they wake more tired than they went to bed. The same thing is observed in the greater number of scrofulous diseases, and especially in pulmonary consumption. The tumidity of the upper lip, which is so characteristic of the scrofulous temperament, is more perceptible in the morning than in the remainder of the day. The ophthalmia of

scrofula is also most painful in the morning, in consequence most probably of the sudden change from darkness to light. We say sudden change, for with the exception of certain cases of photophobia, light has generally a beneficial effect in scrofulous ophthalmia. It has many times occurred to us to witness the injurious consequences of treating these cases in dark rooms. We could mention one patient in particular, a scholar who had almost lost his sight from being so treated; this boy has always remarked that his eyes felt better on those days on which he went to consult his medical attendant.

It was the observation of these and similar cases which first inspired us with the idea of causing patients affected with white swelling of the joints of the lower extremities to take walking exercise, and we accordingly made known this method of associating exercise with the preparations of iodine, in our third Memoir upon the employment of that medicine, published in 1831. The plan has been generally adopted in all the scrofulous cases admitted into our wards, and the success has been so great that we had hoped to see it commonly followed by those practitioners who had been witnesses of its good effects.

The old system, nevertheless, has not been entirely abolished; but the treatment of white swellings by absolute repose is recommended even to the present day. The consequence of such treatment is seen in the atrophy and permanent flexure of the affected limbs; and those who are cured remain so disfigured and with members so useless, that they are after all, in many cases, obliged to submit to amputation.

We feel it to be our duty in this place to reiterate the advice given thirteen years ago, namely, to associate bodily exercise with the other treatment of white swelling. This innovation has been adopted during the last six years in

upward of three hundred cases, and in the presence of a great number of witnesses, among whom not one opponent to the practice was found. It must not be forgotten that this plan, independently of the actual benefit it confers as regards the disease, renders the lives of the patients far more tolerable, and is moreover quite destitute of danger.

Why then, it may be asked, has it not been more generally adopted? The reply is, that practitioners still persist in regarding white swelling as a purely local disease, and not, as it really is, the local manifestation of that general depravity of the constitution, the tubercular diathesis.

The scrofulous habit, although it is in general characterized by indolence and apathy, is not altogether incompatible with a certain amount of bodily activity; this very activity, however, instead of tending to the increase of the physical strength and development as in healthy subjects, on the contrary, assists in diminishing its powers: we observe therefore that scrofulous children, in whom this more than usual activity is manifested, are quickly fatigued, and are slow in repairing their exhaustion.

The genital organs of scrofulous subjects are generally more or less retarded in their development, and seldom acquire the vigour which characterizes a healthily constituted individual; young men of eighteen years of age, or even older, are often in this respect little more advanced than children of eight or nine years. In some cases, one testicle only is found to have descended at the age of twenty years, and occasionally both have remained in the abdomen. An instance of the latter condition is at the present time in the wards of the Hospital of St. Louis.

Young females are no less backward in their development than the other sex; often presenting no signs of nubility at the age of eighteen years. Menstruation is

not established without the concomitant of dysmenorrhœa, which lasts for two or three years, and in some instances, for their whole life. The menstrual discharge seldom possesses healthy qualities; it is either insufficient, of only one or two days' duration, or excessive, lasting six or seven days; in neither case does it produce satisfactory effects upon the economy, for it is not accompanied by the other signs of puberty.

In the male the genital organs in their normal state undergo a notable evolution at the age of puberty, and by the increase of organic activity, which they acquire at that time, exert a notable influence over the other organs of the body. But in scrofulous subjects this evolution is tardy and incomplete. The constitution in certain cases is seen to make an effort at development about the age of fifteen, and to acquire a certain amount of vigour; the organs of generation nevertheless take no part in the progress, but remain in a state of as much immaturity after as before this growth of the rest of the body. The generative function, as might be expected in such cases, scarcely assumes its place among the vital functions; the voice remains infantine, and the characteristics of sex are ill-defined.

Tuberculous subjects have nevertheless been spoken of as remarkable for their erotic propensities; but the remark can only have originated in the consideration of a limited number of facts which have been either misunderstood altogether, or invested with an exaggerated importance. It is the same with the organs of generation, as with the other organs of the body. We have seen that scrofulous subjects in general are of small stature, but that some arrive at more than the usual height; that the appetite, which in the majority of cases is feeble, may in some instances make a near approach to bulimia; that although they are emaciated as a general rule, yet that

some scrofulous persons are remarkable for embonpoint; and again, that although they are generally indolent and apathetic, some few are found of the very opposite temperament. So it is with respect to the organs of generation; they are but little developed in scrofulous subjects in general, but may be the reverse in a few cases. In these latter cases it will usually be found that the appearance of power is deceptive, and that the animal instinct is not more urgent than in those whose appearance is less promising.

The vivacity of the venereal appetite which has been observed in some tubercular subjects, is generally the result of education. But the reality is never equal to the appearance; a very little indulgence in these persons becomes excess, and induces a lassitude from which the organs do not recover for a great length of time. So far indeed is it from the truth, that scrofulous persons are characterized by unusual salacity, that their desires, on the contrary, are extremely moderate, and they endure a life of continence without any inconvenience, and even with benefit to their general health. For this reason, abstinence from sexual intercourse should always be enjoined to those who suffer from tubercular disease, as one of the surest ways of fortifying their health, and of ensuring them the greatest amount of comfort in future life.

It may be stated as a general rule that scrofulous subjects are impatient both of bodily fatigue and mental disturbance. They possess in some cases considerable intelligence, but rarely the powers of application and concentration of ideas; they have no energy either physical, intellectual, or moral; there is nothing normal in their whole condition; they have neither strength, nor powers of endurance. In a word, all the phases of their existence are abortive; they

know neither puberty nor manhood ; the difficulties which oppose themselves to their development are endless ; they are beings physically and morally incomplete.

§ II. *On the scrofulous face of authors.*

We shall continue our essay by making some remarks respecting the features described by authors as appertaining to the scrofulous temperament.

It is an error to consider this cast of features as characteristic of scrofula, for it is according to our experience oftener absent than present ; it is found in those cases only in which the disease has principally or exclusively attacked the face. It depends upon the implication of the dermoid and cellular tissues in the morbid action, and has for its chief exponents an hypertrophied and indurated condition of the lips, cheeks, alæ of the nose, and lobes of the ears.

These partial indurations, however, when present, are very significant, and may be looked upon as constantly connected with the tubercular diathesis. Pulmonary consumption, for instance, occasionally commences in this way, and the external and internal diseases in such cases appear to progress in an equal ratio. There is generally super-added to this hypertrophied state of cellular tissue an habitual and obstinate catarrh of the mucous surfaces, the two affections together constituting the *scrofulous face* of authors.

This condition of the countenance, as we have before said, does not belong essentially to scrofulous diseases ; it is on the contrary very rare ; so much so, that it is often not met with once among a hundred cases.

In returning to the subject of the scrofulous consti-

tution, we must not omit to mention a state of embonpoint which has been too generally considered as characteristic of the diathesis, especially in females.

On this subject the same remarks hold good, which were made respecting the face of scrofula; this embonpoint is not the ordinary condition of the scrofulous, and when it does exist is always accompanied by some untoward complication by which its true nature is revealed.

Women of this variety of constitution are of the ordinary height, with a pink and white complexion, moist eye, and slightly bluish cornea; their figures are stout with a soft and rounded outline. This brilliancy of complexion is in early youth erroneously considered by common observers to be the beauty of a healthy organization. But to the eyes of the well-instructed physician, this ephemeral beauty is anything but a subject for satisfaction, for it is but the scrofulous diathesis itself strongly impressed upon the cellular and adipose tissues; the sure sign and precursor of the scrofulous disease which is certain to break out at a more or less distant interval.

However desirable in fact this constitution may appear, it presents the want of harmony which we have formerly alluded to, and its deceptive beauty is generally counterbalanced by one or more of the following signs of scrofula. The pupil is too large, there is slight epiphora with styes on the eyelids, habitual coryza, and rebellious chilblains; the mouth is arched; the teeth white but closely packed; in other instances they are black and decayed; the neck is too full in front; the patient is subject to sore throats; the hair is thin and badly nourished; there is often an abundant leucorrhea, and the menstrual function is generally more or less disturbed. It is very common to find that these stout women have little or no appetite, and are subject to severe headaches. Their embonpoint moreover does

not long resist the natural progress of the scrofulous habit, but quickly disappears, leaving them wrinkled in the flower of youth.

The following is an instance of the existence of this constitution which had escaped the observation of three physicians of eminence. In the month of March, 1833, a young lady was brought to Paris for advice respecting an œdematous condition of the eyelids which had resisted all treatment for three years. The patient, aged 13½ years, had commenced to menstruate, she was also stout and fresh-coloured. The three physicians who saw her in the first instance, were surprised that a person apparently so healthy should have been brought so long a journey. We could not, however, coincide with this opinion, for it was evident at first sight that this œdema, though trivial in itself, was nevertheless a sign of predisposition to hereditary scrofula. The correctness of this surmise was amply borne out by an inquiry into her history. The œdema had in fact been preceded by tumefaction of the upper lip, and by a tubercular condition of the cervical glands, which latter symptom had disappeared upon the supervention of the œdema. In addition to this it was discovered that the patient was an only daughter; that she had lost a brother and sister in infancy, and that her maternal grandfather had died phthisical at the age of thirty.

On reflecting upon these antecedents, we were by no means surprised that the family medical attendant should have awakened the anxiety of the parents respecting the health of their only remaining child. The persistence alone of the œdema of the eyelids for more than three years was an indication that its cause was constitutional, and therefore of serious import.

In this case we have seen œdema of the eyelids form an unpleasant contrast with some of those signs of beauty

which depend upon the scrofulous habit. In the following example the same symptom was accompanied by a chronic coryza. A lady from Rouen, aged 27, apparently in good health, was affected from the date of her first confinement, eight years previous, with a chronic coryza. The pituitary membrane was of a vivid red colour, and slightly ulcerated. Other signs of the scrofulous habit were also present, such as dilated pupil, white skin, enlargement of the spongy bones, &c. The history of this lady and her family, in which the tuberculous diathesis evidently existed, imparted a still greater importance to the signs just enumerated; and so far from being of little consequence, as many physicians thought, these signs, if attentively considered, appear to us to afford justifiable grounds for an unfavorable prognosis. The remarks we have made respecting chronic coryza are equally applicable to the otitis, leucorrhœa, and most other symptoms of a scrofulous diathesis, which so often coexist with a certain fulness of figure, considered as an advantage by the world, but in which the experienced physician sees no reason for congratulation.

Scrofula rarely shows itself in persons of light hair and complexion; more than half are dark, and among the remainder the hair is generally of various shades of auburn. The same may be said of the colour of the eyes. With respect to the colour of the hair, it is right to mention the age of the patients who have come under our observation. These were generally from fifteen to twenty years of age, which may, to a certain extent, explain the brown colour of their hair. We know, in fact, that the colour of the hair deepens with the age of the individual; so that the flaxen hair of the infant often acquires a deep brown at the age of puberty. These observations, it is true, are contrary to all that has been written regarding the complexion, and

the colour of the hair and eyes of scrofulous persons ; but we can vouch for their accuracy, and they meet with daily confirmation in the wards of the Hospital of St. Louis.

The whole of these signs of scrofula are seldom seen to exist in the same child ; they are, for the most part, associated in variable number, and under different aspects, from the highest degree which the disease is able to assume, to its least appreciable shades. It is, nevertheless, of easy recognition in the majority of instances ; indeed the world in general is competent to distinguish between a well-organized and a scrofulous child ; the only parties who are blind to the difference are the parents themselves, and they contribute not a little, by their injudicious partiality, to the confirmation of the disease.

It is not necessary, then, to enlarge upon the diagnosis of these, the great mass of cases, for the discrimination of which little or no medical information is requisite. We shall employ our time to greater advantage by an investigation of that variety of scrofula in which the diathesis is not strongly marked in the individual, but is manifested only by its transmission to his offspring.

The scrofulous *complexion* may be overlooked in certain instances, either because it is not highly developed, or because it is combined with some of the elements of healthy organization, in virtue of which the individual has escaped the manifestation of the predisposition with which he was born. In scrofulous families, one or more children may reach the adult age, and survive for a considerable time the brothers and sisters who have sunk under scrofulous diseases ; but these facts are not exceptions to the general rule,—sooner or later these individuals become amenable to the fatal tendency under which the family labours, and die of some form of scrofulous disease.

Hereditary diseases, like the features and figure, are

intimately connected with the temperament of the family. The outward resemblance of different members of a family sometimes escapes our notice, because it may not be strongly marked, or because certain individual peculiarities make a greater impression upon us; but most commonly these peculiarities are effaced by the course of time, and we then recognize the relationship between persons who, up to a certain age, had exhibited a marked difference of physiognomy.

We will mention a case of this nature, which is valuable inasmuch as it shows that, although the scrofulous temperament exists in its minimum degree, it may, nevertheless, be transmitted to the offspring; and again, that, after having existed for a long time unsuspected, it may declare itself in the decline of life, under its most indubitable characteristics.

A lady whose constitution appeared excellent, much to her surprise, became the mother of scrofulous children. She had two sisters; one who, like herself, gave birth to a scrofulous offspring, the other, diminutive and rickety. Between the latter and herself not the slightest resemblance could be traced in early life; but since they have both passed the critical age, their mutual likeness has become most striking. This cannot be looked upon as a purely accidental circumstance, neither can it be attributed to the influence of imitation, for they had lived apart for more than thirty years.

Facts of this nature, which are numerous, and diversified in their detail, tend much to the confusion of the doctrine of hereditary causes. Our customary mode of proceeding, when such cases come before us, is to satisfy ourselves distinctly in the first place that the parents are healthy, and that no hereditary cause can be discovered for the scrofulous disease of the children. Having ascertained

this point, the next inquiry should be, whether or not the children have been subjected to any external causes of the disease, sufficiently powerful in themselves to induce it. The absence of such cause having once been determined, we must wait; and, as we shall see in the sequel, time will frequently discover the hereditary causes which had baffled our first investigations.

The prevalence of scrofulous diseases in the family affected is a phenomenon as constant as the *complexion*. It would be impossible to say how often we have traced particular instances of scrofula to the family temperament, or how frequently we have found the invasion of the disease to be general where it was thought to be limited to a single child.

We were consulted last April, in a case of white swelling of the metacarpal joint of the left index finger, with caries and enlargement of the articular extremities of the phalanges. The patient was a young man aged 23, of middle height and dark complexion. His health had been good up to his twentieth year, when he was attacked for the first time by ulceration of the cervical glands, the cicatrices of which were still evident. The physical appearance of the patient was such as to have rendered the nature of the local disease somewhat doubtful, had not its scrofulous origin been clearly demonstrated by the previous occurrence of the tubercular glands in the neck.

Here then is an instance in which the scrofulous predisposition manifested itself for the first time and with most unequivocal symptoms, at the age of twenty years. Was it probable that the disease, which had declared itself so emphatically, and without the operation of any external cause, for the patient was in easy circumstances, would be limited to a single member of the family? The supposition was not to be entertained, although we were told distinctly

that all the other children were healthy. We subsequently, however, ascertained beyond a doubt, that scrofula was general in the family, and that it originated in the constitution of the father.

The patient had in fact a sister aged 16, who was suffering from ophthalmia, with ulceration of the cornea and prolapse of the iris. This ophthalmia alone would have been sufficient to indicate the state of the constitution, and to lead us to anticipate the occurrence of other scrofulous symptoms. Accordingly, in the course of a few weeks she was seized with symptoms of pulmonary tubercles, associated with ascites and œdema of the feet and ankles. Two other sisters and a brother of the patient likewise exhibited various forms of scrofulous disease.

The father of these five children is 53 years of age, and suffered at the age of thirty, from a phagedænic ulceration of the *alæ nasi*, the nature of which whether scrofulous or syphilitic is uncertain. We are inclined to the former opinion, but in point of fact it is immaterial which view of the case is taken, for the consequences are the same in either, and the father in this instance, evidently carried in his constitution the germ of a disease which rendered his progeny scrofulous. (Chap. II, Sect. 2, Art. 1.)

In this example we see how, in spite of appearances to the contrary, scrofula was pronounced to be general in the family, from our having observed its presence in one of its members. There is nothing astonishing in this circumstance, for if there be one fact in pathology more impossible than another, it is that one child should be scrofulous, and his brothers and sisters perfectly free from the taint. Indeed the prevalence of the disease in the affected family appears to us to be a fact of so absolute a nature, that we do not hesitate to pronounce even the

absent members to be scrofulous, from the observation of the existence of the predisposition in a single individual.

Some years ago a young lady, aged 20, was under treatment for ulcerated tuberculous tumours in the neck and upper portion of the chest, associated probably with pulmonary disease of the same nature. This tuberculization dated as far back as her early childhood, and had considerably arrested her development. The patient was feeble, and complained of lassitude and want of appetite; the catamenia had never appeared. Many of her progenitors, particularly those on her father's side, had died of pulmonary consumption.

The mother of this girl had left her other children at home, all of whom according to her account were in perfect health. Some remarks, however, which we made respecting their appetite and growth, rather shook her confidence in their safe condition, and she determined to bring them to Paris on her next visit. Circumstances delayed the fulfilment of her intentions for two years, when we found that our predictions had been strictly verified. One of these children, a boy 10 years old, was seized with some of the severest symptoms of scrofula, shortly after his return to the country, and was therefore brought to us for the second time. He had a large oblong tumour at the back of the neck, formed by hypertrophy of the cervical vertebræ; he had also a severe cough, and the utmost feebleness in his limbs.

This child, as well as his elder sister, was cured by two courses of iodine, each of five months' duration. At the end of the first course, his limbs had acquired considerable force and suppleness, and by the conclusion of the second, his muscular powers had increased to that degree, that he was enabled to excel in gymnastic exercises.

A third member of this family, a girl, had not menSTRU-

ated, nor did she present any other sign of nubility at the age of nineteen; she exhibited, in fact, that arrest of development which is the infallible sign of the tubercular diathesis. The treatment of this patient was not followed by the same success as in the cases of her brother and sister.

In the example of the general occurrence of scrofula in a family just adduced, it was not difficult to trace the resemblance between the two elder sisters, although one was affected by an aggravated form of the disease, and the other exhibited merely an arrest of development and a slight spinal curvature. These two latter symptoms, however, although they might easily have been overlooked in a person otherwise handsome, were sufficient to justify the diagnosis; the more so, that they coexisted with other signs trivial in themselves, but of considerable import when viewed collectively.

The two younger children were pronounced to be scrofulous before they had been seen, and the prediction, be it observed, was speedily and exactly verified. In every instance, in fact, in which scrofula shows itself, with much intensity in one child, we may be assured that all the others are also affected, although the disease may offer certain peculiarities in each. We can safely aver that we have never seen a scrofulous infant whose brothers and sisters were not also scrofulous; it would, indeed, be contrary to nature that the same parents should generate offspring with constitutions so widely different as are those of the healthy and the scrofulous child.

We make this assertion without any qualification, and upon the authority of facts such as we have now detailed; this assertion, which is but the expression of the laws which regulate the occurrence of scrofula in the family affected, will be supported by further and incontestable evidence in the sequel of this work.

SECTION II.

On the Mortality exhibited by Scrofulous Families.

The mortality which reigns in scrofulous families is another circumstance equally characteristic of the hereditary origin of the disease. A full moiety of the scrofulous infants who are born into the world are carried off in the first few years of their life. In some cases the mortality is even more frightful than this, for it is not an uncommon thing to see one or two only survive out of a family of eight or ten children, and these but for a few years; their fatal predisposition sooner or later cuts them off also, and the parents are thus left to bewail the early death of their entire offspring.

A mortality so fearful, arising from diseases of the same nature, can have but one origin,—that which depends upon the parental constitution. External and accidental causes do not produce exclusively scrofulous diseases; they occasion, on the contrary, maladies of different kinds, which in no instance sweep off whole families, as we see in the case of diseases of hereditary origin.

The above-mentioned characters, namely, the general occurrence of scrofula in the family affected, and its consequent mortality, not only demonstrate the hereditary source of this malady, but indicate also its most concentrated operation. No other disease is, in this respect, to be compared with scrofula; neither epilepsy, nor suicide, nor insanity, cancer, gout, nor apoplexy are so generally diffused over the human race, nor do they produce the havoc which is witnessed in families affected by scrofula.

It is not altogether improbable that every hereditary

disease is more or less nearly allied to the scrofulous taint; and that the facility with which they are transmitted is proportionate to the closeness of the relationship.

These two characters exert a paramount influence over the history of scrofula; they occur in every page of that history, and point out the common origin and identical nature of the different forms of the disease: their study is, therefore, the foundation upon which all other points of diagnosis must be based. In order to treat so important a subject with the consideration it merits, we shall, according to our promise, detail a new series of observations, which we shall collect from three principal sources: 1st. The immediate family. 2d. The different branches of a common stock. 3d. The particular state of health of children by different marriages.

ART. I. *The hereditary transmission of scrofula exemplified in the condition of the family affected.*

This article will contain facts relating, in the first place to the general occurrence of scrofulous diseases among the different members of the same family; and secondly, to the great mortality occasioned by those diseases.

The first series of examples illustrates the fact not only that all the children of the affected family are scrofulous, but that many of them are attacked by the same species of scrofula.

A young female, æt. 19, had been confined to her bed for nine months, for white swelling of the right hip-joint, with elongation of the limb and an approach to spontaneous luxation. A brother, æt. 17, died last year of the same disease; and fears are entertained lest a second brother should form the third instance of hip-joint disease in the same family.

A short time before this, a young man, *æt.* 16, was cured of hip-joint disease, whose sister was similarly affected, with the additional symptoms of spontaneous dislocation with shortening of the limb.

In the month of May, 1830, we admitted a young man into the hospital of St. Louis, with ulcerated and fistulous white swelling of the elbow-joint: the next year a younger brother was affected in a similar way.

Two children of a ship-owner laboured under congenital ophthalmia. Two other brothers, twins, in the same family, had otorrhœa of the right ear. These four children, therefore, were all attacked by the same form (the catarrhal) of scrofulous disease.

A young man, *æt.* 26, had double chronic otorrhœa, which commenced in early infancy. A sister suffered from an identical affection of the nasal passages, and is since dead of phthisis pulmonalis.

In the month of October, 1831, two brothers, aged respectively 12 and 10 years, were placed under treatment for chronic enlargement of the tonsil glands. In both there existed also a catarrhal condition of nearly all the mucous membranes of the body. A severe case of white swelling of the shoulder-joint occurred in a patient whose brother was admitted into the hospital of St. Louis the year following for the same disease of the ankle-joint. The sister of these individuals died in a state of great prostration at the age of 15, and a brother of smallpox at 30. This latter disease would not, in all probability, have proved fatal, had there not been a predisposition to scrofula.

Two brothers, named Ferrat, were both tuberculous; both suffered under ophthalmia up to the age of ten years. This ophthalmia generally relapsed during the spring, at the same time in both. They had two sisters; one died at

three years old of hooping-cough, the other at eighteen months of mesenteric disease.

A girl, who inherited scrofula from her mother and grandmother, was subject to rebellious ophthalmia, with scrofulous ulceration of the commissure of the lips. Her sister, aged five years, also laboured under ophthalmia.

It must not be supposed that scrofula shows itself in all instances with the uniformity portrayed in the above case; neither does such uniformity necessarily denote the most intense degree of the disease. Scrofula is no less to be dreaded when its manifestations are of a varied kind; when, for instance, one child is affected with tubercular glands of the neck, another has ophthalmia, a third diseased joints, and so on.

It is, moreover, very seldom that scrofulous diseases exist singly, they are more commonly observed to occur under two or three forms at the same time. The variety under which the predisposition declares itself is greatly regulated by the age of the patient; thus in early infancy a scrofulous subject will have lice, intestinal worms, chilblains, ophthalmia, &c.; at a later period he may be tuberculous with or without the complication of the antecedent forms; at a still later period he may have abscesses, white swellings, caries of the bones, &c., so that the history of a single scrofulous patient may comprise a nosological table of that disease.

In order fully to elucidate the subject of family temperament, it would be necessary to demonstrate the identical nature of the maladies above enumerated. But to do this would be to anticipate the subject of diagnosis, and to take for granted what has not yet been developed. In the sequel, we shall make some general observations upon these different diseases, and we shall then establish the identity of their nature upon indisputable grounds.

We shall, in the mean time, relate some instances in illustration of the mortality occasioned by scrofulous diseases.

Fredel, æt. 19, labouring under ophthalmia, has lost five brothers and sisters either at birth or in early infancy. Another brother, who was deformed, died in convulsions at the age of 7 years; a sister also died at the age of 12 years. There were likewise two other sisters in the family, both of whom were tubercular, and suffered like their brother from ophthalmia.

A man named Gachet, who has recovered from abscess in the right hip, has lost nine out of a family of eleven brothers and sisters.

A young man was treated at the Hospital of St. Louis for white swelling of the knee. This person has lost eleven brothers and sisters in infancy; the survivors are a brother, who is feeble like himself, and a sister, who is the only one in good health.

A young lady, aged 19, was tubercular, and suffered from ophthalmia from the age of five years; she is besides subject to coryza and nasal incrustations. Her mother died of pulmonary consumption at the age of 30. Five brothers and sisters died in infancy, a sixth sunk under phthisis pulmonalis at the age of 19. She had but one surviving brother, who suffered from fistulous caries of the lower jaw; he was extremely backward both in mind and body, could not support the least exercise without fatigue, and was very liable to catarrhal attacks.

A lady was the mother of six children; she had lost five of these, and had miscarried once; her only remaining child underwent the operation of amputation for white swelling of the knee-joint.

Deschamps was one of seventeen children; of these he had lost fourteen brothers or sisters, none of whom lived beyond the age of five years.

Twelve years since, the only surviving child of a lady who had borne eleven children was under treatment for white swelling of the right foot ; his mother subsequently died of consumption.

Antoine Eymer was the only child of a family of seven who had fallen victims to scrofula. He was cured in 1829 of some of the symptoms of the disease, but died the last of his family in 1835.

We might easily multiply instances of this nature, but a sufficient number has been adduced to prove the hereditary nature of scrofula, as evidenced by the generality of its occurrence in the family affected, and the excessive mortality which it produces, a mortality which is far above that caused by any other disease.

The same characters will stand out as prominent facts in the majority of our succeeding articles, for hereditary influences exercise a paramount agency in the production of scrofulous diseases and are the proof of their unity.*

ART. II. *The hereditary origin of scrofulous diseases studied in the different branches of a common stock.*

We now pass on to a second series of observations, in which the hereditary transmission of scrofula is rendered

* It has appeared to us that, in order to render our observations complete, we ought to have taken into account the effects of adultery. But it will readily be perceived that the delicacy of the subject would have been an obstacle to accurate investigation. The most casual observers, however, are occasionally struck with characteristics in some children which are very distinct from the general family *complexion*, and which evidently originate in illicit intercourse. In some cases, also, scrofulous diseases are absent in a family in which, from the constitution of the father, they would be expected to appear ; and again we notice the elder children to be born scrofulous, and the latter healthy. Such facts, rigorously investigated, are based upon the laws of hereditary transmission ; and, so far from being exceptions, they are really confirmatory of that law.

no less evident by its development in the collateral branches of a family.

A young man was cured of an enormous fistulous white swelling in the right elbow-joint. His cousin on the father's side was in an adjoining bed in the hospital for a similar disease in the ankle-joint.

In the spring of 1833 a child named Fleury, *æt.* 8, was under treatment for phagedænic scrofula in the left cheek. Her cousin, the daughter of her father's sister, died about the same time of caries combined with scrofulous tubercles.

A lady from the country, aged 30, was suffering from ulcerated white swelling of the knee-joint; she had in addition to this numerous ulcerated tubercles in different parts of the body. She died of consumption at the age of thirty-three: her three infants died within their first month. We had at the same time the first cousin of this lady under our care for lupus affecting the face and wrist. A few years subsequently a sister of the latter came under our notice, in whom the disease had principally attacked the bones.

A lady was affected with phagedænic scrofulous ulceration (lupus) of the nose. This lady was an only daughter, having lost an elder sister from suppuration after smallpox, a brother from hydrocephalus at two years old, and a second at one year and a half. Her paternal uncle had been the father of a family of eight children, six of whom were dead, and of the remaining two one was far advanced in consumption, and the other of a very feeble constitution.

A lady consulted us some years since for her daughter, *æt.* 8, who laboured under diseased hip-joint. The sister of this lady, who accompanied her, told us that she had been the mother of four children, but was unable to rear one,

We were acquainted with two sisters, both tuberculous; the elder, æt. 30, had suffered repeated attacks of hæmoptysis, the other expectorated for three years in succession fragments of tubercle which had undergone the calcareous transformation. Each of these sisters had two children, and the whole four were tuberculous like their mothers.

A man named Berard, æt. 23, had spontaneous luxation of the head of the right thigh bone; his cousin, on the mother's side, also laboured under hip-joint disease. Another cousin suffered for five years from ophthalmia, the consequence of smallpox.

Delaunay was affected with scrofulous ophthalmia and with favus. He had a sister similarly diseased, and two others, who died of consumption; one of these was the mother of two children, both, like their uncle, the subjects of scrofulous ophthalmia.

The physical resemblance which is so frequently noticed between the members of the different branches of a family almost always carries with it a similarity of constitution and disease. Many and great difficulties are opposed to investigations into this subject, by the false *amour propre* which so frequently induces people to be incommunicative respecting the existence of scrofula in their families, but a little tact in the mode of making these inquiries will generally elicit the required information.

We have frequently conversed with a young man, æt. 22, respecting the health of one of his cousins who suffered from a scrofulous knee-joint. This young man, himself diminutive and slightly deformed, constantly assured us that his branch of the family was free from the slightest trace of scrofula. We, however, subsequently discovered that his sister had spinal curvature, which the usual orthopedic treatment had failed to rectify.

He candidly owned that vanity alone had induced him to conceal this fact in the first instance. The cousin of this person is at the present moment under our treatment.

ART. III. *The hereditary transmission of scrofula examined among children by different marriages.*

When the father or mother marries more than once, the children of each marriage possess a special temperament. They are scrofulous whenever one of the parents is of the scrofulous constitution, and they are healthy when neither father nor mother exhibit an hereditary taint.

In September, 1833, we were consulted in the case of a child, æt. 11, labouring under disease with spontaneous luxation of the right hip-joint. This child was emaciated to the last degree by consecutive abscesses, aggravated perhaps by the injudicious plan which had been adopted of confining him to his bed. His mother had miscarried in her first two pregnancies, and has lost three children, born subsequently to the patient, in their infancy. We were inclined in their case to look upon the state of the mother's constitution as the cause of the mortality, and a strong confirmation of the correctness of this opinion was afforded by the fact that the children of her husband by a former wife were perfectly healthy. It cannot be doubted, in this instance, that the female would have produced scrofulous children each time she married, and that the husband, on the contrary, would not have begotten scrofulous children by his second marriage, had he not allied himself to a scrofulous woman.

We have reported, in another work, the history of a

young man who was afflicted with scrofula in various and very severe forms. The father of this youth had six children by the same marriage, all of whom were scrofulous. He had subsequently six other children by a second wife, every one of whom was free from hereditary taint.

In this as well as in the former instance, the scrofulous predisposition was derived from the mother. In the first case, the second progeny was diseased; in the second, the first progeny. Had both mothers been scrofulous, as in the following instance, both families would in each case have inherited the disease.

A robust man married two sisters, both of whom died of consumption, and had a family by each. By the first wife, he had a boy, who died of mesenteric disease, and a girl, who was rickety and consumptive. By his second, he had three children, two of which died in infancy. The third, *æt.* four, is so infirm that he has not been removed from his nurse. The whole of these children were small and feeble at birth, and their transitory existence was but one continued scene of sickness and suffering.

The next case is the exact converse of the last: in that, a healthy man had scrofulous children by two scrofulous mothers; in this, the father engenders scrofulous offspring in two separate marriages, although neither of his wives exhibited any trace of disease.

A man, *æt.* 40, brought his daughter for advice, in whom scrofula had invaded the cellular tissue of the face, producing indurated hypertrophy of the cheeks, lips, and eyelids. She suffered also severely from dysmenorrhœa. On his second visit, he brought with him a half-sister of the former patient, who also was scrofulous, the disease having in her assumed the three separate forms of caries, otorrhœa, and abscess; thus attacking the osseous, the cellular, and the mucous tissues. The daughter by his

first wife had a brother who was small and of weakly frame. The daughter by the second had an own sister, who like herself laboured under chronic otorrhœa; she was also subject to a catarrhal condition of the other mucous membranes, and was infested with intestinal worms.

The father of these two families was the only survivor of a family of four children, and had been very sickly in his infancy. His growth had been much interfered with by an obstinate attack of porrigo, but his health improved about the age of eighteen. He is, however, at the present time, narrow-chested, thin, and below the middle height. His father is the only survivor of six children.

In this case we have presented to us a precise idea of the manner in which scrofulous families are eventually extinguished by the progress of their fatal predisposition. The grandfather was the only one living of a family of six; the father of one of four; he became himself the parent of four children, all of whom are scrofulous. What will be the condition of their progeny?

We will now adduce an instance of a scrofulous woman who had scrofulous children by two husbands, neither of whom were diseased, one having also four healthy children by a former wife.

A young man named Condet, was admitted into the hospital of St. Louis, for scrofula in its most aggravated form. His father had four children by a former marriage all healthy. Three children by a second wife, of whom our patient was one, were all scrofulous. This second wife had two children by a former husband, both consumptive.

Lastly, we knew the case of a man who married three times, and had scrofulous children by his second wife only. The offspring of his first and third wife were in every respect healthy.

The observations which we have reported in the three foregoing articles offer but an incomplete view of the true points they are intended to illustrate. The evidence upon which the perfection of these observations depends cannot be accumulated without great difficulty, for in this respect the testimony of friends must be discarded. Parents in general are too ready to flatter themselves respecting the constitutional health of their children; they will often persist in considering them sound, although to other eyes, their scrofulous condition is indubitable; and even when the fatal predisposition declares itself by some indisputable sign in one child, they rarely admit a feeling of apprehension concerning the rest of the family. Their blindness in this respect is beyond belief. When a mother brings a scrofulous child for advice, she generally begins by assuring us that this is the only one diseased, and expresses surprise perhaps that the remainder should have escaped. Mistakes of this kind originate in the erroneous opinions entertained by the public, that a disease is not scrofula unless it distorts the figure, and deforms the features, while in reality it may manifest itself in any part of the body, and under various forms and degrees of severity. These mistakes, we repeat, originate in the excess of parental affection, and the blindness to the defects in their children, which is its consequence. This natural failing induces them to think as they wish, and causes them unwittingly to deceive their medical adviser. We are, however, in the habit of seeing everything for ourselves, and, in spite of anything we may be told, of informing ourselves positively in such cases, concerning the constitution of the rest of the family. By so doing we constantly meet among those children, respecting whose health the parents rest in fancied security, some who are even more deeply impressed with the scrofulous taint than the one for whom

our advice has been sought, and who is considered to be the only one diseased, because he happens to be affected by one of the more common forms of the malady.

It must have been seen, from the observations by which we have endeavoured to demonstrate the prevalence of scrofula, that the fact could not have been established, but by the rejection of all negative information.

The first example is that of a young man with white swelling, who was considered to be the only one in the family affected by scrofula, although the diseased habit was clearly present in three sisters and a brother. One of these sisters was so far advanced in consumption that she died soon after, to the great astonishment of her family, who had no conception of her danger.

The second and third case show in an equally clear manner that the existence of scrofula may be manifested in one member of a family, by the most unequivocal signs, and the parent nevertheless be perfectly blind to the possibility of the other children being also contaminated.

It must be allowed, however, that the practice of medical men is somewhat inculcated in the existence of these illusions. They usually give some particular appellation to the different forms of scrofulous disease, and abstain from alluding to the veritable generic title which really belongs to them, and which associates them under one common category. The knowledge of the present day upon this subject is so far from including the comprehensive views which we are anxious to disseminate, that scrofulous diseases are even now consigned to different hospitals accordingly as the eyes, the skin, or osseous system are principally affected. With such contracted notions of diagnosis, it is impossible ever to gain an insight into that family temperament from which all scrofulous maladies arise.

In respect to the number of deaths, the information is but approximative. Even parents do not always remember, and hospital patients seldom know accurately how many brothers and sisters they have lost. The number of deaths therefore must necessarily be below the proper proportion to the number affected. Nevertheless, whatever this number may be at a given epoch, it always increases subsequently; it has done so several times since the first correction of the present work. The augmentation probably is even greater than we are aware of, for death doubtless numbers among its victims, some who were believed to have been cured.

Moreover, in forming a necrological table, we must not neglect to enumerate the infants who die before birth. Abortion is a common occurrence in the mothers of scrofulous children, either in consequence of their own state of health, or that of the father. The fourth part at least of scrofulous children perish during their foetal existence. (Part II, Pathological Causes.)

We regard repeated miscarriages as the manifestation of hereditary disease, in its highest degree. It must indeed be evident that the foetus which dies of scrofula is more deeply tainted than the child which dies at birth, or at a longer or shorter period after it.

Scrofula, then, is the most active element in the destruction of the human race; no other disease seizes upon victims so young or numerous; no disease so shortens the duration of life. Buffon has said that the nearer death approaches, the more his pace seems to be retarded: but this remark is true for those alone who enjoy a good original organization. Such only, in fact, grow old; old age is therefore in itself an evidence of that healthy constitution which is permitted to endure to the utmost span of human existence.

We shall here terminate our investigations relative to the characters of the hereditary transmission of scrofula. These observations may, to some, appear tediously minute ; but it will perhaps be accorded, that we have entered into no detail which does not impart some new light to the subject of the diagnosis of scrofulous diseases.

CHAPTER II.

ON THE HEALTH OF PARENTS WHO PROPAGATE
SCROFULOUS CHILDREN.

WE have seen, in the foregoing chapter, that when a family is scrofulous, the disease attacks all the children indiscriminately; and that it causes the death of the greater number of them, either before birth or during the first few years of their existence. These two characters are, as it has been seen, sufficient to demonstrate an hereditary taint in those families in which they coexist, and are the natural and essential expression of that taint.

We shall, nevertheless,—having already investigated the subject of hereditary transmission itself,—extend our researches by an inquiry into those different states of constitution which cause parents to generate a scrofulous offspring.

There is no fact in the whole range of pathology in which the relation between cause and effect has been more satisfactorily made out than in that of the intimate connexion between the health of the parent and the child. This connexion is so constant, that it ought to be regarded as one of the fundamental laws of our organization, and one to which there is no exception. The facts which appear at first sight to be exceptional, are not so in reality. We imagine them to be so, because certain of their elementary characters are absent, and we are therefore unable thoroughly to comprehend them.

This law, notwithstanding, is one which rules over our

existence; for our own health and that of our children together make up the sum of our destinies. Health and happiness will always be the portion of those who make this law the guide of their life in a social point of view; but the relationships of parentage—formed, as they generally are, without reference to the family constitution—must be the inevitable sources of disease and sorrow. Fernel has remarked, in reference to the hereditary origin of disease, that our greatest strength is derived from our parentage: “*maxima ortus nostri vis est.*” Our own observations have taught us an additional aphorism, no less general and useful; it is, that *the greatest misfortune which can happen to man is to be born of unhealthy parents.*

When, however, we state that scrofula originates in transmission from father to son, we do not mean to affirm that scrofulous children cannot be generated but by parents who are themselves scrofulous. Were this the case, the disease would not long afflict the human race, for it would speedily be extinguished by the death of its victims. It is perpetuated, however, because it has more than this one origin—because, in fact, it has many sources in several disordered states of health, by which the procreative faculty in man is so far deteriorated as to incapacitate him for the generation of a healthy progeny.

We have long made the consideration of these states of disordered health a special study, and it appears to us that we have been able to determine their nature with great accuracy; for we in general find no difficulty in referring to one or other of them every case of scrofula which presents itself to our notice.

The different states of health in question are either original or acquired. In the first case the parents are themselves affected with the hereditary disease, and transmit it to their offspring; in the second, they become unfit to

procreate healthy children, in consequence of other accidental diseases by which their powers of constitution are degenerated.

We shall bring forward our views (in which much will be found that is entirely new) upon the hereditary causes of scrofulous diseases, under two sections: 1st, the original health; and, 2d, the acquired health of parents.

SECTION I.

On the original Health of Parents who procreate Scrofulous Children.

When scrofula has its source in the original health of the parents, these are themselves scrofulous or tubercular, (terms which are, in our opinion, convertible,) and in general, they are so to a degree which renders the appreciation of their diseased condition sufficiently easy. In some cases, however, this pathological temperament is not so well marked but that some difficulty may arise in specifying the exact relation which subsists between the health of the parent and child. For this reason we should have frequently mistaken this relation in the earlier periods of our researches, but for the circumstance that it was in general, in such cases, equally if not more difficult to establish the fact of the operation of accidental causes.

Accidental or external causes have been invested with an importance, in reference to scrofulous diseases, altogether foreign to them; their coincidence, in fact, with these diseases is but rarely to be traced. The doctrine of hereditary causes, on the contrary, generalizes these diseases in so satisfactory a manner, and so well accords with their unity of nature under every variety of circumstances, that

we have been led naturally to attribute to such a source most of these cases, the origin of which could not be otherwise satisfactorily determined.

Hereditary influences are far more common than is generally suspected; they exist in many cases in which they cannot be appreciated at first sight, but in which a more minute investigation seldom fails to determine them. It is not, however, sufficient in such investigations to take into consideration the actual state of the health of the parents at the time being; inquiries must also be made into their previous health, and into the nature of the family temperament.

The examination of the subject under these points of view greatly extends the limits of the hereditary transmission of scrofula, and throws considerable light upon facts which have hitherto been involved in obscurity. It will, in future, be easy to recognize hereditary causes by keeping in mind the remarks which we have lately made relative to the previous history of the individual, and the coincidences of his actual condition. We shall then observe that scrofula does not derive its origin solely from parents themselves actually scrofulous, but that it may originate under any of the following circumstances: 1st, from parents who have been affected with scrofula, but no longer appear to be so; 2d, from those who are themselves considered exempt from the disease, but who have scrofulous brothers and sisters; and 3d, from parents who do not manifest the symptoms of scrofula until they have procreated a scrofulous offspring.

ART. I. *Of scrofula inherited from scrofulous parents.*

It must not be supposed that the facts by which the prevalence of scrofula and its excessive mortality have been

established are of no further service. The same facts afford excellent materials for many other considerations connected with the subject of scrofula. The greater number of them are equally useful in proving the descent of the disease from scrofulous parents, its origin independently of external agency, and its invasion even under circumstances of hygiene the most calculated to ensure robust health. We might have noticed these several circumstances in connexion with most of the cases already reported; but by so doing we should have been guilty of frequent repetitions, and therefore have run the hazard of creating much confusion. For this reason we have determined to consider each of these aspects of hereditary transmission in connexion with a certain number of special cases, which we consider to be the best mode of bringing forward a large amount of observations, and of grouping them under the natural laws to which they are subservient.

Robust men, of originally strong constitutions, never procreate a scrofulous offspring; and it is equally contrary to nature, that a scrofulous individual should be the parent of healthy offspring. Scrofula is, as it were, stamped upon the progeny, whether it exist on the father or mother's side alone, and *à fortiori* when it is found on both. We regard the transmission of the disease as inevitable when the fault is on the father's side; but it has appeared to us that the law is subject to certain rare exceptions when a healthy man impregnates a scrofulous woman.

Fortunately, the scrofulous seldom live to the age to propagate the malady under which they labour, for the greater number perish in the first months or years of their life, and seldom reach puberty. Not more than one in five probably lives to be married; nor is this to be regretted, for they could only call into being creatures still more enfeebled than themselves, and who, by their alliance with healthy

persons, would further contaminate society by the infliction of hereditary diseases.

Hereditary transmission is nevertheless the most common source of scrofula; and including phthisis pulmonalis, which, as we shall prove in the next article, is but one form of the disease, it is more common than all the other causes combined.

We have attended a great number of scrofulous children whose parents displayed evident signs of having laboured under scrofulous disease in their youth. In a considerable number of cases we may even observe in the children the very same form of disease that exists or has existed in the parents. Thus we have seen children who, as well as their parents, have suffered from ophthalmia, tubercular cervical glands, caries of the bones, &c.

A woman, who had ulcerated cervical glands in her childhood, became the mother of four children, one of whom died at the age of eight months; the other three had glandular scrofula, like their mother. Two of them, who were in the hospital of St. Louis at the same time, had also severe ophthalmia; the third was subject to bronchial catarrh.

A lady, æt. 32, was the mother of five children, four of which she lost in their infancy; her only remaining daughter laboured at three years of age under recent ophthalmia, with specks on the cornea, the result of previous attacks. The mother had been subject to the same affection in childhood, and her eyelids were still red and swollen.

A man named Barbier had, for four years, a large scrofulous ulcer on the fore part of the chest. The father of this patient exhibited the cicatrix of an ulcer in precisely the same situation.

Augard, æt. 40, a man of feeble constitution, laboured under double palpebral ophthalmia which had followed

smallpox. His son, *æt.* 16, entered the hospital in the year 1829 for the same form of ophthalmia, which was, as in the father's case, the consequence of smallpox. A brother and sister were likewise ophthalmic.

A man named Salmon had ophthalmia for many years. He was the father of eleven children, seven of whom died in infancy. Of the four survivors, three suffered from ophthalmia; the fourth entered the hospital covered with fistulous scrofulous ulcerations.

A lady, who was deformed, and subject to profuse leucorrhœa, consulted us for one of her children, aged six years and a half, who was also cachectic. The child likewise suffered from mesenteric disease and chronic enlargement of the tonsils. A second child, a girl, was also deformed like the mother.

The similitude which is observed between the manifestations of scrofula in the parent and child, is often but temporary. The child who is ophthalmic like his father, or who, like his mother, has tubercular cervical glands, will shortly be affected with other forms of scrofula; for, in the majority of cases, scrofulous diseases occur two or three forms at a time, or in many in succession, until the patient is either cured or destroyed. A child who is ophthalmic at the present time, will sooner or later have enlarged cervical glands, or caries, or hip-joint disease; and if he dies, it will not be until he has experienced the attacks of scrofula in various forms.

We have occasionally witnessed the development of scrofula in three consecutive generations. In such a case, the third generation is generally all but extinguished at birth. We are acquainted with two sisters descended from a scrofulous mother; neither is able to rear her children.

A lady, *æt.* 63, suffered from white swelling of the right knee in her youth. She was married at the age of twenty,

and had five miscarriages in succession, each followed by obstinate sanguineous discharges. Two years after her last miscarriage, she produced a daughter at the full term, and the next year a second, both of whom married at the usual age. The elder is now thirty-four, and has had two children: one died at the age of eight months; the second, a boy, is now labouring under white swelling of the knee-joint. The children of the second sister are both dead.

In most instances, as in the one just related, the third generation of scrofulous families is not born alive; the mothers miscarry of most of their children, and in some cases never bear one to the full time.

Further illustration of the occurrence of scrofula by inheritance from scrofulous parents is unnecessary; medical men universally admit the fact. Any one, moreover, may be firmly convinced of the truth of the doctrine by the careful analysis of a very few cases of scrofula.

ART. II. *On scrofula inherited from consumptive parents.*

We have thought it right to treat of this variety of hereditary scrofula in a separate article, in order to set forth, in the clearest possible light, the intimate connexion which exists between scrofula and tubercular consumption, and to demonstrate their identity and frequent reciprocal production.

Although there is no novelty in the idea of the identity of scrofula and consumption, we might almost imagine their connexion to be generally unknown, if we were to judge by the manner in which the attention of medical men appears to be concentrated upon the occasional causes and the localization of tubercles; and the utter disregard to the constitutional origin of the disease which their usual method of treatment indicates.

Sydenham has so far recognized the common nature of these two maladies, that he has designated tubercular consumption by the name of *scrofula* of the lungs, thereby expressing a doctrine of which we have proved the truth by the sure test of anatomical investigation. This doctrine it is our intention to develop in a forthcoming treatise on Tubercle.

Portal likewise regards the disease, which he calls "phthisie d'origine," as essentially scrofulous in its nature; and it is a matter of astonishment to us that our contemporaries should appear to pay so little attention to an opinion so constantly reverted to by him.

The similitude between scrofula and tubercular affections is too manifest to have been entirely overlooked by Bayle and Laennec; but it is to be regretted that in reference to this point the ideas of these accurate observers are less advanced than those of Portal. Their silence respecting the scrofulous nature of tubercle has been specially injurious, inasmuch as it has favoured the opinion of the local origin of that product, and has consequently given countenance to the employment of a dangerous system of treatment. Had these two writers, who are justly regarded as high authorities, endeavoured strenuously to develop the scrofulous nature of tubercular deposit, they would have prevented much of the abuse of bloodletting in a disease, the progress of which is invariably precipitated by anti-phlogistic remedies.

The identity of scrofula and pulmonary tubercles is, in our opinion, most manifest; they have both an hereditary origin, and are equally general and fatal in the infected family. The two latter characters, which belong to each of these diseases in an equal degree, are in themselves sufficient to establish their identity; but we shall endeavour to render the fact still more evident, by de-

monstrating, 1st, that scrofula has most frequently a tubercular origin; 2d, that the two diseases ordinarily coexist in the same family; and, 3d, that all scrofulous subjects have tubercles in the lungs.

1st. *The tubercular origin of scrofula.* More than half of the subjects of scrofula have consumptive progenitors. Scrofulous diseases of all kinds, as tubercular cervical, mesenteric, and bronchial glands, white swellings, caries of the bones, ophthalmia, intestinal worms, acute and chronic hydrocephalus, invade a family, without the operation of any other cause than that of the existence of pulmonary tubercles in one of the parents.

So general is this tubercular origin of scrofula, that in a ward containing eighty-four beds, we have constantly ascertained the existence of consumption in the one or other parent of more than half the patients; and even this is below the real proportion, for a great many patients are utterly ignorant of the sanitary condition of their families, and in other cases the presence of consumption has been overlooked, because it was not accompanied by its more manifest signs. We ought therefore to add to the instances in which the mode of death of one or both parents has been clearly ascertained, another series in which, although it was not possible to obtain indisputable evidence of death by consumption, circumstances render it probable that such was the case.

2d. *Coincidence of scrofula and pulmonary consumption in the same family.* The preceding observations are still further justified by the frequent coincidence of scrofulous diseases and pulmonary consumption in the same family. Thus we commonly see scrofulous persons who have lost one or more brothers or sisters by tubercular disease of the lungs. We attended in the year 1830, a young infant from the department of the Moselle, for phagedænic scro-

fulous ulceration of the cheek. The mother of this child, with a brother and sister, died of pulmonary consumption.

A man named Belon had numerous tubercular cervical glands; he had lost his mother and brother by consumption; a sister also, who was alive at the time the observation was made, being the subject of habitual cough, which had supervened upon an attack of croup in infancy. (Part II, Pathological Causes.)

Domergue was affected with chronic ophthalmia and extensive caries; his brother died of acute hydrocephalus, and his sister of pulmonary consumption. They were the children of a man who died of the latter disease, at the age of thirty-seven.

We shall now proceed to show that scrofulous patients themselves are the subjects of pulmonary tubercles equally with those, brother and sisters, in whom the lungs were the only organ invaded by scrofula.

In scrofulous families the children often perish from disease of the lungs, and again in consumptive families some of the members are carried off by the various forms of scrofulous disease. In common parlance, a family is said to be scrofulous when ordinary scrofula causes a greater mortality than consumption; and it is, on the other hand, called consumptive when more deaths are caused by tubercles in the lungs, than by other manifestations of scrofula.

Medical men, even to the present time, appear to believe in an essential distinction between scrofula and tubercle, for they undertake the treatment of these diseases without any reference to their relationship. A person affected with white swelling is treated without any importance being attached to the fact that a brother has died of consumption; and, on the other hand, in a case of pulmonary phthisis an equal indifference is exhibited to the presence

of white swelling in another member of the family. The time, however, is not far distant when the relationship between these diseases will be fully recognized.

3d. *Scrofulous persons are also tubercular.* Scrofulous children, in the ordinary sense of the word,—that is, children who are regarded as scrofulous, but not tubercular,—are nevertheless as much the subjects of this deposit as those in whom tubercular scrofula has commenced in and concentrated itself upon the respiratory organs. The *natural death of the scrofulous is by consumption*; we might say, indeed, that they seldom die in any other way, for in the cases of scrofulous ophthalmia, subcutaneous tubercles, caries of the bones, white swellings, and other forms of scrofulous disease, death rarely takes place until after the invasion of the lungs by the tubercular deposit.

Domergue, whose case has already been mentioned, was almost cured of caries of the bones of the feet, when he died of pulmonary consumption, after a lapse of six months, during which he had assisted in the hospital kitchen. All the scrofulous patients, in fact, almost without exception, who died at the Hospital of St. Louis, whatever might have been the form of scrofula which formed the prominent symptom of their case, exhibited after death the presence of tubercles. The few instances in which this coincidence was not observed are scarcely to be considered as exceptions to the general rule; they are merely facts analogous to those in which, although the predisposition exists, the invasion of pulmonary tubercle does not occur until the individual has attained an advanced age.

We have not yet exhausted the subject of the connexion between scrofula and pulmonary tubercles. Many remarks of the most interesting character still remain to be made, which do not bear directly upon the subject of the present work. They will therefore be reserved for

another occasion, when the subject of Tubercle in its various relations will be considered in a separate treatise.

ART. III. *Parents who are in good health at the present time may, if they have been scrofulous in their youth, generate scrofulous children.*

The greater number of scrofulous subjects perish within the first few years of their existence and those even whose constitutions are able to struggle against the inroads of the disease, so as to reach puberty, are generally not benefited by the change induced in the system at that epoch, but remain in a state of greater or less comparative feebleness.

Puberty, however, sometimes imparts so favorable an impulse to the constitution, as to produce a remission or even, apparently, a total subsidence of the scrofulous symptoms; but the constitution does not imbibe the same amount of vigour as belongs to an originally healthy man; the individual is still scrofulous, and will be the parent of scrofulous children.

The source of the disease which this article illustrates is more common than is imagined; for it exists in by far the majority of those scrofulous persons who are supposed to have been cured at the age of puberty. The beneficial changes which the system experiences are unfortunately confined to the individual, and are not extended to his offspring. The children of such persons are generally scrofulous, and the disease cannot be eradicated but by the judicious intermarriages of several successive generations.

Parents are in general strictly silent respecting the diseases of their earlier years, and this silence is a fruitful

source of error relative to the origin of many instances of hereditary disease. It induces us to seek for external causes where none exist, but where in reality the source of the malady has been in the parental constitution, the state of which has been so scrupulously concealed.

The following examples will serve as a guide to inquiries of this nature

A young lady, *æt.* 13, laboured under scrofulous ophthalmia for nine years. The parents were apparently healthy; the mother in particular was of so agreeable an exterior, as to give rise to no suspicions on her side. In this case therefore, at first sight, no cause could be discovered for the disease. The patient was in the possession of all the conveniences of life, there was therefore no appreciable external cause; the mother and father were young and healthy when their child was born, there could therefore be no presumption of hereditary influences; so that we had apparently an instance of severe disease to which no adequate cause could be assigned. Further inquiries, however, decidedly demonstrated that the cause existed in the temperament of the mother. She had been very delicate as a child; her development was slow; menstruation had not been established until she was nineteen; and, in fact, her health had been good only since her marriage. The four children of this lady, one the patient in question, were all small and delicate.

This was the first instance of this kind which we met with; many others, however, have subsequently come to our knowledge, three of which we shall append.

We were consulted in the case of a schoolboy, *æt.* 13, for fistulous white swelling of the shoulder-joint. His parents were young and healthy at the time of his birth, and were in the enjoyment of easy circumstances; so that in this case, as in the last, there was neither hereditary

nor external cause apparent at first sight. A closer investigation, however, elicited the following facts.

The grandmother on the father's side died of consumption. The father, aged 44, of feeble constitution, was healthy at the time of his marriage, but he had passed a sickly childhood, having been the subject of obstinate hooping-cough and severe eruptive fevers; at the age of puberty he was supposed to be in a decline, but his health subsequently improved.

The next example is no less interesting. A young lady became our patient for ulcerated cervical glands. Her sister was deformed and phthisical. The mother was in good health at the time we were consulted, but as she had the "*facies amabilis phthisicorum*," we were led to inquire into her history. It was this. Her father died of consumption, as did also one of her brothers; she had likewise herself been threatened with the same disease. At the present time, the critical period has been forestalled, and is accompanied by frequent catarrhs, and loss of flesh and strength. There is evidently, in this case, a recrudescence of tubercle, for the catarrhal attacks are precisely similar to those which tormented her younger days, and which she has transmitted to her offspring, after she had been considered as completely cured.

Although our ideas are sufficiently exemplified in the foregoing cases, we will subjoin one, if possible, still more instructive. In this instance, there was a spontaneous cessation of the scrofulous symptoms at the age of puberty, and the patient apparently acquired an unusual degree of constitutional vigour; his offspring was nevertheless scrofulous.

In the year 1834, a young lady, æt. 10, was placed under our care for extensive caries of the bones of both wrists, fistulous white swelling of the left elbow, and ne-

crosis of the tibia. Her teeth were bad, and her appetite was much impaired. Her father is a stout, healthy-looking man, and has been accustomed to a life of great muscular activity. Although his wife was of more feeble constitution than himself, we were led to commence our investigations by an inquiry into his history, because we had observed that his eyelashes were scanty, and that he winked continually, as is the case with those who have suffered from ophthalmia in childhood. Accordingly, it appeared that he had laboured under that affection for a considerable time, and that it only subsided upon the appearance of a scrofulous abscess in the neck, which remained open for six months. His constitution began to acquire its present vigour about the age of twenty, but since this he has suffered occasionally from slight catarrhs, in one of which attacks he lost so much flesh as to give rise to some apprehension of consumption. This apprehension we do not consider to be utterly without foundation, for the following reasons: because, in the first place, he has lost a brother and sister of consumption, the former after having been cured of scrofulous caries of the bones of the foot; and, secondly, because, of a family of nineteen children, of which he is one, thirteen have died in infancy.

In this history we may remark an instance of a man in whom the symptoms of scrofula disappeared at the age of puberty; and who not only appeared cured, but became more than ordinarily robust. His progeny, nevertheless, were not healthy, for two of four children died in infancy; and the other two, who have not yet reached puberty, are scrofulous in a high degree. We know of no instance which proves so distinctly as this, to how great a degree the health may improve, and the constitution yet remain radically the same; or which so well illustrates the fact that our species is propagated directly in accordance with our original state of constitution.

The object of this article, as its title indicates, is to establish the position, that scrofula may be transmitted to the offspring, even when the parents appear to have been perfectly cured of the scrofulous affections of their childhood; that this object has been accomplished by the testimony of the foregoing cases, will, we think, be generally conceded.

The same point meets with further confirmation in the fact, that tubercular patients who are considered to be cured, most commonly die sooner or later of tubercular disease. Every physician must have occasionally witnessed the suspension of pulmonary consumption at the age of puberty; and its subsequent reappearance at the critical age, either spontaneously, or in consequence of some external influence, as imprudence in the mode of life, the depressing passions, &c. The same thing is to be observed in the case of other forms of scrofulous disease. We do not for a moment imagine that any well-informed practitioner would think that a real cure has been accomplished in such cases, and that the disease had arisen *de novo*, in consequence of some external cause. The patient has been simply in an ameliorated condition during the interval, the favorable elements in his organization having kept the morbid tendency in abeyance, until it has, from some cause, once more gained the upper hand.

Such persons are only relatively in a better state of health; they are always more or less subject to catarrhal attacks, sore-throats, pulmonary congestions, &c. They are never strong, but at the best are valetudinarians all their life; and whatever may be the degree of their improvement, they almost inevitably die at length of pulmonary consumption.

It is this original temperament, modified and amended by treatment, but not thoroughly regenerated, which is, as

we daily observe, transmissible to the offspring. The durability of this fatal predisposition to scrofulous diseases is, therefore, incontestable; it is certified beyond a doubt by the evidence which we have adduced.

ART. IV. Parents who do not themselves appear to be scrofulous, but whose brothers and sisters are so, often generate scrofulous children.

When scrofula invades a family, it does not manifest itself in all the children with the same intensity; its external characters, which are distinctly marked in most of them, may be so slight in some as to escape observation.

A man who does not appear to be scrofulous himself, but whose brothers and sisters are so, doubtless enjoys a state of health relatively good; and a judicious system of hygiene may possibly enable him to become the father of healthy children. But in these cases even, which are the most advantageous of any, there is still room for apprehension; and the fear of a scrofulous progeny is so often realized, that we think it right to make this cause a subject of special inquiry, more particularly as this work professes to investigate the hereditary transmission of scrofula in all its bearings.

It must, however, be observed, that the man who appears healthy, having scrofulous brothers and sisters, rarely, in reality, enjoys good health. In many cases there is scarcely room for mistake on this point; certain signs of the scrofulous temperament, if not of the actual existence of the disease, are generally present, which are unappreciated by common observers only because they do not happen to be strongly marked.

This particular state of the constitution would not be

so often overlooked, if medical men accustomed themselves more commonly to the investigation of family diseases ; but this point is not sufficiently studied, and an imperfect state of organization is consequently looked upon as a normal condition of health, feeble in proportion to others, but totally unconnected with scrofula. That the individuals, however, who present this condition of health are scrofulous, is rendered evident by the fact that they generally become the parents of a scrofulous offspring.

Two brothers, who were tubercular, and had likewise white swelling, were born of parents who were said to be healthy. We discovered, however, that a sister of their mother had died of consumption, and that one of her children had been a scrofulous patient in the Hospital of St. Louis.

A little girl, *æt.* $4\frac{1}{2}$, was the subject of scrofulous abscess in the scapular region. Her mother appeared in good health ; but she had a sister who was rickety, and the mother of two rickety children.

A child, *æt.* 11, suffered from her infancy under various forms of scrofula. Her father and mother were healthy, but a brother of the father died of caries of the sacrum and abscess.

A man named Servit was the father of six scrofulous children, two of whom were in our hospital at the same time. He did not appear to be distinctly scrofulous, although, in general, health was so feeble as to be nearly allied to that temperament. Scrofula had, however, showed itself unequivocally in two of his sisters.

A student, *æt.* 17, had tubercular tumours in the neck. He had lost two brothers in infancy, and his father died of pulmonary consumption at the age of thirty-seven. His paternal uncle, who appeared healthy, had nevertheless an only son who was rickety and diminutive.

In the month of February, 1832, a boy was brought to the hospital affected with white swelling of several joints. He was one of seven children, all of whom but himself were dead. His father, who was considered as a man of delicate health, had lost a brother from extensive caries of the ribs.

A youth named Solignat was the only son of a woman who had miscarried five or six times. This woman did not appear to be scrofulous, but she had lost twelve brothers and sisters, and her only surviving brother was in a feeble state of health. The parents of this woman, therefore, had lost twelve out of fourteen children; she had continually aborted, and her only living child was scrofulous. Who would affirm that this woman was not scrofulous herself, considering the mortality which had reigned in her family, and her own incapability of bringing to maturity the products of conception? She nevertheless passed for a healthy woman.

In the year 1836, a dark-complexioned man, of healthy constitution, brought one of his children to the hospital of St. Louis severely afflicted with scrofula. According to his own account, his wife was equally healthy with himself. Our remark at the time to the surrounding pupils was, that the child was too diseased to have sprung from sound parents, and that, in spite of the man's declaration, we could not help regarding the mother as the source of the taint. The man afterwards stated that although his wife was herself healthy, she had lost several brothers and sisters by consumption.

In the preceding case we have traced the origin to the maternal side of the family, the constitution of the father being sound. The following example is one of a similar kind, with the exception that at first sight the father appeared to be the source of the disease.

A lady, æt. 15, died of pulmonary consumption. Her father, who was a literary man, of feeble constitution, was short in stature, with a large head, and of light complexion. The mother, also light, was of good height and apparently healthy.

Literary men in general, but especially those who are enfeebled by excessive intellectual occupation, and the sedentary life which such pursuits enforce, are little qualified to become the fathers of healthy children. In the present instance, however, although this condition was associated with an originally weakly constitution, we could not consider it sufficient to account for the high degree of tuberculization which his daughter exhibited. It is more probable that the germ of the disease was derived from the mother, for she had a sister deformed to a great degree, who is since dead of pulmonary tubercles.

We were lately consulted in the case of a young lady, æt. 15, who has hypertrophy of the upper lip, and is subject to melitagra [impetigo]. Neither the father nor mother of this girl are themselves tubercular, but the father has lost one sister in a rapid decline, and another is also in a precarious state as regards her chest.

One of the family of the Château-Thierry, a young lady, æt. 20, was the subject of tubercular cervical glands, and several cold abscesses in the neighbourhood of the ankles and wrists. The parents of this lady are robust, middle-aged persons, and were both young at the time of their daughter's birth. The father's mother had tubercular cervical glands in her youth, and his sister was scrofulous and the mother of a family of weakly children, one of whom was idiotic.

Here, then, is a case of a scrofulous mother who has two children. One, a daughter, is also scrofulous, and, as might be expected, gives birth to a feeble and ill-developed race.

The other, the son, appears to be healthy, and exhibits none of the signs of scrofula. He nevertheless also transmits to his children the disease which he derived from his mother. The hereditary source of scrofula in this case is most evident, yet is it one in which we are often led away in search of external influences which have no existence. In the case in question, the patient was by her position entirely defended from those external agents which are commonly supposed to have the power of generating scrofula.

SECTION II.

On the acquired Health of Parents who procreate Scrofulous Children.

The hereditary causes of scrofula which we have studied in the preceding section, are those which are transmitted to the offspring by parents who have themselves derived them by inheritance. Scrofulous diseases, when so induced, may infect a family for many successive generations, so as to accomplish, in the course of time, the complete extinction of the race.

We have now to investigate another order of hereditary causes, the study of which will demonstrate the fact that a man, originally sound in constitution, may acquire certain states of ill health, the manifestation of which, in his offspring, will assume the form of scrofula; so that he becomes the root or starting-point of a scrofulous family, which may consequently look back, it may be, to his imprudence as the cause of their deteriorated physical condition.

The alterations of health which are capable of inducing

such lamentable results, are those which diminish and degrade the reproductive faculty; they may be the consequence of accidental disease, the progress of age, or of other physiological causes.

Thus, persons who are labouring under venereal disease, those who have abused the sexual instinct, who marry too early or at too advanced an age, those whose bodily vigour is disproportionate to that of the other parent, &c., are all in a condition which is unfavorable to reproduction, and which inflicts upon them the sad lot of becoming parents of none but scrofulous children. These remarks may serve as a reply to those who, from ignorance of the whole extent of the question of hereditary causes sometimes cunningly demand how the first person became scrofulous. The answer is very simple; he derived it from a parent whose health exhibited one or other of the accidental conditions about to be enumerated.

It may not, however, be possible, in this enumeration, to give a definite appellation to all the different states of health which may arise in an originally well-organized man, and cause the corruption of his posterity. The reproductive faculty is subjected to various sources of injury, some of which, from the peculiar circumstances under which they occur, cannot be amenable to observation.

ART. I. *Parents who are labouring under the venereal taint frequently beget scrofulous children.*

Among the various abnormal states of health, which may be acquired by parents and transmitted to their offspring under one or other of the forms of scrofula, syphilis deserves the first mention, as it is one of the most common sources of hereditary disease.

Many forms of scrofulous disease have a close resemblance to syphilitic maladies, and it is chiefly in consequence of this similitude that their connexion has been observed; for it is often impossible and always difficult to establish the fact of this connexion by personal inquiries. A patient may be aware that his father has had tubercular glands, or gout, and rheumatism, but he is generally ignorant whether his parents have ever been the subjects of venereal disease. In some instances, however, parents have confessed to us with lamentations that the scrofulous disease which is devastating their families originates in the syphilitic poison. We have in fact seen so many scrofulous children, whose parents laboured under syphilis at the time of their conception, that we entertain the most absolute conviction of the relation between the two diseases, as cause and effect.

A man named Guillon was a patient in the Hospital of St. Louis with scrofulous tubercles and caries; he was the son of a man who had experienced several attacks of the venereal disease.

In another case, that of a child *æt.* 10, who was tubercular, the mother confessed to having had the primary symptoms of syphilis, and was, at the time of examination, the subject of venereal nodes and ulcers.

The syphilitic origin of scrofula is still more forcibly exhibited in the following example: In a family of three children, the two elder were healthy and the younger scrofulous. The first two children were born while the father led a regular life, and was in sound health; but he after this contracted habits of dissipation and communicated the venereal disease to his wife. The third child was born under these circumstances, and died in the last degree of marasmus, after a life of continued suffering.

Although there is, undoubtedly, a frequent connexion

between scrofula and syphilis, the fact is made of too general application by Astruc, who maintains that when scrofula does not originate in scrofulous or rachitic parents, it is derived in all cases from a syphilitic source. This, as we shall hereafter observe, is far too limited a view of the subject. The opinion, however, erroneous as it is, has been adopted and even extended by many celebrated men of the latter half of the last century; and they have, consequently, treated the two diseases in the same manner, by the preparations of mercury.

This practice is especially recommended by Portal, who adduces, in its support, the history of a scrofulous epidemic, which showed itself among the nurse-children in Montmorenci. The extension of the disease in this instance became so alarming, that two commissioners, MM. Moraud and Lassonne, were sent by government to inquire into its causes and treatment. The result of their investigations was, that the nurses in that part of the country were in general syphilitic. In consequence of this discovery, the women were put under a mercurial course, with the injunction that they were still to continue the care of their nurse-children. The effect of this plan was the cure of all those infants which were not already too far diseased.

This example does not, in our opinion, afford any proof of the syphilitic origin of scrofula, as was generally believed by the commission; the testimony is rather in favour of the idea that the infants were suffering, not from scrofula, but from syphilitic disease imbibed from their nurses. It is no uncommon thing to witness this mode of infection in the practice of the Hospital of St. Louis. A nurse who is labouring under the venereal disease generally communicates the affection to her nurseling in the course of a few weeks, so that it is not an unfrequent occurrence to see both nurse and child suffering from the disease at the

same moment. In such cases we are in the habit of following successfully the plan of treatment adopted by the medical commissioners above alluded to.

The mistake in diagnosis, in reference to scrofula and syphilis, has doubtless arisen from the resemblance which exists between the ulcerations, ophthalmia, caries, &c. produced by the two diseases. This resemblance is, in some cases, so close, that it is impossible to determine to which order they belong, except by reference to the previous history of the patient, and even then it sometimes remains doubtful. In such instances, the effects of treatment offer the readiest means of forming a diagnosis; the consequences of syphilis being more quickly and effectually removed than those of scrofula.

But however great may be the resemblance between the symptoms of the two diseases, they are nevertheless perfectly distinct. Syphilis is a contagious disease—scrofula is not so; scrofula may originate in syphilis, but syphilis cannot arise from scrofula. The most healthy individual may contract syphilis in a few moments, and be cured in a few weeks; scrofula, on the other hand, is the sign of an organic predisposition, which cannot be eradicated but by medical treatment of long duration.

But, independently of these fundamental distinctions, there are other reasons which oppose the idea of the exclusive origin of scrofula in the venereal disease; for instance, there are numerous instances in which the supposition is impossible. Such is the fact mentioned by Borden, that scrofula abounds in certain districts in which the venereal disease was in his time unknown. It is moreover incontestable that scrofula is a disease of more ancient date in Europe than syphilis; which latter has only been witnessed subsequently to the return of the army of Columbus.

It remains for us now to consider, in the case of the derivation of scrofula from syphilitic parents, whether the condition which gives rise to it is not the secondary or constitutional form of the disease—the syphilitic cachexia, as it is called. We have already answered this question in the affirmative. Primary syphilis can only give rise to syphilis; it is the secondary form, which is no longer contagious in intercourse, which may be transmitted to the offspring under the guise of the scrofulous habit.

We shall have occasion to revert to this subject in a future article upon imported epidemic scrofula, in which we shall demonstrate that many countries, but especially that of Spain, have been in a manner desolated by it, subsequently to the general diffusion of venereal diseases. Further information will also be contained in a chapter in which we shall consider the antiphlogistic treatment of syphilis as a cause of hereditary scrofula.

ART. II. *The abuse of the sexual instinct considered as a cause of scrofulous offspring.*

The secretion of the seminal fluid, as is the case with all other secretions, is subject to certain physiological laws, which cannot be infringed without detriment to its qualities. It appears necessary, for instance, that it should remain for a certain time in its natural reservoirs, in order to be duly elaborated. The presence of the secretion so far perfected, is the natural incentive to the union of the sexes; and the intercourse thus naturally excited is vigorous, and productive of healthy children.

If, however, the act be the result not so much of a physical want as of a voluptuous and dissipated state of mind, the due elaboration above mentioned is deficient, and the

product of conception will be feeble, and its development laborious and imperfect.

Facts in substantiation of these assertions are, unfortunately, but too numerous. We have only to observe the higher classes of society, to be assured that the future life of many young men is rendered nugatory by the ready and unlimited opportunities for the indulgence of the passions which their circumstances admit.

We were consulted in 1822 in the case of a little girl who had a scrofulous abscess in the left submaxillary region. The child was pallid, the mouth was large, and the teeth were decayed. Having shortly after the opportunity of seeing her parents, we were not a little surprised to find them both in apparently robust health. Our astonishment was increased upon observing that all the other children more or less resembled the patient in constitution.

Whence, then, came this scrofulous taint, in a family whose parents possessed all the attributes of healthy organization? External causes could have had no share in its production, for the family circumstances removed all possibility of accidental noxious agency; the source, therefore, must have been hereditary. We were not long in discovering a cause for the hemoptysis, the ophthalmia, the scrofulous embonpoint, the pulmonary tubercles, the intestinal worms, and the other imperfections, moral and physical, which the different members of this family exhibited, in the habits of the father, who from his earliest youth had lived in a state of continual sexual dissipation.

We have thus briefly related this case, because it is the type of many others, in which it is difficult at first sight to determine the existence of an hereditary cause; and because it proves the necessity of the patient investigation of the etiology of diseases, in order to recognize those

causes which may coexist with the ordinary attributes of robust health.

ART. III. *Precocious marriages, in either extreme of the social scale, are productive of hereditary scrofula.*

In the higher classes of society, men contract early marriages for reasons which we need not here inquire into. This custom, however, which is directly opposed to the laws which regulate the organization and growth of the frame, must of necessity, on that very account, be prejudicial to the propagation of healthy offspring.

A man must have passed the age of puberty by several years before he will have the power of procreating healthy children; he must himself have arrived at his full strength and development, to be able to impart the elements of constitutional vigour to his offspring. The reunion of these conditions cannot in general be counted on before the age of twenty-five; and all marriages, therefore, contracted earlier than this age must be considered precocious, and unlikely to be productive of other than weakly progeny.

This law is not confined to the animal kingdom; it is equally exemplified in the vegetable world. A tree does not perfect its fruit in the first years of bearing; it is only after its roots have been firmly implanted, and the woody fibre has acquired its full development, that the fruit obtains the size and flavour of its species.

The lower animals do not seek to copulate until their development is nearly or quite completed; but in them the quality of reproduction is instinctive, and relates solely to the propagation of the species. Man, in this respect, is below the brute; for in him, a less creditable

impulse, that of sensual indulgence, takes the place of instinct.

The consequences of early marriages are at all times injurious; but they are still more to be dreaded when the young husband has previously lived a life of dissipation, has, in fact, seen and entered into the vices of fifty years, before he has arrived at twenty. It is seldom however, in such cases, that a third cause is not added, which still further diminishes the probability of healthy offspring; we allude to those special diseases which are the natural penalties of an ill-regulated life.

It is to the assemblage of these causes coupled with the fact that their influences are often concentrated within a narrow sphere, that we may refer the remark that the noble families, and the privileged classes of all countries, but especially of Spain, Italy, Russia, and England, are desolated, and eventually extinguished by the progress of hereditary scrofula.

In the other extremity of the social scale, early marriages are also common, but from very contrary reasons. The artisan in the large town marries young, not from motives of vanity, but that he may obtain the services of a wife. He not only marries young, but he is often not even virile for his age; his physical development is too frequently retarded by the laborious nature of his existence and the insufficiency of his aliment. It is unreasonable to expect that young men who have lived under such unfavorable circumstances, and whose comforts are narrowed rather than increased by marriage, can become the parents of a healthy race.

In 1829, we had a patient in the Hospital of St. Louis, aged 14, with tubercular cervical glands, and white swelling of the right shoulder. His sister was tall and of weakly constitution. Their parents were scarcely twenty

years of age at the time of their birth. A brother and sister who were born after their parents had attained a reasonable age were healthy and well developed.

The same observation holds good with respect to the inhabitants of country districts. There is much misapprehension in general regarding the constitution and mode of life of the peasantry: they are far from being so happy as they are represented to be, neither are they possessed of the attributes of health and vigour which have been so unreservedly accorded to them. We have lived in the country six months in the year for some time past, and have accumulated observations so numerous and so constantly the same, that we can confidently affirm, contrary to the received opinion, that the peasantry are not a healthy race, and that they grow prematurely old. Could it be otherwise? Their nourishment, their clothing, their habitations, their whole arrangements of life in fact, are reduced to the minimum consistent with the maintenance of existence. Their food is two thirds less than it ought to be, their toil two thirds more.

This disproportion between labour and food is common not only to the peasantry, but to the labourer in every trade and manufactory: it commences with their earliest years; even the infant is hardly worked, and badly fed. Add to these pernicious circumstances, habits of life still more pernicious, and it becomes impossible for the children to grow up into healthy men, and become the stock of a healthy population.

ART. IV. *On the inheritance of scrofula from aged parents.*

We have seen that the faculty of reproduction is deficient in vigour in those who marry too young, and whose

organization is therefore not sufficiently matured. We shall see in the present article that the offspring of aged parents is still more generally scrofulous; that as soon as parents begin to descend into the vale of years, they are no longer capable of engendering robust infants, and that the offspring decreases in vigour, in direct ratio with the increase of years, until at length none but abortive embryos are generated.

There is also this great difference between the generative feebleness depending upon youth or early excess, and that which results from the natural course of age; time and moderation may restore the former, but the latter is deteriorated irretrievably. Parents cannot impart to their offspring the vigour which has departed for ever from themselves; their progeny is therefore debilitated, and often in so marked a degree, that the feeble and insignificant appearance of an old man's child has become proverbial.

The decadence of the procreative faculty commences about the age of forty-five years; it is not very evident at first, but becomes sufficiently apparent after the lapse of a few years. The progress of this gradual decay may be seen in the case of men who marry for the first time late in life; their first children may perhaps be robust, but the health of the succeeding infants diminishes in proportion to their number.

Unfortunately for themselves and for their posterity, these late marriages are of common occurrence; and many children are therefore born feeble, and the victims of continued sufferings until they are carried off by premature death; the greater number die at birth; the remainder are precocious in infancy, but know neither youth nor manhood: from a deficiency in the elements of a vigorous organization, their life is terminated before they arrive at maturity.

The remarks which have been made regarding the father are equally applicable to the mother. In proportion as a woman approaches the critical period, her fecundity undergoes a diminution, and the child of her age seldom possesses the germs of a healthy constitution. This period in woman commences about forty, and is completed in the course of a few years. After this period pregnancy is frequently an illusion; their infants perish before or a few days after their birth; and if one be reared, he is endowed with a debility of constitution which sooner or later assumes the character of scrofula. The following cases prove the truth of these observations.

Catherine Roth, æt. 17, exhibited many of the signs of the scrofulous habit; she was short with a protuberant belly, short and thick neck, large head, prominent jaws, and carious teeth. She presented no signs of nubility. Her mother was a woman of good constitution, but was forty-eight years old at the time of her birth.

Margaret Pochon, æt. 19, was born of a woman aged forty-six years. As is generally the case with the children of aged mothers, her infancy was sickly; and she became afterwards the subject of tubercular cervical glands.

Angelica Freville, aged 16, had large tubercular tumours on each side of the neck. She had also double ophthalmia which had existed from the age of five years. She was the daughter of a woman aged forty-three years.

The case does not appear to be altered when a woman past the critical age is impregnated by a young man; the consequences are, perhaps, even more decided on account of the disproportion in the age. In 1831, a lady from the department of the Marne brought her son for consultation with a white swelling of the shoulder, from which several spiculæ of bone had been discharged. The child was pallid, and exhibited a great likeness to the person who,

from her age, we supposed to be his grandmother rather than his mother. She was forty-seven years old at the birth of this child, her husband being only thirty-three. She had lost two daughters in infancy, and the two survivors, the patient and his sister, were manifestly scrofulous.

Such were the results of a marriage between persons of ill-assorted ages; two infants dead, the two survivors intensely scrofulous. Facts are not wanting to prove that the advanced age alone of the parent may be a cause of scrofula. We see this in the instance of the births late in life in families whose expectations of children had long been disappointed: the long-hoped-for child usually comes into the world with the impress of a feeble constitution.

Children who are born long after all expectations of further increase of family have ceased, are similarly situated. We are acquainted with a family of seven children, of whom one only is scrofulous. He is the youngest, and was born when his mother was forty-two years of age; he was small at birth, and has since been the subject of lupus. He had also successively cervical tubercles, caries of the sternum, and numerous abscesses. His cure was accomplished by a two years' perseverance in the use of iodine.

A man, named Colomb, was the youngest of a family of five children. Four of these were born while their parents were in the prime of life, and are of sound constitution. Colomb, who was born when his mother was forty-two years old, is scrofulous.

A scholar, *æt.* 18, suffered from white swelling of the knee-joint. His elder brother is tall and robust, but he was born when his father was thirty-nine years of age; the patient was not born until the father had reached the age of fifty-two.

ART. V. *A disproportion between the ages of the parents is a cause of hereditary scrofula.*

It is an essential condition, in the procreation of a healthy offspring, that the husband should be some years older than the wife. We have met with many cases of scrofula which could not be attributed to any other cause than a disproportion in the respective ages of the parents, the father being younger than the mother.

Twelve years ago a youth, æt. 18, was brought to us with scrofulous caries of the right ring-finger, and white swelling of the left ankle. The mother, in this case, was ten years older than the father.

Cases are not of unfrequent occurrence, in which this disparity of age appears to give energy to the other causes of hereditary scrofula.—Adolphus Quesnot, æt. 20, a pallid and emaciated young man, was the subject of ulcerated tubercular tumours on both sides of the neck. He had also a large tuberculous abscess in the right axilla, which opened spontaneously three days after his admission to the hospital. The father of this youth, æt. 39, had been subject to cough from his youth; the mother was healthy, but was forty-six years of age at the time of his birth. The hereditary disease in this case was derived from three sources: 1st, the tubercular constitution of the father; 2d, the disproportionate age of the wife; and 3d, from a cause which will form the subject of the next article.

ART. VI. *A man who does not possess the comparative bodily power of his sex will engender scrofulous children.*

The study of the relations between the sexes shows that, in all classes of animals, and in every respect, power is the privilege of the male.

This superiority commences at birth, and becomes very marked in the course of years. If we watch a number of children playing together, we shall be immediately struck with the reciprocal preferences and attractions which appear to exist between the boys and the girls, and the promptitude with which the countenance of each displays the characteristics of the sex. These characteristics, however, become much more manifest towards the age of puberty, at which period the future attributes of each sex are decided, and authority is vested in the stronger.

This relative superiority of the man ought to be the fundamental law of marriage, and the natural condition of the individuals contracting the alliance; it is the principle upon which all domestic felicity depends, and not only the felicity of married life, but the morality also.

We shall not, however, insist upon the moral bearings of the case in which this condition is reversed, a position so contemptible as to have been ridiculed in all ages; we shall only consider it as far as it relates to the subject of reproduction. Wherever this comparative state of power is absent, and the man is relatively the more feeble, he not only loses the moral ascendancy which ought to characterize him, but his reproductive faculties are likewise debased. We think that we have ascertained by minute inquiries upon this subject, that a man may even become positively impotent, in consequence of an exaggerated degree of relative inferiority; if so, we may easily imagine that, before the occurrence of absolute prostration of the procreative faculty, it will have been some time in a state of diminution.

This cause of hereditary scrofula has frequently been ascertained in the course of these investigations; but it must be admitted that it seldom occurs except in association with one or more of the causes already specified;

for, in general, the man whose corporeal powers are feeble, in proportion to those of his wife, is in one of those conditions of deteriorated health above alluded to.

The following is an example of the kind. A young lady of robust constitution has frequently consulted us concerning her two children, both of whom are scrofulous. The father was sickly in his infancy, and his development had been slow and incomplete. At the age of forty his constitution was only moderate, and bore evidence to the sufferings of his youth. It is impossible that a man in this condition could impregnate his wife with healthy germs, and his children have consequently been feeble and scrofulous; they have inherited the organic debility of the father, and not the fine constitution of the mother.

A gentleman from the department of the Orne brought to us his daughter, *æt.* 4, with the following symptoms: scrofulous ophthalmia of both eyes, of eighteen months' duration; habitual coryza; hypertrophy of the index-finger of the right hand, and swelling of the left ankle-joint. The father of this little girl was thirty-four years of age, and the only survivor of a family of six children. His health had always been indifferent until the age of thirty, when he married a woman of robust constitution. Had it been possible for the mother's health to compensate for the father's debility, it would have happened in the present instance; but the laws of nature cannot be so interpreted. The father being scrofulous, has transmitted the taint to his offspring, in spite of the vigorous organization of the mother.

These two observations might have been detailed among those by which we have endeavoured to illustrate the direct transmission of scrofula by scrofulous parents; but we prefer to report them in the present division of our labours, because they were the facts which first induced us to

reflect upon this transposition of the respective powers of the sexes, which disturbs their due relation, and thus deteriorates the condition of the progeny. The compensation for the debility of the father, which is so much to be desired in similar instances, did not take place in those just recorded, nor do we look upon it as possible in any case.

The next example belongs more strictly to the subject of this article; it is that of a father who exhibited no signs of scrofula, but who was merely a man of inferior constitution compared with the superabundant vigour of his wife.—Some years ago a young lady was brought to us from the country suffering from ophthalmia and coryza, with ulcerated cervical glands; all of which, in accordance with the erroneous notion, that scrofula may originate in other diseases, without the presence of hereditary predisposition, were supposed to have been produced by a mucous or catarrhal fever. We were not able to refer the occurrence of scrofula, in this case, to any other cause than the too vigorous constitution of the mother relatively to that of the father; it is certain, at least, that occasional causes could have had no share in its evolution, for the family resided in the country, and were in easy circumstances.

The more we reflect upon this cause of hereditary scrofula, the more simple and evident does it appear. We have thought it the more necessary to bring the point prominently forward, because the opinion is generally prevalent, that the feebleness of the father's constitution may be compensated for by the vigour of the mother. We can confidently assert that such is far from being a general rule; we believe, on the contrary, that a man can never energetically impregnate a woman who is much more vigorous than himself.

The truth of these remarks is further confirmed by another and no less interesting order of facts. It is occasionally observed, that a healthy man will become the father of healthy children, although the mother be of feeble organization. This may not perhaps be generally the case; but it is met with sufficiently often to be established as a principle: the explanation is, in all probability, that constitutional vigour is derived from the father rather than the mother. The principle is acknowledged and acted upon by breeders of cattle, for they attach more value to the qualities of the male than to those of the female.

ART. VII. *On the hereditary transmission of scrofula by parents who are paralytic, epileptic, lunatic, &c.*

We have had occasion to observe many cases of hereditary scrofula among children, one of whose parents has been paralytic.

A man named Noblot was the father of five strong children; the sixth was scrofulous, and six others, born subsequently, died before the completion of their first year. The only reason which could be discovered for this mortality was, that after the birth of the fifth child, the father had been the subject of apoplexy with paralysis; and, although he had been cured, he was incapacitated for the procreation of healthy children.

Elizabeth Liard, æt. 23, had tubercles, and suffered from ophthalmia; she was the daughter of a paralytic father, who died at the age of thirty-three.

We have frequently had scrofulous children in the wards of the Hospital of St. Louis, one of whose parents were epileptic:—Louis Guillaud, æt. 19, whose history is published in the third Memoir on the employment of Iodine, was the son of an epileptic father.

Lunacy is also not uncommon among the progenitors of scrofulous children. In 1832, a lady whose feeble mental development was evident at first sight, sought our advice for her daughter, *æt.* 10, who was suffering from large tubercular cervical glands. Her son was also scrofulous. She had herself been under the care of M. Esquirol for the space of two years.

A boy, *æt.* 9, had impetigo of the scalp, and enlarged cervical glands; his father died maniacal.

This connexion between mental derangement and scrofula is less astonishing when we consider that acute hydrocephalus is commonly a scrofulous malady, and that the majority of those who die of that disease probably would not have preserved their intellect in all its integrity had they been saved. This opinion is based upon our experience of chronic hydrocephalus, which constantly leaves the mental faculties in a state of torpor. We have never known an instance of a young man arriving at distinction who has been hydrocephalic in his infancy: such individuals, on the contrary, suffer more or less from an attempt to instil into their minds the instruction which they are not in a condition to receive.

Scirrhus and cancer, which are but two degrees of the same affection, have likewise some connexion with scrofula; but we shall not dilate upon the subject on the present occasion, as it will form part of a treatise which will be specially devoted to the subject of Tubercle and its dependencies.

CHAPTER III.

GENERAL CONSIDERATIONS ON PARTICULAR STATES OF
HEALTH IN PARENTS.

HAVING in the preceding chapters studied in detail the particular states of constitution which favour the procreation of scrofulous children, we shall now offer some more general remarks upon the same subject, dividing them, for the sake of convenience, into five principal articles. In the first we shall examine those cases in which the hereditary origin of scrofula is not indicated with certainty by the constitutional condition of the parents. The second will contain observations respecting those parents who have not themselves exhibited any of the signs of scrofula, until after they have produced a diseased offspring. In the third, we shall endeavour to prove, contrary to the received opinion, that scrofula does not, in any case, pass over a generation. We shall investigate, in the fourth article, the complications which present themselves among the different causes of the disease; reserving for the last the consideration of marriage, as the most ordinary mode of propagation of scrofulous diseases.

ART. I. *On hereditary scrofula, the cause of which is not evident in the existing original or acquired health of the parent.*

This chapter, which may be considered as complementary to the two preceding, will no longer be necessary when

the causes of scrofulous diseases are better understood, and the limits of health and disease more clearly defined.

The first and second chapters contain the results of observations which place it beyond a doubt that scrofula has, in general, an hereditary origin, and demonstrate that the sources of the hereditary principle exist in the original or acquired constitution of the parents. The almost universal agency of this cause will also be displayed in the Third Part of this work, which will contain an examination into the strict value of the so-called accidental causes of scrofula. It will be plainly observed, that in those cases in which the latter causes have been in operation, that there has in general been the concomitant of hereditary influences, without which the external causes would, in all probability, have been inert.

Among the multitude of facts in which the appreciation of the agency of hereditary causes is manifest, there will be some few which cannot be included in the classification. We do not allude to those in which the parents have been scrofulous in youth, nor those, again, in which, although the disease is not present in the parents, it exists in a collateral branch of the family. Facts of this nature may readily be disposed of after our remarks in Arts. III and IV of the Second Chapter. We wish here to mention a distinct category of facts relating to scrofula, namely those which, at first sight, can neither be attributed to hereditary nor to occasional causes.

In such instances, the hereditary origin of the malady is sufficiently clear to our minds, if it be general in the family and occasion great mortality. These two characters cannot arise from the presence of occasional causes, and, *à fortiori*, not when such causes have no existence.

Every man must be aware of the danger of trusting to impressions, more particularly in the practice of medicine; analytical inquiry frequently negatives the judgment formed

by the first aspect of disease. The difficulties which occur in the study of scrofulous diseases are not less than those presented by other affections. We have sometimes met with cases in which it is impossible to recognize hereditary causes; and yet, from the mere appearance of the parents, we feel convinced that they cannot produce healthy children: we cannot say that they are too old or too young, or that they are syphilitic; but there is a certain something in them, which leads us to anticipate the occurrence of scrofula in their descendants.

When a tubercular child is brought before us, and the origin of the disease cannot be traced to the temperament of the father or mother, our first endeavour is to ascertain what external causes may have been in operation; if there be none apparent, we admit the agency of an hereditary cause as a matter of course, for one of two things must be allowed, either that the disease is hereditary, or that there has been an effect without a cause.

Eugenie Nanche, *æt.* 14, suffered from obstinate conjunctivitis, with headache and deafness. In this girl, there was no evidence of the operation of any external cause, neither was the agency of hereditary influences more apparent; we were nevertheless disposed to believe that her condition was derived from the constitution of the parents, because, in the first place, she had lost three sisters by pulmonary consumption; and, secondly, because a fourth sister suffered habitually from dysmenorrhœa. Such phenomena are not the results of accidental causes.

We have insisted thus strenuously upon the hereditary nature of scrofulous diseases, because that doctrine involves the true theory of their treatment; and we are anxious also to oppose the erroneous mode of treatment which has sprung out of the belief in the local origin of the disease. The only method of attaining this end is, we conceive, to

develop more distinctly the constitutional origin of scrofula, and the necessity of internal treatment for its cure.

In many cases of suspected hereditary scrofula, it will not be sufficient to inquire into the physical health alone of the parents; their circumstances must also be investigated in a moral point of view, for many causes of disease are to be found in the secret habits of private life. In Paris in particular, where the daily life of families is one of difficulties and disappointments, where it is hard not only to create a position in society, but even to be assured of the means of subsistence from day to day, men undergo trials which seriously impair the procreative faculty. This life of trial and vexation has its antithesis in that of luxury and superfluity; but it is difficult to say which is the more unfortunate of the two, for the latter in general brings with it that early satiety which is the penalty of those who become "men about town," before they can well call themselves men.

Fortunes are acquired too often only at the expense of health; and however brilliant may be the end of a career of success, that success is slow and uncertain, and the mind is kept in a state of constant agitation, at one time by the fear of distress, at another by the transport of prosperity. Such is the experience of those whose fortunate speculations have raised them from poverty to opulence. There is no medium, nothing natural in their lives of bustle and agitation, and the reproductive functions partake of the disturbance by which their whole economy is deteriorated.

In many classes of society, moreover, the life of females is one of so much hardship, that the special object of their existence, that of reproduction, is in a manner rendered null. Such is the condition of the females in the different trades, whose life is, as it were, automatic, who are con-

fined the whole day in a shop, deprived of light and air, and the damp of which they are only able to remove by the use of the *chaufferette*, an utensil which is itself productive of more mischief than that which it is intended to remedy. Let us conceive for a moment with what disposition of mind a woman who has borne the yoke of toil and household cares for sixteen hours will discharge her conjugal duties;—that she should become the mother of fine children is next to an impossibility.

There are besides a host of individual peculiarities which too often destroy all affection between husband and wife: in such cases physical love becomes a mere pretence. What woman can conceive a healthy germ from the embraces of a man, whose approaches she dreads or perhaps hates?

All these peculiarities of domestic life, concerning which we could have been more diffuse, but that the subject might appear strange in a work like the present, exercise a powerful influence over the constitution of the offspring. We could not therefore have entirely omitted the mention of them, as our special object is to investigate all the circumstances which have the power of deteriorating the congenital temperament of children.

ART. II. *Parents may not themselves manifest the symptoms of scrofula until after having procreated scrofulous children.*

We have seen that parents may transmit to their offspring the diseases under which they have themselves suffered in their youth, and of which they have apparently been cured; we have seen also that although a person may be apparently exempt from scrofula, he may nevertheless

be in a condition to propagate the disease, if he have scrofulous brothers and sisters; we shall demonstrate in the present article that certain persons may not manifest any of the signs of the scrofulous constitution, although they possess it, until they have become parents of scrofulous children, or even have lost them by scrofulous diseases.

Lalouette gives a very remarkable instance of this nature, which, however, was intended by him to illustrate a different subject. A young lady became scrofulous at the age of twenty-six, a sister at sixteen, and a third at fourteen years of age. The father who enjoyed a robust state of health until the age of sixty, became at that age the subject of tubercular glands in the neck, in the axillæ, and in the popliteal spaces. The tubercles in the neck increased at length to such an extent as to destroy life by suffocation.

In the month of October 1827, we had a man named Eglem in the Hospital of St. Louis, affected with ophthalmia and other scrofulous symptoms. He was the only survivor of a family of eight children, the majority of whom died in infancy. The father did not appear to be scrofulous until the age of fifty-eight: when the disease showed itself under the form of a vast ulcer in the neck, which eventually proved fatal.

We are acquainted with four scrofulous sisters, two of whom have no family, and two are mothers of scrofulous children. The source of these two scrofulous generations for a long time remained uncertain, when it was at length rendered evident by the death of the grandmother of tubercular consumption at the age of sixty.

We have been quite recently consulted by a lady, aged 50, who enjoyed good health, and still menstruated. She had a slightly painful tumour in the right breast, about the size of a nut. In the course of the spring of the pre-

sent year, a tubercular tumour appeared under the lower jaw, which remained in a state of ulceration for four months, and then healed. The cicatrix remained firm for the space of two months, but it reopened at the end of that time, and discharged abundantly. This lady had two miscarriages, and afterwards a living daughter, who has suffered from tubercular cervical glands from the age of ten years.

Former writers have reported examples of parents who have died of pulmonary tubercles long after their children have perished by the same disease. Portal in particular mentions that among the cases which he regarded as instances of the spontaneous development of phthisis, because the parents were healthy, there were some in which the parents died of the same disease long after the demise of their children.

The experience of every day tends to confirm us in the opinion, that all causes of phthisis pulmonalis are hereditary, for we have never known an unexceptionable example of the development of that malady in a person who was perfectly exempt from hereditary taint. The question, which is one of much importance, will be further elucidated in our treatise on Tubercle.

We shall conclude this article with an example in which a person who laboured under bronchocele did not exhibit any signs of the disease until some time after it had appeared in eight of his children.

In the month of October 1840, a gentleman applied to us with a goitre. This disease commenced at the age of thirty-one, and after remaining stationary for some years, suddenly began to acquire considerable dimensions, so as to occupy the whole anterior aspect of the neck.

Before the disease manifested itself in him, it had occurred in eight children, five of whom we have seen.

This subject will be further carried out in a subsequent portion of this treatise, in which we shall speak of scrofula, showing itself for the first time by the occurrence of spontaneous abortion, or as a consequence of laborious accouchments. (Part II.)

ART. III. *Scrofula does not in any case pass over a generation.*

The opinion that scrofula occasionally misses a generation is altogether gratuitous. A man who is born of scrofulous parents, and is the father of scrofulous children, is himself scrofulous; to deny this would be to affirm that he is capable of imparting to others what he does not himself possess. The opinion that scrofula may pass over a generation has many analogues in the science of medicine; but they are the opinions of men who would interpret every phenomenon without the trouble of inquiring into its laws, and are therefore unworthy to be admitted within the pale of science.

The facts upon which this opinion has been founded are fallacious; they are facts similar in all particulars to those already mentioned, in which the parent has been apparently cured of scrofula, or in which the disease, though not evident in the individual, existed manifestly in his blood relations.

Many persons forget that they have been delicate in their childhood; others are ignorant that scrofula exists in their family; and medical men are too often careless upon the subject: so that three circumstances cooperate in inducing erroneous notions as to the origin of the disease. These errors are excusable when the parents actually appear robust, but there are many cases in which the scrofulous

taint is overlooked, although its manifestations are sufficiently obvious. Among many such examples in which the disease was supposed to have passed over one generation, we will mention the following.

A little girl, aged 5, was deformed and small for her age; she was unable to walk or speak articulately. The grandmother was likewise small and deformed. The mother, however, was supposed not to exhibit any symptom of scrofula, but she had short bones and large articulations. Her infancy had been sickly and all her confinements laborious. This latter circumstance depended upon a pathological condition of the pelvic bones, and a general want of tonicity in the parts.

It is quite wrong to look upon this case as one in which scrofula had missed a generation. It is true the little girl inherited the disease from her grandmother, but she also derived it directly from her mother, for in her the state of bones above alluded to was a strictly pathological condition.

Facts of this nature point out a truth which cannot be too often repeated; namely, that the element of hereditary scrofula, may be transmitted to the offspring when it exists in its minimum degree in the parent, and even when it appears to have been entirely eradicated.

ART. IV. *The complications of the hereditary causes of scrofula.*

Hereditary scrofula does not in general arise from contamination on one side only; most commonly both parents contribute to the production of the disease, though in different degrees: for example, the father may be scrofulous, and the mother too young; or he may have been scrofulous

in his youth, and have married a woman much older than himself; or the father may be tuberculous, and the mother not so herself, but coming from a tubercular family; another may be scrofulous, and his wife predisposed to cancer; or lastly, a man, originally strong, may, in consequence of grief or other depressing causes, become so far unhealthy as to complicate other sources of hereditary disease which exist on the side of his wife.

We have no intention of doing more than to mention the subject incidentally in the present place, as we consider that after the detailed observations respecting the different modifications of constitution which are capable of originating scrofula, a more lengthened notice would be unnecessary. It must be obvious that, if any cause of hereditary transmission of scrofula exists on the part of the father, the pernicious effects of such cause will be aggravated if the mother's health is also enfeebled, and *vice versa*, scrofulous taint on the mother's side will be more likely to be ingrafted upon the offspring, in proportion to the existence of coincident causes in the constitution of the father.

A man of the name of Mourlon, æt. 32, married a woman who was forty-six years of age, and died at the Hospital of St. Louis of caries of both feet, leaving a rickety daughter, six years and a half old. In this case there were three causes of hereditary scrofula conjoined: in the first place, the father was scrofulous; secondly, the mother was too old; and thirdly, the ages of the father and mother were disproportioned. The scrofulous taint in the child, therefore, assumed so much the more intensely, that it originated in a combination of causes, each in itself capable of inducing it.

A great number of the causes of hereditary scrofula were reunited in the circumstances attending the conscription during the last war, and a profound deterioration of

the population of this country was the consequence. The extensive and injurious influence of this mode of military recruiting will be best displayed by a brief consideration of its bearings upon the immediate subject of our researches.

§ 1. *The conscription considered as offering a combination, of the causes of hereditary scrofula.*

We are not even now far removed from a time in which France was exposed to the combined influences of numerous agents by the operation of which her inhabitants have fearfully and rapidly degenerated. Scarcely had our first revolution declared itself, when our armies found themselves opposed to the allied forces of several European powers. The war, once commenced, continued through the greater part of half a century. During this period, in which numerous armies were simultaneously in the field, the recruiting was so continuous, that at length it became impossible to fill the ranks but by pressing into the service every man capable of bearing arms, and even many who ought in reason to have been exempted. None were left in their homes, but the infirm, the sick, or those who in order to escape the inexorable fate which awaited them at the age of nineteen years or even earlier, had married young and hastily. The population of the country was, therefore, at this period, maintained for the most part by those who, so far from being in the conditions necessary for the procreation of healthy offspring, were, in fact, placed amid an assemblage of the very conditions most favorable to the propagation of scrofula. They were, in the first place, persons originally feeble, or they would not have been exempt from conscription; secondly, they were in a state of more or less manifest disease; and thirdly, they became

fathers before their development was matured. This latter circumstance we consider to have produced the most pernicious effects in the present instance, for if, as it has already been determined, precocious marriages are at all times injurious, they must have been still more so when other powerful causes of physical deterioration were superadded.

These indubitable causes of the physical deterioration of the French population have been noticed by all those who have paid any attention to the subject; and form a considerable portion of the reports to the secretary of war. In these records, it has been clearly ascertained that our men were less numerous and smaller, and of less physical power, than heretofore.

At the time of the restoration, it was a matter of difficulty, out of a levy of 80,000 men, to find 2500 who were fit to form a corps d'élite; and it was even necessary, in order to obtain this number, to lower the standard of height. During the last nine years, however, the blessings of peace have been manifested in the gradual improvement of the race. The conscripts are more numerous, and are a better style of men than in previous years. The race is more robust, because those who have joined the army during the last nine years have been born subsequently to the peace of 1814, which restored their fathers to their families.* The towns and villages are no longer deprived by the conscription of all their healthy and vigorous men; and the infirm and sickly no longer form the stock of the population. Precocious marriages are also of less frequent occurrence; so that we may fairly anticipate that, for the future, our young men will be of better constitution, and

* The class of 1836 must be excepted. The men of this levy were feeble, because they were begotten in the year 1816, in which 9-10th of the population suffered severely from famine.—AUTHOR.

that, by freely entering into the pursuits of trade and agriculture, they will acquire an increase of health, strength, and morality.

ART. V. *Marriage considered as the most common cause of the spread of scrofulous diseases.*

The legitimate end and aim of marriage is the procreation of healthy children, and the attainment of domestic happiness; this aim is frustrated, to all intents and purposes, if one of the parties united bring into the union the germ of hereditary disease.

If we are to judge by the care with which the law watches over the interests of children, for it is chiefly in reference to them that the ties of marriage are rendered indissoluble, it must be a matter of surprise that it does not endeavour, before all things, to secure to them the blessing of health, a blessing without which all others are valueless. Yet marriage is interdicted in one case only, that of dementia; and that only because the law does not admit the possibility of free consent. Every possible care is taken to multiply the formalities antecedent to marriage, but the law does not reserve to itself the power of making the inquiry, whether the parties contracting the alliance are in a condition to produce offspring, such as shall be of service to the state, or whether, on the contrary, the progeny will not be such as shall eventually have to look to the state for maintenance.

Every day witnesses marriages which must inevitably ensure the propagation of scrofula, and which will embitter the life of the parties, by transmitting to their hapless offspring the seeds of an early death. Can any prospect be more deplorable than this? With what solicitude, then,

ought society to watch over the interests of posterity; for society is the guardian of children in general, as a man is of his own in particular. These ideas are so simple that they ought to be universally recognized; they, nevertheless, do not enter either into our code of morals or our written laws.

This, perhaps, is not so much to be wondered at, considering that the interference of legislature met with great discouragement in its first attempt relative to impotency as a bar to marriage, from which arose nothing but interminable debates and more scandalous judicial investigations. It must also be admitted, that it is an exceedingly difficult matter to define, with precision, the cases in which marriage should be prohibited; but the difficulty of the subject is not a sufficient reason for leaving society absolutely unprotected against the ravages of hereditary disease.

The ancient Spartan legislature were not less tolerant than our own in respect to marriage; it was, however, as may be remembered, one of its ordinances that weakly infants should be destroyed, lest they should become a burden to the state. However revolting, as it must be, such a custom is to civilized feelings, it at least spared the newborn babe the misery of prolonged infirmity, and prevented it, at a future time, becoming the parent of beings still more diseased than itself: it was one mode, in fact, of ensuring that there should be no marriages but among healthy individuals.

But although the immolation of children, who do not appear to possess the qualities requisite for their arrival at adult age, is neither humane nor consistent with the feelings of civilized life, it would nevertheless be worthy of civilization to attempt the arrest of the evil at its source, by interdicting the marriage of scrofulous persons. The laws, however, which should have for their object such pro-

hibitions, could only be established by the cooperation of medical science. The propagation of scrofulous diseases by the union of diseased parents is, as we have seen, so constant, that no one will be disposed to deny that one grand concern of society should be so to regulate marriages as to eradicate, as far as possible, those causes of disease which experience proves to be transmissible from father to child.

We shall now enter somewhat more deeply into the subject of the marriage of scrofulous subjects, and adduce certain examples which will prove the correctness of the assertions upon the question. A young man, *æt.* 21, of feeble constitution, light hair, pallid countenance, and fair skin, consulted us in September, 1833. His growth had been slow and incomplete, and he became tubercular at the age of seven years. Three months after his marriage, which took place at the age of twenty, he was attacked with catarrhal fever, which reduced him to a considerable degree. The tubercular glands in the neck, which had remained stationary before his marriage, at this time assumed a state of fresh activity, and rapidly increased to such an extent as to occupy the entire lateral and posterior portion of the neck. Under a two years' course of iodine, this patient recovered so far as to be able to superintend a business of considerable importance in the country; but, as we shall presently see, his constitution was not so far regenerated as to enable him to procreate healthy children.

If we regard the marriage of this young man in the point of view upon which we are now engaged, we shall say that he ought to have remained single, or, at all events, to have waited for a few years. Had he done this, it is possible that the tubercles, which had remained stationary since his childhood, might have undergone a complete resolution by the efforts of puberty, aided by appropriate

treatment. Instead, however, of following this prudent line of conduct, which was imperatively demanded by the weak state of his health; he married before his frame had arrived at maturity. The consequences of such folly, not only on his own health but upon the constitution of his children, were soon apparent. He was seized, four months after his marriage, with a catarrhal fever, which reduced him to a state of the utmost emaciation and debility; and subsequently to this, the tubercular diathesis acquired such an increase of maturity as to threaten the occurrence of pulmonary disease. His children were such as might have been expected under the circumstances. Of a family of four children, one is evidently affected with tubercles in the lungs and mesenteric glands, and the other three, though not distinctly tubercular, are of a very feeble constitution.

The effect of marriage in this case appeared to be that of exciting a recrudescence of the tubercular disease which had previously remained stationary. The evil consequences, however, were completely under the control of iodine.

The following example exhibits the same course of events, but in a more severe and hopeless degree. In the spring of 1828, we attended a child, aged 13, for double ophthalmia, with coryza and ulceration of the nasal passages. The child was cured by the use of iodine during six months, and we then lost sight of him for fifteen years, at the end of which time he consulted us a second time, being twenty-eight years of age. He was now a delicate young man, with a pallid countenance, little or no beard, and round soft limbs like those of a woman. He has not suffered any return of his previous disease up to the time of his marriage, which took place at the age of twenty-two.

A short time after this event, however, although his life had been most regular, and from his naturally unexcitable temperament he had not committed excess of any kind, numerous successive crops of tubercles made their appearance in the cervical region, and after an annual increase of development during the spring months of each year, they acquired at length their present volume. The tumours at this time formed a complete collar round the neck, extending to the mastoid process, and dipping deeply into the subjacent textures. They compressed the carotid arteries, the jugular veins, the trachea and œsophagus; none of the tumours ulcerated externally, neither was the skin at all discoloured. The voice was feeble and guttural, and the patient was harassed by a troublesome cough during the night. Towards the close of life he lay in a state of continual somnolence.* The prognosis of this case was necessarily unfavorable. He was the eldest of three children, two of whom had previously died of tubercular consumption; he died also of the same disease in a state of somnolence from which he could never be effectually roused.

It is very evident that marriage in this case also produced a very injurious effect upon a person originally scrofulous; and that the activity of the disease was called forth under its immediate influence. The future life of his children is likewise precarious; the eldest already presents a large tubercular swelling in the neck, and has weak eyes. His development is slow, and he scarcely yet speaks, though he is three years old. The second child, who was posthumous, and therefore conceived under the most unfavorable circumstances, will not be long free from the evidence of his tubercular origin.

* We shall speak of this somnolence, as a frequent final symptom in tubercular diseases, in the treatise on Tubercles before referred to.

The mother of this young man who has seen three sons sink into the grave from the same disease, and who has often told us that she could not conceive from whom the children inherited their scrofulous habit, is also dead of consumption at the age of sixty-three. It may likewise be added that the father has died broken-hearted at this complete annihilation of his family, and we have a picture of domestic misfortune, such as the most vivid imagination cannot surpass.

The next example is that of a lady who died in child-bed, after having been cured of tubercular and cutaneous scrofula before her marriage. A young lady, *æt.* 22, had suffered from scrofula from her earliest childhood; she was every year troubled with chilblains, and the subject of ophthalmia. When we saw her for the first time, she had a tubercular tumour on each side of the neck, larger than an orange; she had also an oval patch of phagedænic scrofula on the right cheek. She underwent two courses of iodine at an interval of four months, and was perfectly cured. She was married two years after her recovery, and died in labour of her first child, and in the opinion of her family, her death was an accidental event due simply to her confinement. We are far from participating in this view of the case; we regard her death rather as the effect of the scrofulous taint aggravated by the puerperal state.

We were about the same period in attendance upon a young lady, *æt.* 16, who as in the preceding case had suffered from some form of scrofula the greater part of her life. She was also cured by a course of iodine. She married at the age of twenty, and became pregnant. This occurrence appeared to be the signal for the reappearance of scrofula under the form of ophthalmia, and tubercles in the neck. She has since been the mother of four children: of which one died in infancy; the other three are of

very feeble organization, the second in particular has been attacked with ophthalmia, and impetiginous eruption about the alæ nasi.

We will now turn our attention to certain instances of an opposite character, in which marriage has taken place in persons more radically cured of scrofula, without inducing a relapse, or being the source of a diseased offspring.

A young lady, æt. 14, from St. Germain en Laye, had caries of the os hyoides, with a fistulous opening on the left side of the neck. The abscess first appeared at the age of four years, and remained open after puncture, for six weeks, the abscess then closed, but subsequently reopened and healed again several times. At the time of her visit to us, the fistulous opening had been discharging for six months; she was in a very feeble condition, and fatigued with the slightest exercise. According to the report of her parents, her infancy had always been sickly; she had been especially subject to catarrhal affections, which on some occasions were so severe as to threaten suffocation. The caries of the os hyoides had been discovered by two physicians who were consulted previously to me, and the actual cautery had been recommended by them.

This was not the first instance that I had occasion to witness the proposition of this severe and barbarous operation for the removal of a disease in which it has seldom succeeded, but, on the contrary, has frequently induced serious results. The constitutional taint moreover would have remained, even had the caries been suspended by it, so that a recourse to internal medication must eventually have been necessary. As it happened, the operation was absolutely futile, and the patient was perfectly cured and without the least disfigurement, by a course of the preparations of iodine.

In the month of June 1833, a young lady, æt. 11 years, commenced the iodine treatment in the following condition : she had white swelling with fistulous openings of the right knee-joint ; the lower half of the femur necrosed, and much thickened, and the leg was flexed upon the thigh, and nearly immoveable. The patient, as might be expected, exhibited great constitutional derangement.

The first perceptible effect of the iodine treatment was a more rapid growth of the patient, the diseased limb increasing in size, proportionably with the rest of the body ; the diseased joint itself did not offer a notable amendment until the completion of a month's treatment, and when the circumscribed induration of the fistulous orifices disappeared, an occurrence which is always to be considered a sign of improvement. The soft parts by this time had recovered themselves, and the enlarged femoral bone had much diminished, the patella had also acquired an extended range of action.

The closure of the fistulous openings did not take place till long after the improvement of the neighbouring parts, nor is this to be wondered at, considering that they had been open for a period of nine years. It was also probable that their complete occlusion would not be accomplished till after the discharge of portions of the necrosed subjacent bone. This, however, did not occur. The iodine medication was resumed several times, and combined with other subsidiary modes of treatment, but it was not until after the persevering use of the means of cure for four years that a disease of nine years' duration, and for which Dubois and Larrey had proposed amputation as the only resource, was finally subdued.

This young lady was married some years after her recovery, at the age of nineteen ; but has had no family. The loss of her husband and other troubles have caused

considerable derangement of the digestive organs, no symptom, however, of her old scrofulous malady has shown itself. The limb originally diseased is almost as strong as the other.

The general health of these two females was so considerably amended, that it was thought that their marriage might be allowed, without apprehension either for themselves or their families. Nor was the hope unfounded. The first has become the mother of two children, who have not as yet exhibited any trace of scrofula. The second had no family, but this may be accounted for by the fact that her husband was seized with illness soon after his marriage, and died in fourteen months.

In the spring of the year 1835, we commenced the treatment of a young man, aged 22 years, for caries of the lower jaw accompanied with tubercular glands, which occupied the whole of the left side of the neck, and many of which had ulcerated. The history of the disease was of early date; the patient was pallid; and his countenance portrayed the suffering to which he had long been the victim; his height was below par, and his chest malformed. He was cured of the present disease by two separate courses of iodine of six months' duration each, but he had relapses during three consecutive years, with symptoms which led us to fear the presence of pulmonary tubercles. Each year he was subjected to the iodine medication during three months in the summer: and took sulphur baths, and the antiscorbutic syrup in the winter. By this plan he has been completely cured; his indolence and apathy are replaced by activity, and all his bodily functions have been renovated and brought up to a state of normal power.

This young man married with our consent, but with the understanding that it was advisable to live almost entirely in the country, and to be as much as possible in the open

air. We also recommended an occasional excursion for change of air, with wholesome regimen; the avoidance of all excess, and, in a word, a life of patriarchal simplicity.

By a steady obedience to these rules, this patient will enjoy, as far as possible, a life of comfort and freedom from disease. By an attention to his own health he will regenerate his race; and the constitution of his children, rendered by these means organically better than his own, will the more readily imbibe the salutary influences of the circumstances by which they are surrounded.

We shall pass over many other facts similar to those we have now detailed, that is to say, facts in which the beneficial results of treatment, though sufficiently apparent at the present moment, are nevertheless deficient in that corroboration which time only can give. The following observation, which will close the series, is one which has received the sanction of a long course of years, being one of the earliest in our experience.

In the month of February 1831, a lawyer, of middle height, and dark hair and complexion, was treated for large tubercular tumours in the cervical and inguinal regions: those in the neck occupied its back and right lateral region, extending thence to the lobe of the ear; the skin covering the tumour was extensively diseased, and seemed on the point of sloughing. In the groin of the same side, we found another tumour larger than the fist, and traversed by an ill-conditioned cicatrix. The same lesions, in a lower degree, existed on the left side. The constitutional symptoms were very severe, his appetite and rest were lost, and he was reduced to such a state of weakness and emaciation that he could barely sustain the fatigue of the motion of a carriage.

The diagnosis in this case was not of the most simple kind; the patient's constitution was originally good; his

whole family enjoyed perfect health, and none of its branches had ever suffered from consumption. He himself had been but once affected with syphilis at the age of eighteen years, and since then had not been exposed to any of those causes which are supposed by some writers to be capable of inducing scrofulous diseases.

This patient was cured by the use of iodine for three months. His history, thus incomplete, is detailed in our third Memoir (Case 28th.) *

For a long time we entertained the notion that this patient had been affected only with syphilitic cachexia, from the rapidity with which he was cured, added to the belief that scrofula did not exist in his family. But we have since ascertained, from an indubitable source, that such was not the case; but that he, in point of fact, had lost three sisters by pulmonary consumption. The true origin of the tumours in the cervical and inguinal regions is, therefore, no longer doubtful.

The patient, nevertheless, has remained perfectly cured from the time of his treatment, and has now been married eighteen years; his own health has not been deranged by this step, and his children, a boy and a girl, up to the present time appear free from scrofula. So far, therefore, there is nothing left to desire; but it must be admitted that the case is scarcely yet to be considered perfect, as the children are now only of the respective ages of seven and five years. However favorable their actual condition may be, it is not sufficient, in our opinion, to justify the belief that they are positively free from the scrofulous predisposition which did not manifest itself in the case of the father until the age of thirty, and then with more than ordinary intensity.

* *Essays on the Effects of Iodine in Scrofulous Diseases.* Translation by O'Shaughnessy, p. 162.—TRANSL.

We know many young collegians whose infancy has been the scene of scrofulous diseases, but who have been sufficiently restored to resume their studies. It is not improbable that these boys may maintain their health, and be enabled to pass safely over the critical age of puberty, by attending to the hygienic regulations which their mode of life requires.

We frequently meet with former patients who have recovered their health, and are thinking of establishing themselves in life. If, in their case, it was merely a question whether they should enjoy a less share of happiness than falls to the lot of those whose constitutions are robust, we might the more readily fall in with their views, contenting ourselves with giving them the advice which common prudence indicates. But a tubercular subject is not feeble only in comparison with a healthy man; even when he is not actually suffering from any decided manifestation of strumous diseases, it is to be feared that marriage will induce their recrudescence; and upon the probability of this recrudescence, an event of not unfrequent occurrence, depends his future existence. We are well aware that such extreme caution upon this subject will not meet with general approbation. Why refuse, some will say, to the objects of tubercular disease the portion of happiness which their short life can compass? Small as it may be, still let them enjoy it. This language may flatter for the moment; but it is the language of the most cruel indifference to the future prospects of the diseased persons of those who are united to them, and of their offspring. The interest we feel in our patients causes us to look upon it as a duty to warn them of the evils which may result from their marriage. If our counsels be followed only by a few, they are still useful, and will become more extensively so by the force of good example.

How can we do otherwise than express these opinions, so often as it has occurred to us to see scrofula sow discord in families, and disunite the affections of those who one would believe to be well suited to each other? We have seen a simple otorrhœa the cause of quarrels in the seventh month of marriage between persons who had each been impatient for the union; we have seen suicide and madness caused by the infirmities of the one, who had become an object of disgust to the other; we have known one young wife die after seven years' endurance of such penance; and more than one seek consolation in those guilty pleasures the end of which are infamy and remorse.

We have too often had occasion to witness the incessant anxieties of parents who have allowed their children to marry without informing them what has been the state of the health of their earlier years; often have we listened to the complaints of those who have neglected the dictates of prudence; too often, in fact, have we seen the accomplishment of our predictions, to forbear to point out the cause of so many inevitable domestic sorrows,—sorrows which are the result of ignorance; for what parent would willingly allow the marriage of a child under such conditions if he were fully aware of the consequences?

We shall not be profuse in the mention of facts in support of these opinions: the two following will be more than sufficient to prove what desolation may be entailed upon families by the existence of scrofula.

In March 1839, we were consulted in the case of a young lady, æt. 21, affected with white swelling of the right knee-joint, with commencement of the same disease in the left. She had, in addition to this, tubercular cervical glands, with great emaciation, and complete amenorrhœa. Her mother was the subject of rickets at the

age of eight years, but subsequently grew tall, and acquired considerable freshness and embonpoint. At the age of eighteen, however, she again became permanently emaciated. Her first child died before birth; the second is the subject of the present remarks; and the third is a young man, whom we have not seen, but who is undoubtedly scrofulous, because his mother and sister are so.

The iodine treatment was commenced, but soon abandoned, in consequence of alarm on the part of the parents concerning the safety of the medicine. The antiphlogistic plan of treatment was substituted, and, as might have been suspected, precipitated the fatal event. The poor mother's grief and disappointment were such as to destroy her reason.

Melancholy as is this case, it is less so, if possible, than that of a lady whom we saw in the last degree of despair to which a mother can be driven, for she no longer dreaded the death of her diseased offspring; and this, for a mother, is almost to desire it. She had been married six years to a husband who had lost a brother of consumption, and who himself was not free from its symptoms. Her first pregnancy terminated in abortion; and she then had two living children, whose digestive powers were in a state of extreme debility. The eldest of these, a girl, became blind, in consequence of double ophthalmia, at the age of nine months. The second was a boy eleven months old, for whom we were consulted.

He was labouring under ophthalmia of the left eye, of only a few days' duration; but in that short period the organ had become completely disorganized. On the 26th of February the right eye appeared perfectly sound, and the child made no complaint of any kind. On the morning of the 27th this eye became red, and in the evening

there was purulent discharge; the eye was irretrievably lost, and the child, like her sister, was stone blind.*

How wretched, then, was the fate of this woman, doomed to the miserable alternative of abortion, or the production of children who were sickly and infirm from their birth to the hour of their death !

So deep is the unhappiness of this woman, that the death of her afflicted children would appear to her a relief; this she has often avowed to us in the depth of a despair which it is not difficult to comprehend.

The foregoing remarks relative to the marriage of persons affected with scrofula have reference solely to their own condition, and to that reestablishment of their diseases which the married state often induces; but the same question is full of interest considered as touching the offspring of such marriages. There is, however, the less necessity to make this a subject of special remark, under the latter point of view, that every article in this work demonstrates the frequency and mortality of the disease to which the children of scrofulous parents are doomed.

We deem it important, however, not to omit to mention an opinion, directly opposed to our own, which appears in the works of many writers of authority. It has been before noticed (Chap. II, Art. 3,) that scrofulous diseases appear in some cases to be held in abeyance and even to be completely eradicated by the change which the system undergoes at the age of puberty. Many authors, and among them Bordeu, have regarded this fortunate improvement in the health as the result of the activity of the generative system at that age. It would be difficult to

* This fearfully rapid action of scrofula on the visual organs may be compared to the hydrocephalus which destroys scrofulous children in a few hours, or to the sudden invasion of tubercles in the neck, which may be filled with these productions in a few days.

find any opinion the indications of which are fraught with so much danger.

The opinion is so absurd that one can scarcely believe that it could have been acknowledged by one of the first physiologists of the last century—one who after having overthrown the mechanical theories of Boerhaave, laid the foundation of the doctrine of vital forces, matured in after years by the illustrious Bichat. He did, however, acknowledge the opinion; and, in proof of his belief, he advised the early marriage of scrofulous persons for many successive generations. This precaution appeared to him the most direct way of extinguishing the family predisposition.

We would oppose to these dangerous and gratuitous opinions our own personal experience, and that of others, of the ill effects of sexual excess, whether natural or otherwise, in scrofulous persons. Instead of advising marriage in such cases, we do not cease, on the contrary, to point out all its dangers. We urge on every occasion that the greatest boon which we can confer upon young persons who are cured of scrofulous diseases, is to impress them with the conviction of the necessity of moderation in all things, but especially in the indulgence of the animal passions. The different states of constitution which we have been studying are, in our opinion, so many reasons why scrofulous individuals should lead a life of celibacy. But these states are not all equally demonstrable; many of them cannot be investigated without the risk of opening the door to family dissensions. Concerning these our opinions must be hypothetical. But many of the states of constitution alluded to are readily appreciable; and it would be well if in these some legal check could be put upon marriage. By this means the evil would be suspended at its very source; and scrofulous diseases, which

now infect one fifth, at least, of the entire human race, and which are continually imparted by marriage into healthy families, would be entirely prevented.

When this interdiction shall form a part of our code of laws, when all the world shall be born under the same regulations, then — and not till then — will the world be peopled by men of sounder constitutions,—then will hereditary diseases all but disappear after three or four generations.

Society will then include fewer blind, fewer deaf and dumb, fewer rickety individuals, fewer cases of scrofula of every form; we shall have fewer orphans, incurables, and aged invalids; the populations of almshouses, instead of increasing as they have done, will diminish; and there will be a better supply of vigorous and healthy men to cultivate the soil, and to multiply the products of industry.

Most of the objections which have been urged against these opinions concerning the marriage of the scrofulous seem to have so little foundation, that not one, as it appears to us, will bear the test of the lapse of thirty years. We shall not have lived so long under a legislature based upon physiological principles without wondering that the precautions against hereditary diseases had not originated in the earliest times of civilization.

We shall now enter into certain considerations respecting the diseases which are developed after marriage, in order to rectify a very common error, which attributes those diseases to marriage as a cause, but which in reality are merely a continuation of the diseases of infancy and childhood. This error in diagnosis is more especially frequent in the diseases of females, for which reason we shall devote a sub-section to the consideration of the health of females after marriage.

§ 11. *Remarks on the health of women after marriage.*

Women are frequently heard to make the remark, that they have never been well since their marriage, and that before that event they always enjoyed good health. This assertion is in general erroneous; there are few maladies exclusive of those of a syphilitic origin, which are directly produced by marriage. On the contrary, marriage, being a natural ordinance, cannot but exercise a beneficial influence over the economy of a well-organized woman; but the reverse is likely to happen when they marry in a state of health which is at the best but a remission of anterior disease.

A lady, æt. 24, suffered for some time from nasal polypus. She was also the subject of abundant leucorrhœa, and exhibited the emaciated and etiolated appearance which is so characteristic of the tubercular constitution. She had been in this state for three years subsequent to her marriage.

A year before this a sister had also attributed her bad health to the same cause. She was 24 years of age, and had the large and tumefied upper lip of scrofula, with hypertrophy of the alæ nasi; the right eye was also inflamed, and she suffered from constant leucorrhœa.

These symptoms of scrofula were the continuation of the diseases of her childhood, and, as in the case of her sister, exhibited interminable complications, the result of her family temperament.

An elder sister of these ladies consulted us some years previously to themselves, who suffered from impetigo, a cutaneous disease of frequent occurrence in scrofulous subjects. She had rapidly lost flesh after her first confinement.

There is a fourth sister whom we have not seen ; but if we were required to describe her physiological state, we should not hesitate to say that it was, beyond a doubt, similar to that of the childhood of her sisters. So in all probability her future health will also resemble theirs.

The hereditary character of the disease of these four individuals is clearly indicated by the fact of so many being attacked in the family ; the cause exists in the constitution of the father, who is an unhealthy and a dissipated man, and who was, moreover, advanced in years at the time of their birth.

We do not know what has been the condition of this family subsequently to our connexion with them, but we may affirm, without hesitation, that they can have experienced little else than physical troubles and domestic annoyances.

We very frequently have occasion to witness the catalogue of grievances of every kind which afflict the lives of scrofulous females. Their diseases after marriage are in reality, in most cases, only a continuation of those of their infancy. Puberty perhaps may have induced a slight remission in their severity ; but the improvement is not sufficient to enable them to go safely through pregnancy, confinement, nursing, and the many other necessary sources of fatigue and anxiety incidental to married life.

A woman who marries in this state is often barren ; and her sterility, although it wounds her *amour propre*, is, nevertheless, the most fortunate circumstance in her case. If she becomes pregnant, that period is one of suffering ; she is prone to abortion, and to tedious and dangerous confinements. She loses her figure after her first child ; she suffers from leucorrhœa and indigestion ; she loses her flesh rapidly, and does not recover it ; and pulmonary consumption, which has long been latent in her consti-

tution, not unfrequently now displays itself for the first time by unequivocal symptoms. In such cases, it is not marriage which is to be blamed, but the original constitution, which ought to have been a bar to marriage.

The moral condition of such females is still more deplorable than the physical. They form a very numerous class, and are, we do not hesitate to say, the most wretched beings in the whole range of society. They are always in a state of agitation and inquietude, never contented, but live ever in a state of permanent suffering, induced by heartaches and disappointed vanity.

Fortunately for themselves, scrofulous females are seldom long lived; after having been invalids all their life, and having given birth to a weakly race of children, they die prematurely, leaving to their husbands the sad duty of watching over what remains of their fragile offspring.

It is too easy to imagine the wretched lot of a man upon whom such a guardianship devolves. Among many such examples which have occurred in our experience, we will briefly mention one, a case in which an anxiously wished-for alliance was productive of feeble children, left by the death of the mother to the father's care. This man has buried one after the other of these children, and is now watching day and night over the mortal illness of the sixth.

When we meet with a family which has lost one of the parents, it has been most generally at an early age, and of an hereditary disease, which is transmitted to the children; and these, die one after another, as the germ of their fatal legacy develops itself. Whole families are often thus extinguished almost at their birth. In regarding such deplorable instances, in a moral point of view, we are almost tempted to say, as far as the parents are concerned, that they deservedly reap the harvest of sorrows which they themselves have sown.

We see by the preceding observations how many circumstances there are to counterbalance any advantages which can possibly arise from the marriage of a girl whose former health has been bad. What is to be expected from alliances entered into without the slightest reference to constitution? The death of one of the parties at an early age; the birth of children still more feeble than the parent; and the deeper empoisonment of society by the generation of fresh germs of hereditary disease.

Marriage is too lightly recommended as a means of fortifying the health; it is a species of flattery of which no physician should undertake the responsibility; his duty, on the contrary, is to strive against the vanity of parents, and to assure them that, at the shrine of this vanity, they are sacrificing the future happiness of their children. Such was the case of a young lady, the mother of six children, two of which she had lost, and who was in despair as to the future of the remaining four: for she was instinctively aware that, in their constitution, they resembled too closely those she had lost. We shall never forget the reproaches which she heaped upon the medical wiseacres who advised her marriage.*

We hear on every side that health is the chief of blessings; but to see the conduct of every-day life, one would not conceive it to be so precious. The hereditary diseases which infect certain families, even to their very extinction, are often due to man's imprudence and want of foresight. It is too true that more care is bestowed upon the breeding of domestic animals than in that of man. More anxiety is shown in the choice of a stallion than of a father for a family. One of the greatest benefits, then, which science

* This lady is since dead of consumption, complicated with tubercular peritonitis.

can confer upon society is to develop the causes of hereditary diseases, and to make the knowledge of these causes a part of general education. We entertain the most profound conviction that marriages, such as we have here described, would never take place if we could have an idea of the labyrinth of misfortunes in which they involve us.

APPENDIX

TO

THE HEREDITARY CAUSES OF SCROFULA.

THIS Appendix will contain some observations relative, 1st, to the frequency of scrofula among foundlings and orphans: 2d, to the transmission of scrofula by the milk of the nurse.

ART. I. *On the frequency of scrofula among foundlings and orphans.*

The study of the causes of disease in these two classes of individuals must necessarily be surrounded with difficulties, from the impossibility of making ourselves acquainted with the constitution of the parent; and, from a want of information on this point, we are unable to estimate the just value of accidental causes. The least reflection, however, will convince us that hereditary influence must exert a powerful influence in the production of scrofula among foundlings and orphans. For who are in general the parents of foundlings? The mothers, for the most part, are the poor victims of seduction, who are obliged to fly from their home to conceal their shame, and who are broken down by sorrow, exposed to privations and fatigues, and often, in addition, infected with venereal diseases. Fre-

quently, too, in order to conceal their situation, they have recourse to tight lacing, which, with the not uncommon attempts to induce miscarriage, cannot but interfere with the regular evolution of the embryo. The fathers, too, are generally men who live a continual life of sexual depravity, a life which, as we have shown, is one of the most efficient causes of the degeneration of the species.

In the case of orphans, the parents have been in general so diseased and poor, that they have been obliged to rid themselves of their children for want of the means of supporting them. These are conditions, it must be allowed, the most unfavorable to the procreation of healthy and robust families. The parents, moreover, have generally died young, and the causes of early death are, for the most part, scrofulous diseases, and more particularly pulmonary consumption.

So that, although hereditary influences cannot in these cases be ascertained with absolute certainty, we are justified by analogy in regarding them as the principal causes of the prevalence of scrofula among the two classes of children alluded to.

It is unquestionable, however, that the development of the scrofulous habit is much favoured by the occasional causes to which they are exposed. Children maintained by charity are, it is well known, maintained at the smallest possible expense. They are sent out to nurse at a great distance from the capital, and in places where the administration of justice is of difficult execution. Many of them, therefore, die in their first years, unknown and uncared for. The survivors are not too well attended to; they are allowed only the bare necessities of life, and are exposed to all the vicissitudes of climate, season, and temperature, without receiving any compensation for such hardships in the abundance of their aliment. These mis-

rable children, therefore, are at the very bottom of the social scale, and know neither comfort nor happiness. Every possible external cause of disease is, in their cases, accumulated.

Their moral condition is no less debased than their physical. Deprived, almost at birth, of all those feelings of affection which the tenderness of others is calculated to inspire, their sensibilities are, so to speak, smothered at their source; even the relations of ordinary friendship are scarcely intelligible to them.

We have had occasion to treat fifty of these children at the Hospital of St. Louis, and we have also visited them in their establishment. We have even assisted in their games; but how mournful is their silence in comparison with the joyous uproar of a common school. There seems to be no tie of sympathy among them; none are to be seen but diminutive weakly creatures, whose pallid features are destitute of all expression, and whose mental faculties are extremely limited. Among them, one never sees a fine form or an intellectual countenance; one would imagine that their faces had never worn a smile or seen the sun. Apathy, both moral and physical, to so great an extent is never witnessed among any other class of children; it is in itself a species of scrofula, which the untoward circumstances in which they are placed must tend much to develop, although, as we have already said, they cannot produce it *de novo*.

ART. II. *On the transmission of scrofula by the nurse.*

The following facts relative to the transmission of scrofulous diseases through the medium of the milk of the nurse, although they have sufficient resemblance to the subject of hereditary causes, to be placed in an appendix to them, exhibit nevertheless certain prominent points of difference.

When a nurse, who is not the mother, imparts the scrofulous habit to an infant previously exempt from the fearful predisposition, if the fact be rigorously considered, it amounts to no more than this,—that a certain effect has followed a certain external cause; the child has acquired something which it did not possess at birth. There is, however, it must be allowed, a close analogy between the transmission of scrofula by generation and its imbibition from the nurse.

The distinct appreciation of this cause is of great importance in practice, for the communication of scrofula by the nurse is a mere accidental circumstance in a family, and one which in nowise implicates the other children; whereas, in hereditary scrofula properly so called, all the offspring are indiscriminately affected. In the former case, the existence of the disease is an isolated fact; in the second it is a sign which should awaken alarm respecting the present and future condition of all the members of the family.

A nurse is always made responsible for the diseases of her nurseling; we should therefore receive with caution the accusations against her, in the case of the child becoming scrofulous; for the *amour propre* of parents is ever ready to find an excuse for disease, in reality depending upon themselves.

We were once consulted for a child with the following symptoms: caries, with fistula of the fingers, pallor, debility, apathy, emaciated limbs, and no sign of puberty at fourteen years. This deeply scrofulous condition was attributed erroneously by the mother to the wet-nurse. Having brought with her a daughter, æt. 16, we inquired whether they had both been reared by the same nurse. Upon her replying in the negative, we explained to her that there was a perfect resemblance of constitution between the two children, and that as her own constitution

was also similar, it was more probable that they derived the disease from herself. She, in fact, exhibited certain manifestations of the scrofulous habit, being crooked and having the extremities of the bones greatly developed.

We must not, therefore, too readily admit the inoculation of scrofula by the nurse in any particular instance; and we should not admit the supposition at all until we have made minute inquiries into her constitutional tendencies or those of her children; if after this there is any doubt remaining, we must turn to the consideration of the family temperament, as manifested in the parents or in the collateral relations, for this is always the surest way of arriving at the truth.

That the disease may in some cases be transmitted by the nurse, we have distinctly ascertained: the following are a few amongst many carefully collected instances of the fact.

Henrietta Lavallois, *æt.* 20, was affected with scrofula, which had fixed itself chiefly in the cellular structure of the lower limbs. These had acquired enormous dimensions, and were traversed in all directions by cicatrices and fistulous canals. This person had no scrofulous relations, neither had she been exposed to cold or privations of any kind; but her nurse and foster-sister both died of scrofulous diseases.

A man named Morand, *æt.* 20, was diminutive and rickety; his mother, who came with him to the Hospital of St. Louis, was healthy, and reported her husband to be so also; but the patient had been suckled by a scrofulous wet-nurse, and his foster-sister was rickety like himself.

The mother of six children had two among them scrofulous, both of whom had been suckled by a nurse whose own children were scrofulous, and who herself died of scrofulous disease. The other four children were perfectly healthy.

In the month of April 1834, a lady, *æt.* 32, consulted

us for a son, æt. $6\frac{1}{2}$ years. He had been for six months affected with double ophthalmia, and hypertrophy of the metacarpal bones and phalanges of the left hand. The father of this boy was thirty-five years of age, and was as healthy as his wife; his grandfather had likewise lived to an advanced age. Their child, originally strong, had been nursed by a woman who died of pulmonary consumption.

A similar case occurred to us at the Hospital of St. Louis in the following month.

Among these conditions of health in the nurse which have been considered as hurtful to the infant, the pregnant state is the most common. We have seen many scrofulous children who have been nursed by pregnant women up to the very eve of their confinement. Such instances are very common, as will be seen in the next section.

§ 1. *Remarks on the nurses of Parisian children.*

The city of Paris contains many families of retired retail tradesmen. This position, otherwise fortunate, is often accompanied by cares and sorrow, occasioned by the death of their children or by their constantly suffering from diseases, which they have acquired either from their nurses or from certain habits which have long incapacitated their parents from procreating healthy offspring.

The families alluded to spring from a low station in society, out of which they have raised themselves by dint only of great labour and fatigue. The mothers, who from their incessant engagements are not able to nurse their infants, send them out to nurse, and frequently in such cases see little of them till they have arrived at the age of two or three years, when, from being able to run alone, they are likely to give the least possible trouble.

These children are very badly provided for. In the first

place, they are generally suckled by women who live a life of incontinence,—for nurses by profession endeavour to keep up a succession of pregnancies that there may be no interruption to their calling. Such women are often in the family way when they undertake the office of nurse, so that it is no uncommon thing for the child to be fed both with the old and the new milk of their nurses. They also occasionally suckle their own and their foster-child at the same time, and often suffer the latter to want, that its growth may be checked, and that it may, for that reason, remain as long as possible under their charge.

Add to this, the vicious habits of the nurse, their scanty food, hard labour, and want of cleanliness, and we shall still have but an imperfect idea of the many causes of disease which infants may derive from the bosom of their foster-mother.

It is much to be desired that some candid observer would enter minutely into this interesting subject, which has been hitherto but lightly touched upon. It is a subject that deeply interests more than half the population of Paris; and there can be little doubt but that robust constitutions would be more common, if the infants at the breast were properly nursed.

Correct observations of this kind are a permanent desideratum in society, for a numerous class (artisans and retail tradesmen), who cannot devote to their offspring the time which they require, are necessitated to resort to the hard alternative of sending them out to nurse.

The preceding remarks on nursing relate to the inoculation of scrofula by the nurse to children presumed to be healthy. The originally good constitution, in such instances, may, to a certain degree, counterbalance the evil; but if a sound child becomes scrofulous by the milk of a diseased nurse, *à fortiori*, a child scrofulous by inheritance

will become doubly so if it be submitted to the same influences. In such a case, the effects of inoculation are added to the original taint; an external cause imparts fresh intensity to the internal predisposition. It is rare, indeed, that an infant can resist such a concurrence of untoward circumstances.

§ II. *Scrofulous mothers ought not to suckle their children.*

This proposition springs naturally from the remarks of the foregoing section. It seems only reasonable to expect that a scrofulous child should not thrive upon the milk of a scrofulous mother. The nourishment afforded by her, even if abundant in quantity, is deficient in richness, and will only tend to confirm the predisposition of her infant. Moreover, the mammary gland in a scrofulous female is seldom in a perfectly healthy condition; it is often either small and ill developed, or in a state of scrofulous hypertrophy; in either case the milk will be scanty and vitiated, and therefore unfit for the nourishment even of a healthy child.

The effects of nursing are not less injurious to the mother than to the infant. It is a task far beyond the powers of scrofulous females, and seldom fails to produce more or less emaciation and the utmost exhaustion. It frequently also hastens the occurrence of pulmonary disease.

None but the most healthy women ought to nurse their children; with them it is a duty to do so; but it is a duty no less sacred for those mothers to abstain from it whose health is such as has been described in this treatise. In such cases a wet-nurse is indispensable.

PART II.

OF THE PATHOLOGICAL CAUSES

(SO-CALLED)

OF

SCROFULOUS DISEASES.

PART II.

ON THE (SO-CALLED) PATHOLOGICAL CAUSES OF SCROFULOUS DISEASES.

MANY pathologists regard certain diseases of childhood in the light of direct causes of scrofula, because that malady not unfrequently shows itself for the first time, or with an increase of intensity, immediately after their occurrence. They have likewise taken a similar view of other affections not confined to childhood, but which are in reality the initiatory signs of scrofula itself.

Many female disorders also, as well as erysipelas and syphilitic affections, have been erroneously considered as occasional causes of scrofula; but whatever be their connexion with that disease, they are only complications; and though they may favour its development when the diathesis is present, they can in no case originate it.

In the present chapter we shall enter fully into the examination of these so-called pathological causes; and endeavour to exhibit them in their true light and value. We shall divide the chapter into five principal articles, each of which will contain matter which has never before been properly investigated, although the subject is of the greatest importance in reference to the treatment of infantile diseases.

In the first article we shall consider the subject of eruptive fevers, more especially measles and smallpox; for scrofula not uncommonly manifests itself for the first time, or under a more severe form, subsequently to the invasion of these maladies. Hooping-cough will be also examined under the same points of view.

We shall speak in the second article of several morbid conditions not peculiar to infancy, but which are nevertheless very common in scrofulous children, and which have also been considered as causes of the disease. We shall see that these conditions, so far from being causes of scrofula, are in reality the manifestations of scrofula itself. The third article will contain similar observations respecting pregnancy, abortion, and childbirth.

In the fourth and fifth articles we shall investigate the influence of erysipelas and syphilis, on the development and progress of scrofulous affections, and *vice versâ*.

ART. I. *Smallpox, measles, and hooping-cough, considered as causes of scrofula.*

It not unfrequently happens that scrofula appears for the first time immediately after an attack of measles, smallpox, or hooping-cough, or if it has previously existed, that it then assumes a new degree of activity. Many authors have thought under these circumstances that there has been an accidental generation of the scrofulous diathesis; and that if a chronic ophthalmia, or tubercular cervical glands or abscess occur, that they are caused directly by the pre-existing diseases; in fact that the measles or smallpox has rendered the child scrofulous.

In this way scrofula is frequently attributed to some anterior disease, the observer having entirely overlooked the

fact of the existence of hereditary scrofulous predisposition. In children thus predisposed, the course of eruptive fevers is seldom simple, they are generally accompanied by some collateral phenomena which complicate the original ailment, and as it declines, exhibit more and more distinctly their true scrofulous character. The complications alluded to are all of the same nature ; whether it be ophthalmia, or cervical tubercles, or abscess, &c., it is still scrofula and nothing else, developed, but not caused by the eruptive fever.

If we reflect upon the diseases of childhood under this point of view, we shall find that they are generally of a mild nature in children of sound constitution, and that their complications, and often fatal tendency, are due to the originally feeble temperament of the child, and not to any innate severity of the diseases themselves. This we will illustrate by the consideration of certain particular diseases.

§ 1. *On smallpox as a cause of scrofula.*

Smallpox sometimes leaves behind it certain scrofulous symptoms, as ophthalmia, tubercular glands, &c.

In 1829, a man named Aujard, was admitted into the Hospital of St. Louis. The man was the subject of double palpebral ophthalmia, which had attacked him at the age of five years, after smallpox. The glands of the neck were also enlarged, but had remained stationary for a period of eleven years. The father of this young man who is of weakly constitution, was also affected with ophthalmia subsequently to an attack of smallpox.

A few years after this we had occasion to notice the case of a person scrofulous through three generations, who had become deformed after an attack of confluent smallpox.

He died of pulmonary tubercles at the age of twenty-two.

Smallpox is frequently as malignant in certain families, as it is in epidemics of more than usual severity; in the former case the fatality of the disease is derived from the originally feeble constitution of the patient, as it is in the latter, from some hidden atmospheric influence.

Scrofulous patients very frequently die from smallpox contracted during their stay in the Hospital of St. Louis. A boy, *æt.* 14, with tubercular glands in the neck and axilla was almost cured, when he was seized with smallpox. The fever was very severe, and was accompanied by cerebral symptoms and angina tonsillaris; the tubercular tumours at the same time undergoing a rapid diminution. The patient who died on the sixteenth day, would in all probability have been saved, had he not been a scrofulous subject.

It is not, however, the confluent form of smallpox alone which destroys scrofulous patients, we have known them die even when the eruptive fever appeared mild. A man, *æt.* 22, diminutive and weakly, who had caries of the radius, and many scrofulous cicatrices, died of smallpox in the year 1830, although the disease did not exhibit any symptoms which led us to anticipate a fatal termination.

It must not, notwithstanding, be understood that smallpox, even in its confluent form, is necessarily fatal to scrofulous subjects. We have treated many such cases with the most complete success.

Fauché, *æt.* 16, affected with ulcerated white swelling of the right foot, and tubercular cervical glands; and Saussenet, *æt.* 17, who had ulcerated cervical glands alone, were both seized with smallpox in September 1831. In the first patient, the disease commenced with diarrhœa, and the suppurative fever was most severe, and accom-

panied by an exhausting salivation. The ulcers on the foot at the same time, put on a dark and fungous appearance. He was treated by tonics and "flying blisters." In Saussenet, the invasion of the fever was more distinctly inflammatory, but, as in the preceding case, the pustules were confluent, and the secondary fever was accompanied by cerebral symptoms. The ulcers in the neck likewise put on a gangrenous appearance, but their vitality was restored by powdering them with red bark ; and cicatrization eventually took place under the use of the concentrated solution of iodine.

Both these patients, as well as some others we could mention, seemed, contrary to what might have been expected, to be greatly benefited by the occurrence of the fever ; their constitutions having subsequently acquired an appearance of vigour which they did not before possess.

§ II. *Measles considered in its relations to scrofula.*

Measles, like smallpox, is an occasional cause of the development of scrofula, and of the death of scrofulous subjects ; but the examples of the former are the most numerous, on account of the general diffusion of measles among the infantile population. It would be impossible indeed to number the instances in which scrofula has occurred as a sequence to measles, and in which the latter disease has destroyed life in consequence of the preexistence either of actual scrofulous diseases, or of the scrofulous temperament alone.

In the month of February 1841, a lady consulted us for her child, æt. 9½, who had palpebral ophthalmia, otorrhœa, and tubercular tumours on each side of the neck. All these forms of scrofula appeared upon the occasion of

an attack of measles eighteen months before. This child died in the following year of continued fever, which was said to have been typhus; but there are so many mistakes made in the present day respecting this latter complaint, that we can easily imagine that her attendants mistook for typhus, a catarrhal fever of a nature identical with that of the ophthalmia and otorrhœa so common in scrofulous children.

In the month of June 1834, a little girl, *æt.* 9, applied to us with tubercular cervical glands on both sides of the neck. Those on the left side were in a state of ulceration, which, together with considerable alteration in the neighbouring integuments, had appeared during the progress of a severe attack of measles in the previous year.

In 1835, a child, *æt.* 9, was brought to us affected with cutaneous scrofula of the right side of the neck, and upper portion of the corresponding side of the chest. The skin was destroyed to a large extent, and traversed by several small fistulous openings. She had also the remains of a former attack of ophthalmia, and was slightly crooked. In this case, the invasion of scrofula was attributed solely to the eruptive fever. The father, however, of the child was a diminutive man, of weak constitution, and had himself been the subject of ophthalmia in childhood. He had, moreover, a cachetic sister who had been an invalid all her life, and who died at the age of thirty-two without ever having menstruated.

In this case, the hereditary origin of the disease would not have been discovered upon superficial examination; and had we not, by more minute inquiries, clearly ascertained the existence of scrofula in the father and aunt, there might have been some grounds for the opinion entertained by the family, that the scrofulous symptoms in the child were due to the eruptive fever.

In the month of January 1839, a lady consulted us for her two sons, both of whom, according to her account, had remained weakly since an attack of measles ten years before. The eldest, *æt.* 21, was diminutive, pallid, and emaciated. He had lost his appetite and sleep, and complained of constant headaches with tinnitus aurium; his voice was feeble, and he was fatigued by the slightest exertion. One eye was destroyed by staphyloma, and the sight of the other was indifferent. The brother, *æt.* 19, who was equally small and debilitated, was affected with fistulous caries of the three inferior true ribs.

The ill health of these two young men was attributed, as has before been said, to an attack of measles; but it was sufficiently clear, from their previous history, that the eruptive fever merely imparted activity to an originally scrofulous habit. In fact, these two youths were the only survivors of a family of six children, and their father had died of pulmonary consumption.

The next example displays, even more clearly than the preceding, the pernicious influence which the scrofulous diathesis exercises over the progress of measles.

Ten years ago we attended a young lady for white swelling of the left knee and foot, in both of which there were fistulous openings. She had, besides, several tubercular cervical glands. The mother of this girl appeared at first sight to be far gone in consumption. She had been the subject of an attack of measles at the age of five years, from which she was not expected to recover. She was subsequently chlorotic, and had several attacks of hæmoptysis; her marriage took place at the age of eighteen, and her first child was born within the year. This child she lost from measles at five years of age. Eight years afterwards, she had a second daughter, the

subject of the present observation. A third daughter was born two years after that, who, like her elder sister, died of measles.

The second daughter also caught the disease from her young sister, and, although it did not, as in her case, prove fatal, it was followed by a tedious convalescence. Upon her recovery from the measles, she was submitted to a course of iodine, which removed the scrofulous symptoms in about three months. From this time she has remained well.

The mother of this girl is since dead of tubercular consumption.

The influence of hereditary predisposition in this instance is so evident that it is scarcely necessary to allude to it. Three sisters contracted measles almost at the same age as their mother, and two of the three died. Their death, in this case, is scarcely to be considered accidental; it was a necessary consequence of their scrofulous organization; and had it not been for this, they would in all probability have passed through the disease with impunity.

What must be our reflections respecting the marriage of the mother of these children? Pulmonary consumption had manifested itself even before puberty; the predisposition to this fatal disease had arrested her development; and she had several times spit blood. But in spite of this warning, she married; and the condition of her offspring, as we have seen, is but one more proof that tubercular parents not only beget tubercular children, but that their children are still more diseased than themselves.

One of the consequences most to be dreaded in measles is cough, for this symptom is not unfrequently an indication of pulmonary tuberculization. The invasion of the

lungs by this product sometimes takes place after measles with extreme rapidity, so much so as occasionally to destroy life in a few weeks.

Measles, on the other hand, may, as has been said of smallpox, exert a favorable influence over the progress of scrofulous diseases. These ameliorations are fortunate occurrences, as far as they go; but they seldom produce more than a simple remission of symptoms of greater or less duration, not an eradication of the scrofulous tendency.

§ III. *Hooping-cough considered in its relations with scrofula.*

Hooping-cough is an almost universal complaint among scrofulous children, and is far more dangerous in them than in those of sound constitution. It is frequently the forerunner of ophthalmia, intestinal worms, external and internal tubercles, and other forms of scrofulous disease which are fatal to more than half the children attacked.

When children are destroyed by sporadic hooping-cough, the only pathological appearance to be found of any value is tubercle in the lungs, bronchial and mesenteric glands. The redness of the bronchial tubes, which is sometimes observed, is, in our opinion, solely the consequence of congestion caused by the prolonged fits of coughing.

Although there is an intimate connexion between hooping-cough and scrofula, hooping-cough is, nevertheless, not a scrofulous disease; for it is both epidemic and contagious,—two characters which do not belong to scrofula; hooping-cough, however, is much more severe, and of longer duration in scrofulous than in healthy children, and often causes the development of the previously latent predisposition.

In March 1840, we were consulted concerning a little girl, æt. 7, who had laboured under hooping-cough for six weeks. She was the last of three children, and was born when her father was fifty-seven years of age. She was, in every respect, a feeble and delicate child.

The hooping-cough lasted six months; and during this time the scrofulous predisposition manifested itself in a tumefaction of the upper lip, and the occurrence of tubercular deposit in the cervical regions.

In this case, as in the preceding cases of measles, the hooping-cough was only the means of developing the germ of hereditary scrofula. Her father and mother were, in fact, too old at the time of her birth, and the latter was crooked, and had a scirrhus tumour in the breast. A brother and sister of the patient were also deformed and rickety.

It is worthy of remark, in this case, that the little patient imparted the disease to two children with whom she was accustomed to play; but these children, who were born of healthy parents, were cured long before she was, and did not experience any symptom of scrofula.

ART. II. *On several morbid conditions which are erroneously regarded as causes of scrofula, and which are, in reality, the initiatory symptoms of scrofula itself.*

The diseases which we have just passed in review are common both to healthy and to scrofulous children, but with this difference, that, in the one case, the progress of those diseases is mild and simple; and in the other, they are most frequently characterized by severe complications, and ill consequences of long duration.

There are many other morbid conditions, commonly looked upon as causes of scrofula, which are seldom or never

observed in well-organized children, but which are of frequent occurrence in those of weakly constitution, for the reason that they are but so many different manifestations of scrofula itself; such are mucous fever, the growing fever, laborious dentition, intestinal worms, &c. We shall make a few observations on each of these phenomena in succession.

Mucous fever is a febrile catarrhal affection, commonly limited to the mucous membrane of the air-passages and digestive organs, but which may occasionally attack any of the mucous membranes of the body. It is now and then observed in the tenderest infancy, but becomes more common a year or two later, at which time it ordinarily coexists with other scrofulous affections.

One distinctive character which this condition possesses, in common with all diseases of scrofulous origin, is, that it arises spontaneously and totally irrespective of circumstances, and even under those most unfavorable to its production. It has been commonly supposed that this mucous fever is able to make a child scrofulous, but this is manifestly an error; for the existence of that febrile condition is a sign of the actual presence of scrofula. The mucous membrane of the digestive organs is affected exactly in the same manner as the conjunctiva is in ophthalmia, the pituitary membrane in coryza, that of the ear in otorrhœa, &c.—diseases which are so commonly observed in scrofulous children as to have been long recognized as signs of the scrofulous temperament. In the case of mucous fever, scrofula commences in the intestinal canal, as it does in the majority of cases in the conjunctiva, or in the mucous membrane of the nasal passages.

Mucous fever therefore is, in our opinion, scrofula itself; and the ophthalmia, the coryza, the attacks of bronchitis, &c. which follow it, are but so many manifestations of scrofula located in the conjunctiva, or membranes of the

air-passages. The appearance of tubercles as a consequence of this fever is also another fact of very frequent occurrence in practice; but in all these cases, we consider that there is merely a succession of diseases of an accidental nature, and not the conversion of one species of malady into another.

In the month of April 1838, we were consulted for a young lady, *æt.* 19, with tubercular cervical glands and caries of the head of the fibula. Her sister, *æt.* 14, was at the same time confined to her bed with catarrhal fever. She was pallid and depressed, with dry cough, sore throat, and great feeling of lassitude; her skin was dry and the tongue white, but she did not complain of thirst. She continued in this state for three weeks, without the implication of any other mucous membrane than that of the pharynx. The tonsil glands remained enlarged upon the decline of the fever, and tubercles made their appearance under the chin and in the lateral regions of the neck.

From the account of her friends, it appears that the illness of her elder sister commenced also with catarrhal fever. The father of these two girls died of pulmonary consumption, at the age of thirty-two. Their mother was in every respect a healthy woman. The transmission of scrofula was inevitable in this instance, because it existed on the father's side.

The next example is well calculated to display the succession and coincidence of the catarrhal and tubercular forms of scrofula.

In the month of February, a lady, *æt.* 44, consulted us for herself and a daughter, *æt.* 11. In her own case, scrofula showed itself at the age of six years and a half by a mucous fever, followed by an abscess in the neck, which remained open for three months. She married at the age

of twenty, and became the mother of three infants, all of whom died young. She had one daughter, the subject of the present example, by a second marriage. This child has been always dull and apathetic; she has twice had hooping-cough, each time for six months, and is subject to leucorrhœa and bronchial catarrh. She was likewise the subject of tubercular cervical glands.

This child therefore was, like her mother, an instance of catarrhal scrofula, with the additional symptom of enlarged glands in the neck. The mother, however, had an abscess in the same region in her childhood, and has had a return of the same accident at the age of forty-four. On this latter occasion the abscess has remained fistulous, and the patient has lost so much flesh and strength, that although she does not cough, we cannot but suspect her to be the subject of pulmonary tubercles. The sequel has proved the justice of our surmises: consumption developed itself most rapidly, and she sunk within the space of a few months.

This catarrhal condition of the mucous membranes not uncommonly attacks scrofulous females after their confinement, those especially who persist in the attempt to nurse their infants. The increasing lassitude, however, and deficiency of milk in these women soon oblige them to resign a duty which they ought never to have undertaken. This early necessity for weaning is in such cases generally attributed to some accidental circumstance; but it is in reality the sign of an organic debility, which might have been prognosticated from the observance of the constitutional character either of the mother herself or of her family.

It is at this period that we often witness the first manifestation of tubercular consumption; the woman fails to gather strength, and becomes daily paler and more feeble.

The appetite diminishes, and the occurrence of hectic fever quickly hurries the disease to its fatal termination.

Mucous fever, then, is frequently the first in the chain of scrofulous diseases; but it cannot on that account be considered as the cause of them. The *post hoc* and the *propter hoc* must here be carefully distinguished. As well might we affirm that scrofulous ophthalmia is the cause of tubercles, as that they are produced by this catarrhal condition of the respiratory or digestive mucous membranes.

This fever, moreover, is not only a frequent mode in which scrofula makes its first attack, but it may reappear several times during the course of other scrofulous affections. In such cases it cannot be said that there is a superaddition of a different disease, there is merely the coincidence of another form of scrofula.

Growing fever, as it is called, has considerable analogy with the mucous fever, especially that form of it in which the digestive mucous membrane is chiefly implicated. It is characterized by lassitude, pains in the limbs, and more or less complete anorexia; the child keeps his bed for months, or even years, and exhibits continual drowsiness, but has little or no healthy sleep. During this period the growth of the body is sometimes very rapid, but in others the development appears to be arrested, and the child remains small and delicate.

This febrile state, like the preceding, frequently awakens other forms of scrofula; but, as in the case of that affection, these forms are consequences but not effects of the fever. In some rare instances, likewise, beneficial effects in respect to the constitution of the child are seen to follow an attack of this fever; and the system, after recovering from its previous languor, acquires an amount of vigour to which it was previously a stranger.

The remarks which have been made respecting mucous

and growing fevers are equally applicable to the subject of dentition. The evolution of the teeth in a healthy child is scarcely more difficult than the growth of the nails, but not so in scrofulous infants. The disturbances, however, to which the development of the teeth gives rise in them do not produce scrofula; on the contrary, they are an evident sign that the disease already lurks in the constitution; it is scrofula itself which disturbs the nutrition of the teeth as it does that of the bones in general.

It is the same with intestinal worms, with or without fever, chilblains, &c.; they are accused as so many morbid conditions capable of inducing scrofula, but to the experienced physician they are no more or less than symptoms of the actual existence of scrofula, and the indications of the character of the diseases to which the future life of the patient will be amenable.

The view which we have taken of the relations of infantile diseases with scrofula appears to us perfectly natural, but it nevertheless enters neither into the theory nor the practice of our contemporaries. Judging from certain recent articles upon that subject, we should say that the treatment of the diseases of children in the present day is far too antiphlogistic and debilitating; it takes account neither of their predisposition nor their temperament. The very common abuse of bleeding in children is in our belief one of the most potent causes of the progress and often irremediable character of scrofulous diseases; it is moreover in one sense a direct cause of scrofula, for by debilitating the individual, it reduces him to one of the conditions favorable to the procreation of scrofulous infants; it does not make him scrofulous it is true, but it causes him to be the father of scrofulous children.

In the spring of 1831, our advice was sought for a little girl, *æt.* 3, who had hypertrophy of the two lower pha-

langes of the right ring-finger. The other children of the family were said to be healthy, but one, a boy of twelve years old, was small for his age, and had suffered repeated attacks of bronchitis. He had also enlarged tonsil glands and was hoarse; he had in fact suffered from catarrhal scrofula from the age of ten years. His complaints had however been considered to arise from external causes, and had been treated solely by local means, but especially by the repeated use of leeches.

These errors in diagnosis are of frequent occurrence in scrofulous diseases, for the reason that sufficient attention is not paid to the antecedent and coincident circumstances belonging to them. The origin of these errors can never be too much insisted upon; and we shall, therefore, even at the risk of being accused of repetition, once more call the attention of medical men to the opinions set forth in the present work. These opinions are not only valuable as regards diagnosis of scrofulous diseases, but they are directly associated with the correct method of treating them. The case which we have just related is an instance in point. The child was born feeble, and his growth was slow and imperfect; he coughed because the respiratory organs were in the same condition as the eyes are observed to be in other scrofulous children, and perhaps because the lungs contained tubercles. The inflammations of the tonsil glands, the bronchitis, the pulmonary congestions were only varieties of the same disease—catarrhal scrofula. This condition was nevertheless attributed to the agency of external causes; no attention was paid to the fact that every precaution against such causes had been taken, and also that alternate exacerbations and remissions of the symptoms had occurred during an interval of ten years. The obstinate persistence of the malady alone was sufficient to declare its constitutional origin, and that it was not induced

by external causes ; but the correctness of the opinion was rendered positive by a reference to the scrofulous habits of the mother and sister.

The diseases under which this child laboured were not like the angina or bronchitis induced by variation of temperature or other external cause ; neither was a treatment indicated such as would have been suitable to disease so arising. The indication was to improve the feeble and scrofulous constitution of the patient by good living, tonics, out of door exercise ; and not to bleed and depress the patient by strict regimen and confinement to bed—a line of conduct which only made matters worse, and hastened the development of the pulmonary tubercles which caused his death at the age of twenty-two.

These etiological considerations are much neglected in the present day. The most reputable physicians are still wedded to the theory of localization. The evil consequences of such theories in infantile diseases, and the treatment which hinges upon them, are amply exhibited in the preceding case.

ART. III. *On pregnancy and childbirth considered as causes of scrofulous diseases.*

Pregnancy and childbirth are, in general, simple and natural phenomena in healthy women ; but they are almost always complicated in those of the scrofulous temperament ; in women who are impregnated by scrofulous men ; and in those who are in any other condition of health which is injurious to the function of reproduction. (Vide Part I.)

The phenomena which complicate the periods of gestation and delivery in scrofulous females are to be viewed in the

same light as the complications of infantile diseases, that is, they are the signs of scrofula and not its causes.

§ 1. *Pregnancy considered in its relations to the progress of scrofula.*

It is no uncommon thing for scrofula to develop itself during the course of a first pregnancy. We were consulted at the Hospital of St. Louis, in May 1831, by a woman, the mother of five children, who was attacked for the first time with ulcerated tubercular glands in the neck at the period of her first pregnancy, and who has had a recrudescence of the affection on each succeeding gestation.

Another female was also the mother of five children; three of these are already dead of scrofulous disease, and the fourth is tubercular, and the subject of double ophthalmia. This female had not experienced any symptom of scrofula until her first pregnancy. She had, however, from her infancy suffered severely from hemicrania, a symptom of frequent occurrence in scrofulous females.

It would be easy to multiply examples in proof of a fact which in our own opinion is incontestable, namely, that scrofula often shows itself for the first time during gestation; but we are anxious to proceed to a part of our subject of exceeding interest, which has for its object the consideration of the scrofulous habit as a cause of spontaneous abortion.

§ II. *Abortion considered as an effect and not a cause of the scrofulous habit.*

The causes of spontaneous abortion may be referred, 1st, to the health of the father; 2d, to the health of the mother; and 3d, to the two combined.

1st. The fœtus which derives a scrofulous taint from the father may, within certain limits, if the mother be healthy, imbibe sufficient of the elements of sound organization from her, to enable it to arrive in a more or less healthy condition to its full term. But if the health of the man be debilitated beyond a certain point, the elements of reproduction furnished by him are of too degraded a nature to enter into the combinations, and experience the development of healthy fœtal life. Abortion will take place in such instances, however healthy the maternal organs may be; in the same way as grains deteriorated in quality cannot germinate in the richest soil.

We are acquainted with a scrofulous individual with hare-lip, who scarcely possessed the attributes of puberty at the age of thirty years, and who married a year or two afterwards. His wife who is a healthy woman, has miscarried in every pregnancy.

In another case the mother has miscarried five times consecutively at four months and a half. Her husband is a dissipated man, and all his children born alive are scrofulous. The mother is herself of healthy constitution.

In a third instance, a man married at the age of sixty years, his wife has invariably miscarried.

We have here therefore three separate conditions, each of which so far deteriorate the generative faculty in man as to incapacitate him from impregnating a woman with germs capable of arriving at maturity. The first condition is the scrofulous temperament; the second is habitual dissipation; the third, old age.

2d. When a woman is only moderately scrofulous, she may bear children at the full term if she be impregnated by a healthy man; it is however sometimes impossible to prevent miscarriage under any circumstances, if her habit be eminently scrofulous. In such cases the fœtus is scro-

fulous from the moment it starts into life ; it has neither the vitality nor assimilative power necessary to ensure its development ; the taint infused at the moment of conception is increased by the imperfect elements of nutrition derived from the mother. It is these conditions conjoined with a feebleness of the uterine organs which renders abortion a very frequent occurrence in scrofulous females.

Cæteris paribus, abortion is oftener the consequence of a degradation of the generative faculty in the man than of a fault in the same function in the female. A diseased female may be healthily impregnated by a healthy man, but the converse is never observed—a healthy woman never bears healthy children if her husband be of feeble constitution.

3d. When these causes of hereditary taint exist simultaneously in both father and mother, abortion takes place almost as a matter of course ; pregnancy proves in such cases to be only a cruel deception. The fruit of such alliances dies for the most part before birth, or if it struggles into life, that life is an ephemeral scene of sickness and suffering.

We were present some years ago in a case of abortion which might readily have been foreseen. The husband was of feeble constitution, and had been the subject of hydrocephalus in his infancy. The union of the most healthy woman with such a man could not afford any hope of a matured offspring.

It is because their true source is in the constitution of the parents, that many abortions occur for which no definite external agency can be discovered. We do not look upon those circumstances as causes to which miscarriages are ordinarily attributed. Nature having commenced the work of reproduction, would not abandon it to the chance of being destroyed by the trivial occurrences of

every-day life. If a false step, a long walk, over-exertion, anger, fright, incontinence, the act of stooping, or lifting the arm to the head, &c., were the causes of abortion, but few infants would arrive at maturity, for every woman is more or less exposed to the influence of some of these agents. Miscarriages would then be more frequent than living births; they would in fact be the rule instead of the exception.

These and a host of other fancied causes of abortion, have no effect upon women of sound constitutions. Nay more, the most violent medicines given for the express purpose of producing abortion fail oftener than they succeed, and in many cases destroy the woman's life without causing the expulsion of the contents of the uterus.

Spontaneous abortions are liable to frequent repetitions. We have known as many as seven in succession, in a woman who died of consumption after having given birth to two scrofulous children. In order to recognize this form of abortion, we must make ourselves acquainted with the antecedent and coincident circumstances of the case,—two sources of diagnosis which are much neglected in the present day; as any one may be convinced by a perusal of the article on Abortion, in the '*Dictionnaire de Médecine*,' by the late Desormeaux. This article contains much instructive matter, especially in reference to abortive medicines. The author remarks with justice, that those medicines frequently do not produce the intended effect, although they are powerful enough to cause the death of the woman. But he makes no mention whatever of that species of abortion upon which our attention is now engaged, although it is more common than all the others put together. Had Desormeaux been less preoccupied with local causes, he would have better comprehended the bearings of all criminal attempts at producing abortion by

means of emmenagogue medicines. He would have seen the insufficiency of the local causes of abortion which he has mentioned; and he could not have failed further to see that in families in which miscarriages are common, the cause is to be looked for in the constitution either of the father or mother.

Spontaneous abortion is a most interesting object of study. Abortion arising from a local cause is an isolated fact, and has no reference to the future. If a woman miscarries in consequence of a long ride on horseback, from carrying too heavy a burden, or any similar cause, it will be sufficient for her to avoid these causes in her subsequent pregnancies, to be enabled to bring her future infants to maturity. But the case is very different with spontaneous abortions; one of these will assuredly be followed by others, unless we can attain to the comprehension of the causes which have produced the first; and under the inspiration of sound knowledge, apply the proper remedies.

A spontaneous miscarriage, viewed in its proper light, ought to awaken our attention to the probability of the existence of the scrofulous habit either in the mother or father; and should afford us a correct means of diagnosis in the future diseases of the family.

Scrofula, then, is the common cause of spontaneous abortion. As a general rule, when abortion is due to the constitution of the mother, she will be found to have suffered already from some form of scrofula, the progress of which is often materially aggravated by the miscarriage. Scrofula, as has before been said, sometimes first betrays its existence by an abortion; in this case, other scrofulous symptoms never fail to follow, and to render the woman an invalid for life: such are deviations of the spinal column and pelvic bones, ophthalmia, chronic leucorrhœa, &c., but especially pulmonary phthisis, which rapidly proves fatal, unless its

progress be suspended by a fresh pregnancy. These scrofulous symptoms are not the effect of the abortion ; on the contrary, they have a common origin with it.

It is often a matter of difficulty, and one which requires patience, to investigate cases after this manner ; but it is far better to fathom a position, however difficult it may be to do so, than to act upon those superficial notions of diagnosis, which leave the most important features of disease unknown and unexplained.

§ III. *Delivery, considered in its relations to scrofula.*

We shall in this section investigate the subject of difficult parturition, in its connexion with scrofula. We do not, of course, intend to refer to those cases in which delivery is impeded by the unnatural position of the child ; nor to any other cases which do not bear strictly upon the subject of scrofulous diseases. We shall speak only of those forms of difficult labour which are traceable to the same causes as spontaneous abortions ; of those labours, for instance, prior to which abortion had been frequently threatened ; of those which are connected with a depraved constitution in the father ; of those also which, like severe measles and smallpox, depend upon the prior existence of scrofulous diseases ; and, lastly, of those which, as in the case of spontaneous abortion, are frequently followed by the development of scrofulous disease.

When laborious parturition originates in the scrofulous predisposition of the mother, additional influence is generally afforded to the causes of obstruction by the constitution of the child. The labour may then be so severe as to threaten the lives of both mother and infant, and to require the interference of art. The proximate cause of these difficulties lies in a debility of fibre ; but then an-

other cause occasionally exists, which adds greatly to the complication. This cause is a state of hypertrophy of the bones of the pelvis, similar to that which is seen in the extremities of the long bones. The diagnosis of this condition is most important; for when it is once recognized, the course of treatment to be adopted is plain: the woman must be delivered by art; for, to wait for the natural termination of the labour, would be the means to ensure her utter exhaustion. In a case of this kind with which we were acquainted, a woman was allowed to remain three days in labour before the assistance of an accoucheur was sought, and the mechanical obstruction to delivery was not even suspected.

The development of scrofulous diseases is not the consequence solely of difficult labour; the same effects may follow, in some constitutions, even when the delivery has been easy and free from more than ordinary suffering. It need scarcely be repeated, that the principle of such occurrences must be sought for in the presence of that predisposition, in the absence of which pregnancy and delivery, instead of weakening the health, appear to render it more robust.

A first confinement, although in itself not otherwise than normal, may, nevertheless, as in the following instance, be the cause of the development of scrofula.

On the 10th of August 1829, a woman, *æt.* 39, named Marie Duhamel, entered the Hospital of St. Louis. She was the only survivor of eleven children, and was weakly in her infancy. At the age of three years she became the subject of tubercular cervical glands, which continued to discharge till the age of fourteen, when they cicatrized. The health at this period underwent a great change for the better, and menstruation was established two years after. She became pregnant for the first time at the age of thirty-seven,

but her confinement was natural, and she suckled her infant for eleven months. The consequences of this prolonged nursing were great and lasting exhaustion, and the appearance of tubercular glands in the neck, with deep and extensive fistulous canals. The patient was wasted to the last degree by the suppuration, and was ultimately destroyed by an attack of phlegmonous erysipelas.

After death, the body exhibited the most extreme emaciation, the limbs were œdematous, and the neck was riddled by ulcerations, many of which communicated with each other by fistulous canals. The abdominal viscera were much discoloured, and the mesentery was filled with tubercular masses of different sizes. The spleen was likewise densely crowded with the same production. The kidneys were slightly injected, in consequence, most probably, of the action of the blisters, which had formed part of her treatment.

The tubercles which were found in the cervical region, in the mesentery, and spleen were all of the same nature, and differed only in their respective dimensions. In fact, it is our firm belief that tubercles are always identical in nature, whatever be the locality or the epoch of their deposition. It is a remarkable fact, and one which we are anxious to make known, that, although this woman was one of eleven tuberculous children, and died of tuberculous suppuration, yet there was not a single tubercle in the lungs. This, however, is by no means a singular case; we have notes of several others of the same kind, which will be analysed in a future treatise.

ART. IV. *On the connexion of erysipelas and scrofulous diseases.*

It frequently happens that scrofulous disease is established for the first time after or during an attack of erysipelas; and that erysipelas, on the other hand, arises one or more times during the progress of a scrofulous disease. Sometimes the effect of the inter-current disease is advantageous, but it is often the immediate cause of death. We shall adduce examples in illustration of each of these events.

Louis Fleuret, æt. 22, had tubercles for the space of two years, on each side of the neck, and in the left axilla. These scrofulous symptoms arose shortly after one of several attacks of erysipelas, to which the patient had been subject.

We have occasionally seen this latter disease precede the development of scrofulous ophthalmia, as well as of cutaneous and cellular scrofula. The tumidity of the upper lip in particular is very apt to show itself after an attack of erysipelas.

That form of scrofula which chiefly affects the skin and subjacent cellular tissue may either attack a part or the whole of the face, and sometimes produces so much deformity of the features as to have been called "leonine scrofula," from the resemblance the countenance in such cases bears to that of a lion. It frequently originates in an attack of erysipelas of the face, and its exacerbations are generally marked by the repetition of the inflammation. We have many times observed, in the cases of young persons of both sexes, that this facial erysipelas is never absent for any length of time, but recurs at short intervals for many years in succession.

These remarks hold good whatever be the region of the

body attacked by this variety of scrofula. In the following example, for instance, erysipelas was the precursor of indurated hypertrophy of the skin and cellular tissue of the left leg: A youth named Porrier, æt. 16, had necrosis of the left tibia, of which the progress had been unusually rapid, for it commenced and was completed within the space of a year. Soon after the closure of the fistulous openings, which followed the exfoliation of the diseased bone, phlegmonous erysipelas appeared on the leg and foot; the swelling was very great, and was scarcely diminished even upon the subsidence of the erysipelas, for the latter, indeed, was but one of the forms under which cutaneous scrofula occasionally develops itself. The limb shortly after acquired almost elephantine dimensions, and became the seat of a new form of scrofulous disease, which displayed itself in a series of circular pustular eruptions, the intervening skin remaining in its previous thickened and indurated state.

In these two cases, the particulars of which we have very briefly related, the influence of hereditary causes was sufficiently evident. Porrier was the son of a woman who had died of pulmonary consumption, and Fleuret had lost his father of the same disease. There was, therefore, no necessity to look to the erysipelas for a cause of the scrofulous symptoms. It is well known, moreover, that erysipelas is an extremely frequent disease; but that scrofula does not appear as its consequence more than once in a hundred times. The reason why scrofula follows and appears to be developed by erysipelas in some few cases is, that in such cases the patients are of an originally scrofulous constitution.

The preceding remarks relative to the connexion of erysipelas with tubercles, ophthalmia, and cellular scrofula, are also applicable to the other forms of scrofulous disease;

they may all show themselves as a sequence to erysipelas, and we might say, under an erysipelatous form. Indeed, this mode of invasion is so common, that it would scarcely be unreasonable to believe that erysipelas is itself, like hooping-cough, a disease depending upon the scrofulous habit; though, like the latter malady, it possesses other characters peculiar to itself, and in no way allied to scrofula.

Erysipelas is not only a frequent precursory sign or mode of invasion of scrofula, but it is apt to recur at intervals during the progress of scrofulous disease. It is of constant occurrence in the scrofulous wards of the Hospital of St. Louis, probably on account of its possessing some particular affinity to the diseases there accumulated; but it rarely shows itself in the other wards. The condition of scrofulous patients is sometimes notably amended by the agency of the erysipelatous fever; for it often excites a beneficial activity in indolent tubercular swellings, and changes the chronic into the acute stage of the complaint. This is always an alteration for the better, for as it is well known, glandular engorgements are more readily dispersed or advanced to suppuration in the acute than in the chronic stage.

Joseph Laberre, æt. 15, was the subject of tubercular glands in the cervical regions, which were more numerous on the left than on the right side. He had likewise tumours of the same nature in the left axilla, by which the movements of the arm were greatly impeded.

During the course of treatment by the preparations of iodine, an attack of erysipelas phlyctenödes supervened, which successively invaded the right and left arms. During the progress of this skin affection, the tubercular glands in the neck, but especially those in the axilla, underwent a remarkable diminution. An abscess, which was evidently critical, subsequently appeared in the left popliteal space.

The beneficial influence which is occasionally exerted by the erysipelatous fever over tubercular tumours, is still more manifest in the following example: Désiré Loges, æt. 18, having been previously the subject of tubercular cervical glands, suffered from an attack of cerebral fever at the age of ten years. At the age of fifteen a fresh crop of tubercles developed itself on the right side of the neck, and in this condition, three years afterwards, he entered the Hospital of St. Louis. He was there subjected to the ordinary treatment, when he was seized with erysipelas of the head and face, which continued for more than two months; but at the end of this time, the tubercular tumours had diminished to less than half their original bulk.

In the two next examples, the amelioration produced by erysipelas was so great, that it may reasonably be considered to have been the means of curing the preexisting scrofulous disease.

Gilbert Bricault, æt. 26, was admitted into the hospital of St. Louis in the month of May, 1832. This young man, according to his own account, had been weakly from his earliest infancy. He was the subject, at the age of nine years, of tertian intermittent, which subsequently became quartan, and remained of that type for ten months. He was at the same time troubled with intestinal worms, and voided, both by mouth and by stool, several lumbrici, from thirty to forty centimetres in length. These parasitic animals were dislodged by the use of the watercress, (*nasturtium officinale*;) and the intermittent, which had resisted all medical treatment, was at length cured by a debauch.

At the age of fifteen the patient was apprenticed to the trade of carpenter and joiner, and at the expiration of two years, travelled the country in good health, but leading a life of great sexual depravity. The first swelling appeared over the middle of the clavicle, at the age of twenty-five.

This was followed by a second in the course of four months, and afterwards by three others, situated on the eminences of both ears. These tumours opened spontaneously, and remained fistulous. His general health decayed, and he had cough and night-sweats, with considerable emaciation.

In this condition he presented himself at the hospital, where he was submitted to the iodine treatment. A month from this date he was attacked by erysipelas in the face, after which, an immense abscess formed and opened spontaneously in the right axilla. At the same time, a great number of tubercular tumours developed themselves in the cervical and sternal regions, and a purulent discharge took place from the ears. Of the tubercular tumours some opened spontaneously, others required the aid of the lancet.

This eruption of suppurating tumours did not produce any disastrous effect, for the patient speedily began to recover his strength. The attack of erysipelas lasted two months, and was at length dissipated by the alternate use of calomel and Seidlitz water.

The preparations of iodine were resumed on the 1st of September, and were continued for nearly two months, when the patient left the hospital cured. He presented himself to us some years after his discharge, and appeared to be thoroughly reestablished in health.

Renault, æt. 16, laboured under double ophthalmia with purulent coryza for three years; he had also a tubercular tumour, of the size of a pullet's egg, on the right side of the neck. After six weeks' sojourn in the hospital, he was attacked by erysipelas of the face and scalp, and at the same time the cervical tumour diminished to half its size; it, however, soon increased a second time, and assumed the appearance of a critical abscess. This was punctured as soon as fluctuation became distinct, and gave issue to a yellowish flaky pus. The abscess remained open for a fort-

night, when it and the ophthalmia disappeared together. The patient was purged three times, at an interval of twenty-four hours; and then commenced with ioduretted mineral solution, which he took for six weeks; at the end of which period he left the hospital convalescent. We have not since had the opportunity of seeing him.

In these two examples, the disappearance of the scrofulous symptoms was followed by a most satisfactory amendment of the general health. The cure was the more trustworthy, that it had in each case been preceded by abundant suppuration, a symptom which we look upon as a most favorable one, provided it coincides with a return of strength.

Erysipelas seldom terminates fatally in scrofulous subjects, unless it be in consequence of some accidental complication. In the following example, the patient was destroyed by intercurrent pneumonia, accompanied by an erysipelatous inflammation of the intestinal canal.

Lucien Giraud, æt. 18, the son of a man of feeble constitution, entered the Hospital of St. Louis in June 1830. The grandfather of this patient, like his father, was an habitual invalid. His mother was a woman of vigorous constitution. This fact, nevertheless, was not much in his favour, for, as we have many times had occasion to observe, the sound constitution of the mother can never compensate for feebleness on the part of the father, although the reverse may occasionally happen. The patient had lost four brothers or sisters older than himself, and had a sister living who was the subject of cervical tubercles.

The first symptoms of scrofula which occurred in this young man were obstinate broken chilblains. Next in succession was ophthalmia, of some months' duration. At the age of eight years he had a scrofulous abscess on the anterior aspect of the right forearm, which remained open for two years, when it closed partially, but continued to dis-

charge slightly in the spring of the year. At twelve years of age the submaxillary and parotid glands suppurated; and lastly, at the age of seventeen, he had an abscess followed by ulceration over the base of the sternum. At the time of his admission, the tubercular glands in the neck were in different stages of progress, some being crude and others in a state of ulceration.

The patient was submitted to the iodine medication on the 18th of June, and in two months had made considerable progress towards cure; when, in the middle of October, the ulceration on the chest having much diminished, both in depth and extent, and the cervical glands being all but dispersed, the patient was suddenly, without any apparent cause, seized with shivering, and the next day there appeared a dangerous erysipelatous inflammation of the head and face. The intensity of this affection was soon moderated by the use of evacuants; but the gelatiniform appearance of the sputa, difficulty of breathing, and state of the pulse awakened our fears respecting the condition of the respiratory organs. It was evident that he was labouring under pleuro-pneumonia, which was chiefly confined to the left side. Tartar emetic, in the daily dose of eight grains, was administered, and the thighs, the chest, and the neck were successively covered by blisters. The suppuration in the glandular tumours, which had dried up in the onset of the pulmonary disease, did not, however, reappear, and the patient died asphyxiated, after a painful struggle.

The body was examined thirty hours after death. He was more than the ordinary height, and the integuments were marked by the blisters. There was no great amount of emaciation, and the muscular system was well developed. The brain was healthy, with the exception of slight injection. The tubercular tumours which had been discovered before

the attack of erysipelas, had now disappeared, and had left only two or three small deposits of softened tubercular matter in the neighbourhood of the sterno-mastoid muscle. The left pleura, which was highly inflamed, contained a pint and half of bloody serum, in which floated a considerable mixture of flocculent albuminous secretion. The portion of the membrane which enveloped the diaphragm and lower portion of the lung was considerably thickened by layers of plastic lymph, two of which were so separated as to give the appearance of pleuritic abscess. Upon minute examination, however, this proved to be a tubercular cyst, which had been softened and broken down by the pleural inflammation. The base of both lungs were in the first stage of pneumonia, but they did not contain tubercles.* The heart was of the ordinary size, but extremely flaccid. In the abdomen there was considerable serous effusion; the mucous membranes, especially those of the ileum and jejunum, exhibited distinct traces of previous inflammation. This inflammation we regard as of an erysipelatous nature, and to have been connected with the skin affection which existed during life. In the spleen we found a large cyst filled with tubercular matter. The psoas muscles contained small tubercular deposits, as did also the cellular tissue which envelopes the kidneys. It is probable that these tubercular deposits, like those in the cervical regions, were in a state of crudity prior to the attack of erysipelas, and that their softening was the consequence of the febrile action which accompanied this latter disease.

This is also another instance remarkable by the fact, that

* We may perhaps be blamed for not having ordered this patient to be bled: but such a proceeding was contraindicated by the history of the case. We have almost made it a rule to abstain from bloodletting in the treatment of pneumonia in scrofulous subjects, and to trust principally to tartar emetic, in large doses. We have found this plan to be constantly successful.

no tubercles existed in the lungs in a scrofulous subject, eighteen years of age, who had been diseased from his earliest childhood. The analysis of this fact, however, belongs to a future work. In the following example death took place still more rapidly than in the preceding.

Frederic Ferlin, æt. 28, was admitted into the Hospital of St. Louis, for white swelling of the right elbow, with several fistulous openings. The skin and subjacent cellular tissue were hypertrophied and indurated; and the patient had also tubercular glands in the neck, axillæ, and groins. The glandular affection was of fifteen years' date, but the white swelling was considerably more recent. Some of the tubercular glands were in a state of suppuration, and others were ulcerated at the time of the patient's admission. A tubercular abscess, situated on the internal aspect of the elbow, was opened soon after, and the sac was injected with a solution of iodine, preparatory to the general treatment by that medicine.

This treatment was continued with success for five weeks, when the patient was suddenly attacked by erysipelas, extending from the hand to the corresponding axilla. There was considerable fever, with the symptoms characteristic of a saburral condition of the primæ viæ, and in spite of treatment, delirium set in, with great alteration of the features. The patient rapidly became worse, and died on the third day.

On opening the body after death, it was observed that every trace of the erysipelas had disappeared. The white swelling was in much the same condition as it had been before the erysipelas; the surrounding skin was not much altered, but the subcutaneous cellular tissue was considerably infiltrated with serum.

The articulation of the elbow was greatly enlarged and riddled with fistulous canals, which communicated with

the subjacent carious bone. All the ligamentary structures were confounded in one homogeneous mass of a lardaceous appearance. The humerus was anchylosed with the ulna, and the head of radius was carious and completely worn away, the cartilages being entirely removed.

On both sides of the neck were tubercles the size of a nut, and inclosed in fibrous cysts. The axilla, the groins, and the popliteal spaces were also full of tumours of a similar nature, but smaller size.

There was nothing of note to be observed in the intestinal canal, but the mesentery was crowded with tubercular masses, of various dimensions. The lungs were both crepitant, and contained a few miliary tubercles.

The erysipelatous fever did not appear to have exercised any important influence upon any of the subcutaneous tubercles, as their size and consistence remained unaltered.

To recapitulate: Erysipelas has numerous affinities with scrofula, frequently accompanying or preceding its invasion, and occurring repeatedly during its progress, often with a beneficial effect. When erysipelas appears as a complication of scrofula, it is generally of much longer duration than when it arises under any other influence; it seldom lasts less than six weeks, and often as long as two or three months.

In scrofulous patients many different parts of the body are usually invaded during the course of an erysipelatous fever. For instance, the face, scalp, and the trunk and limbs may be successively the seat of the inflammation; and the disease, in some cases, does not leave the patient till it has overrun the whole surface of the body.

The erysipelatous fever is seldom entirely removed without the supervention of some abundant evacuation, such as the discharge of tubercular or purulent collections, or a diarrhœa of several days' duration; it occasionally termi-

nates also in excessive sweats and, in some rare cases, in nasal hemorrhages.

The correct treatment for erysipelas occurring as a complication of scrofula, is by the use of evacuants. We are in the habit, in some cases, of commencing with tartrate of antimony, in an emetic dose, and continuing it, largely diluted; but we more generally commence in the latter mode, and persist in its use for six or eight days. We then replace it by Seidlitz water, either alone or mixed with half its bulk of vegetable broth, and by small doses of calomel twice or thrice in a day. The drink should be quite simple, as barley-water or thin broth.

We have already stated that scrofulous patients often remain for a long time in a febrile state, during which they experience several attacks of erysipelas. We treat each of these attacks exactly in the same way, for the indications are the same in each. The only difference we permit ourselves to make is in the strength of the evacuants, which we vary according to the degree of fever; when it runs high we give the Seidlitz water mixed with two parts of broth; and we increase the quantity of the purgative in proportion as the fever diminishes, and the heat of skin and thirst become less.

The above mode of treating erysipelas is in general very successful; and it has this recommendation, that it prevents local congestion in the brain and other viscera. We may mention also that mustard cataplasms applied to the feet, will be found a useful auxiliary in most cases. But if it be necessary to obtain a greater derivative effect, it may be accomplished by dry cupping or blistering the inner part of the thighs.

It is to this method of treatment—the evacuants combined with cutaneous derivatives—that we attribute our great success among those scrofulous patients in the Hos-

pital of St. Louis who are attacked with erysipelas. It may be necessary to mention, that in such cases the use of iodine must be omitted for a time, and not so hastily resumed; for all the preparations of that medicine are incompatible with a febrile state of the system.

ART. V. *On the influence of syphilitic diseases on the progress of scrofula.*

There is no complication more to be dreaded in a scrofulous subject than that of the venereal infection. Diseases of this nature are in such persons invested with characters of unusual severity, and antecedent scrofulous affections are rendered infinitely more dangerous under their influence.

Syphilitic infection, in its connexion with scrofula, may be considered under three different aspects: 1st, as it affects those who are predisposed to scrofulous disease, but have not suffered any decided manifestation of it; 2d, as it appears in those in whom one or more forms of scrofulous disease actually exists; and, 3d, as to its power of causing a relapse in these latter diseases.

1st. It is sometimes observed, although the scrofulous temperament is clearly marked, that scrofulous disease is not actually established until the individual has been exposed to venereal infection, as in the following instance.

A young man, æt. 18, became an inmate of the Hospital of St. Louis in August 1832. He was a person of middle height, light hair, fine skin, and deficient muscular development. His mother died of tubercular disease of the lungs, and his father died in a state of fatuity, at the age of fifty-seven.

This youth, although of an originally feeble temperament,

had not hitherto suffered from any actual demonstration of scrofula ; but at the age of fourteen years and a half, he contracted gonorrhœa, and three months after was attacked by swelling of the knee. At sixteen, he had a second gonorrhœa, during the presence of which he took a long journey on foot. The discharge appeared to be suspended by the fatigue he underwent on this occasion, and he was laid up with an attack of general rheumatism.

At the age of eighteen, gonorrhœa recurred for the third time, accompanied with pain and tumefaction of the wrist, knees and feet, but especially of the right hip-joint. The pain extended from the hip to the knee, being sometimes most severe in the one place, sometimes in the other. The limb became elongated, in fact dislocation of the head of the thigh-bone was imminent. Walking became difficult and painful, the patient lost his rest, and began to cough. He was considerably benefited by the iodine treatment, but left the hospital before his cure could be considered as complete.

In the next case the development of scrofula as a consequence of venereal infection is still more distinct. A young man, æt. 25, came into the hospital in September 1831, having an immense tubercular ulcer at the junction of the neck with the thorax. The patient was a small weakly man, whose mother had died of tubercular consumption, and whose father was presumed to be syphilitic. He had been the subject of cervical tubercles up to the age of twelve years. At thirteen he had an attack of pneumonia with hæmoptysis, since which time he has been always subject to cough, particularly in the winter. At the age of eighteen he contracted gonorrhœa with chancres. Two years after this, a tumour formed over the sternal attachment of sterno-mastoid muscle, which opened, and was succeeded by an ulceration, which although it had a

syphilitic appearance, was in reality of tubercular origin, and healed rapidly under the use of iodine.

2d. Another and more numerous class of cases are those in which preexisting scrofulous diseases after remaining stationary for many years, develop themselves with great rapidity, and assume dangerous characters, as a consequence upon syphilitic infection.

A young man, *æt.* 24, entered the Hospital of St. Louis, in March 1831, for an immense tubercular tumour which entirely filled up the right side of the neck. This tumour commenced at the age of nineteen, by a tubercle not larger than a nut, and which did not increase in size for the space of two years. At this period the patient contracted venereal disease, upon which the tumour acquired a new activity, and speedily attained its present dimensions. This tubercular tumour was distinctly of hereditary origin, for the mother of the patient died consumptive, and he had lost three brothers and three sisters by scrofulous diseases. The patient left the hospital greatly benefited by the iodine treatment, but he was readmitted in the year 1835, in an advanced stage of tuberculization, under which he sank rapidly.

3d. We have had occasion also to witness the relapse of scrofulous affections through the agency of syphilis.

A man named Doussin, *æt.* 41, became a patient at the Hospital of St. Louis, in March 1832. The infancy of this man had been very sickly; he had several times been the subject of impetiginous eruptions, ophthalmia, and ulcerated tubercular glands, the indelible marks of which were visible in the neck. At the age of ten years his constitution became remarkably improved. From the age of eighteen, Doussin commenced a life of dissipation, and contracted gonorrhœa at the age of twenty-three. At the age of twenty-eight, scrofulous symptoms reappeared,

under the forms of tubercular glands in the neck, enlargement of the thyroid gland, and tubercular ulcers, under each side of the lower jaw. He had in addition to these symptoms, excavated ulcers in the palatine arches, with enlargement of the uvula and tonsil glands.

In this case there were two orders of antecedent symptoms, first those of scrofula in infancy, and secondly those of syphilitic origin. The patient upon his admission into the hospital, exhibited the signs of both diseases, namely, the tubercular swellings which were the continuation of his hereditary disease, and the ulcers of the palate attributable to syphilitic infection. The scrofulous and syphilitic cachexia therefore existed simultaneously, and the one which had been kept in abeyance for more than ten years, was reestablished by the agency of the other.

In the year 1831, a young man *æt.* 20, was cured of tubercular swellings in the neck. He remained free from scrofulous symptoms for more than a year, when he contracted a gonorrhœa. Within the first month of the existence of this latter complaint, a fresh development of tubercular tumours took place in the neck, several of which suppurated abundantly. This patient was put under a course of iodine, which, with occasional intermissions, was continued for a year and a half, with the effect of causing the cicatrization of the majority of the tubercular ulcers.

The distance of time at which the scrofulous symptoms reappeared in this case, and the exact coincidence of their reappearance, with the attack of gonorrhœa, are sufficient in our opinion to justify the belief that the two events stood in the relations of cause and effect.

The preceding cases are sufficient to show that the syphilitic infection of scrofulous persons is one of the most unfortunate complications to which they can be subjected. The reunion of the two diseases seems to impart additional

power to each ; and they constitute together a mixed disposition of body, which takes firmer and more fatal hold of the system than either disease is able to effect individually. It is a condition which is neither exactly syphilis nor scrofula, but it has a peculiar aspect, which is clearly demonstrative of its double origin.

The indications of treatment are evidently to be derived from the consideration of both ingredients of the morbid habit, and iodine appears to be the medicine most worthy of confidence, whichever of the two diseases may happen to predominate. It cannot be denied that this medicine fails in some instances, but is capable of effecting a complete cure in others ; and even in those cases in which our success is not so flattering, it has undoubtedly the power of correcting the diseased diathesis to so considerable an extent, that no other medicine will bear a comparison with it.

The two pathological conditions of syphilis and scrofula have also other relations, which we shall briefly touch upon. The venereal disease, in its secondary form, sometimes so nearly resembles scrofula, that it is almost impossible to distinguish them. We have many times treated cases in the hospital for scrofula which were no other than syphilis. Even the knowledge of the previous history of the case is not always sufficient to convince us of the nature of the complaint ; we are only able to judge by the results of treatment ; for the complete cure which we have been fortunate enough to obtain in some of these doubtful cases, in the course of a few months, would not have been accomplished in so short a time, had they been of a scrofulous origin.

Scrofula, as we have already said, sometimes so closely imitates certain forms of venereal disease that the two affections are readily confounded. We have seen many such

cases, in which there was no evidence whatever of primary venereal infection ; but we, nevertheless, are inclined to refer them to a venereal origin, and for this reason—that although there may have been no primary symptoms in such cases, their syphilitic aspect may generally be attributed to a venereal taint in the constitution of the parents. [Vide Part I. Chap. II, § 2, art. 1.] That a scrofulous alloy exists as well as the venereal in these cases is revealed by their resistance to treatment ; a much more lengthened and persevering course is required in these than in the converse cases, in which syphilis resembles scrofula.

We shall here terminate the history of the so-called pathological causes of scrofula, and enter upon the consideration of the external and occasional causes. Strictly speaking, however, we have already commenced this category, for the pathological causes of scrofula are also occasional. We have made a division in the arrangement of these causes solely for the purpose of studying them to greater advantage ; for none of them have the power of directly producing scrofula ; they doubtless offer opportunities favorable to the invasion and development of that disease ; but there is, in fact, but one *cause*, which is hereditary transmission. Of this the reader will have ere this been convinced ; but the conviction will be rendered more intimate by the study of the future part of this treatise.

PART III.

ON THE

EXTERNAL CAUSES OF SCROFULA.

NATURAL HISTORY OF AFRICA

PART III.

ON THE EXTERNAL CAUSES OF SCROFULA.

CHAPTER I.

ON ENDEMIC SCROFULA.

IN the First Part of this treatise we have investigated the characters of the hereditary transmission of scrofulous diseases, and have ascertained their source to be derived from the constitutional condition of the parents ; we have in the Second Part endeavoured to show the influence of the tubercular predisposition upon the principal diseases of childhood, and upon some other morbid states not confined to that age : it will be our business, in the Third Part of our work, to determine what is the exact influence of external agents in the production and propagation of scrofula.

With this intention we shall, in the first place, study the influence of locality upon the production of scrofula, and shall hope to dissipate the many errors with which the subject has long been surrounded.

The influence of locality upon the health of the inha-

bitants may, to a certain degree, be compared to that which the health of the parent exercises upon that of the offspring; for we are all not only figuratively, but in reality, the children of the soil upon which we were born.

All organized beings possess some characteristic which they derive from their native soil, and they all degenerate to a greater or less degree when removed from it. Man alone possesses the power of acclimatization; and even in him the power is restricted within certain limits, as we may observe in the mortality which destroys Europeans under a tropical climate, and in the hurtful effects of our climate upon the denizens of the torrid zone.

This injurious influence of change of climate may be witnessed every day in our menageries and hot-houses. In the Museum of Natural History, exotic animals and plants are tended with the utmost care and vigilance that a well-directed and scientific establishment can devise, and every possible precaution is taken to defend them from the fatal effects of a variable and unnatural climate. But in spite of all this care and attention, the deaths occasioned by climate alone among the various species of animals are so numerous that the importations of fresh specimens are not sufficiently rapid to supply the loss.

That the soil has a great influence in the production of peculiarities of organization, and in the establishment of the distinctive characters appertaining to the different varieties of race, may be at once seen by a comparison of the human family as it exists in the great divisions of the globe; or in one part of it, as, for instance, in Europe. A considerable difference may even be observed in the inhabitants of different provinces of the same kingdom.

The physical characteristics of the inhabitants of the north of France are very distinct from those of the south; and there is a difference even between people separated

by a less distance than that, between an inhabitant of the province of Anjou, for instance, and one from Lower Brittany; or between a person from Touraine and one from the old province of Perigord. Each province gives its characteristic temperament and peculiar physiognomy, as it has its peculiar manufactures, costumes, and manners.

Such observations, which may readily be multiplied, afford us some idea of the intimate connexion which exists between our organization and the nature of the locality upon which we were born; and they will also exhibit the great influence which topographical causes exercise over the production and development of many of the diseases to which the human race is obnoxious. The influence of such causes, when limited within certain bounds, gives rise to those diseases which have been called endemic.

No one will be disposed to deny that endemic causes of disease do exist; but we do not think that any one will be found who can specify what those causes are in regard to scrofula, although many authors have attempted to do so. We shall see in the next article that the opinions of such authors really have but little value, and that they have originated in facts which have either been badly observed, or wrongly interpreted.

ART. I. *The cause of endemic scrofula, whatever it may be, does not possess any appreciable qualities.*

What is the endemic principle which gives rise to scrofula? In other words, what is the general nature of those localities in which scrofula exists endemically? We may find the answers to these questions attempted in many authors; but we believe that, in the present state of our

knowledge, they are in reality inexplicable. Shall we say, with those pathologists who, for want of proper observations, speak of diseases after certain preconceived notions of their own, that the endemic cause of scrofula is moisture? Fact upon fact may be accumulated, which will utterly disprove the assertion. Scrofula is endemic in many places which are elevated and dry; and, on the other hand, it is not known in many other localities which abound in moisture.

In Spain, but more particularly in Madrid, the population is, so to speak, eaten up with scrofula; they are notoriously diminutive and feeble: nevertheless, the tableland of Castile is as much as 300 toises* [1800 feet] above the level of the sea, it is very subject to drought, and, from the deficiency of forest land, is fully exposed to the sun's rays.

Scrofula is very common in Sweden, and particularly so in one of the provinces, which is notorious for beauty of its scenery and its exceeding fertility; and where neither humidity nor any other appreciable cause for the disease can be found. We mention this fact upon the authority of Professor Retzius. At the time of this communication, we made the professor acquainted with our views on the subject of scrofulous diseases, and with the doubts we entertained respecting the propriety of considering humidity as the only cause of endemic scrofula. Retzius assured us of his entire concurrence in this opinion; and stated, moreover, that in Sweden they had long ceased to give any special reasons for endemic scrofula.

The town of Nice, which is so situated as to be perfectly sheltered from the north, and with a due south marine position, has, nevertheless, a highly scrofulous population;

* The French toise is six feet.—TRANSL.

so that this town is far from being so favorable a residence for consumptive patients as has been represented.

At Utelle, a village situated within the lordship of Nice, scrofulous and goïtrous subjects are very common, although the locality is elevated and dry, with a southern aspect. Spring water is there of excellent quality, and the inhabitants never drink melted snow; they are, however, miserably poor and ill fed; chesnuts, potatoes, bread made of rye or maïse, and the different kinds of native cheese forming their principal articles of nourishment.*

There is no locality in the entire extent of France in which the ravages of scrofula are more general than at Rheims and its neighbourhood: that country, nevertheless, is dry and deficient in vegetation. Orleans, again, is not a moist country, but scrofula abounds throughout the entire province.

Montpellier is loftily situated, and is fully exposed to the influence of the winds: there is, however, no lack of scrofula among its inhabitants. This we learned from a physician who resided there for his health, but who derived no benefit whatever from its vaunted anti-tubercular climate.

The small village of Cozouls is situated in the centre of the department of Herault, in a lovely valley surrounded by olive gardens; but in spite of these natural advantages, it abounds in scrofulous and goïtrous inhabitants. The disease appears in this locality to depend solely upon hereditary causes, and not upon the qualities of the air or soil; for the climate is fresh, and the soil is dry the greater part of the year; the mean temperature in summer is 30° Cent., and in winter 9°. It is remarkable, too, that the neighbouring plains and hill-sides are exempt from scrofula.

We see, therefore, that there are numerous localities far

* Fodère. Travels among the maritime Alps.

distant from each other, and which are destitute of humidity, all of which have, notwithstanding, this one feature in common,—that of the endemic existence of scrofulous diseases.

We shall observe, in the next place, that there are many localities which are always more or less damp, but in which scrofula is not so frequent, or so widely spread, as it should be if moisture were the cause of its production.

Lepecq de la Cloture has published some observations respecting the damp atmosphere and the acute catarrhal affections of the town of Rouen : scrofula, however, does not enter into his category of diseases incidental to the neighbourhood.

Brittany also is, for the most part, a damp province ; scrofula, nevertheless, is not generally endemic ; if it does possess that character in any part of the province, it is not in that which is most remarkable for humidity, for it is nowhere more rife than among the dirty inhabitants of the champaign.

Scrofula, again, is endemic in localities which have no resemblance but in the mutual character of giving rise to that disease. It is endemic in many parts of Italy and of England,—two countries separated by ten degrees of latitude, and which differ so much in climate and customs, that one can scarcely imagine that the constitution of their inhabitants can be the same.

But it is principally in the region of the Pyrenees that the greatest contrast is found to exist between the different localities in which scrofula is endemic. Let us take for example a village situated on the banks of the Adour ; the cottages are built close to the river, and upon a level with it, and the water flows round them in every direction, imparting to the fields and gardens the most lovely verdure. The inhabitants of this village are scrofulous, goïtrous,

rickety, and of so low an order of intellect, as almost to amount to idiocy. This observation would, at first sight, appear to confirm the opinion of those who look upon humidity as the cause of endemic scrofula, the more so that if we examine the cottages which are built at a greater distance from the water's edge, we shall find them tenanted by a healthy and well-developed race. This difference between the two classes of people is so striking that the one will not intermarry with the other, but looks upon them as altogether an inferior race of beings. As we ascend higher into the mountainous districts, the hardier and finer does the population become; but when we reach a still higher locality, one perfectly dry, and enjoying a fresh and pure air, we make the most unlooked-for discovery;—the mountaineers of the summit are intensely scrofulous: the disease, therefore, is endemic in a locality totally different from that of the river side.

These striking contrasts, which are frequently observed in the Pyrenees, even at very short distances, and which we have witnessed in many other countries, forbid us to consider moisture as having any influence as an exciting cause of scrofula.

We once entertained the idea of projecting a chart of the scrofulous localities of France. This, had it been accomplished, would have set forth in the clearest light the immense difference which exists between localities in which scrofula reigns endemically, as well as the impossibility of seeing upon any other common feature than that of being inhabited by a scrofulous population. But in order to have carried this idea into effect, numerous scientific journeys must have been undertaken for the purpose of studying minutely the characters of the people and places in which scrofula abounds. There is no other mode than this of thoroughly investigating the subject of

endemic disease. We have always regretted that other engagements prevent our devoting as much time as is necessary to these interesting inquiries; for there is no doubt but that the results of the inquiry would be of the most important character.

In pointing out the necessity of such inquiries, we would not represent them as curious only, but interesting in the highest degree, and in the most various senses; for as we have said in the Introduction, they would be inquiries into the habits of a disease which so modifies a *third* of the human race as to give to it almost the appearance of a specific variety.

It is the want of documentary evidence of this kind which prevents our treating of the subject of endemic scrofula by the citation of demonstrative facts of the same conclusive character as is possessed by those upon which we have established our opinion, that scrofula has, in general, an hereditary origin. In speaking of the subject of the hereditary transmission of the disease, we spoke upon the authority of facts, which had been a matter of personal observation, and the daily occurrence of which have enabled us to generalize our ideas, and to invest them with an air of truth which does not admit of opposition. But this, unfortunately, cannot be said with regard to the endemic origin of scrofula. It is easy to see that observers have been content to attribute it to one single cause—humidity, from the examination of only a few inconclusive facts: it is also equally plain that this opinion is altogether erroneous; for moisture cannot be discovered in many places in which scrofula is intense; and, on the other hand, moisture is abundant in other localities the inhabitants of which are healthy, and exempt from scrofulous diseases. But on both these points our observations are too limited for the extent of the subject. We

have, it is true, seen enough to convince us of the error of the common opinion, but not to enable us to construct a new and more correct history of endemic scrofula.

Opinions have in all ages been entertained upon the subject of endemic disease in general, which are in no wise applicable to scrofula. To exemplify this we will take a well-known case of endemic cause of disease, the Pontine marshes. The inhabitants of these marshes are decimated by intermittent fevers, and travellers rush across them with all the speed they can command, fearful that a delay in their pestilential atmosphere should, (as experience proves it generally is,) be followed by an attack of the endemic malady. In this case, the cause and the effects are permanent and immutable. We will also take another instance, differing in so much that the effects instead of being permanent were only transitory.

When workmen were engaged about thirty years ago in digging the canal de l'Ourey, the operation of throwing up the soil occasioned a transient epidemic of intermittent fever, which attacked almost all the population of the neighbourhood, as well as the workmen, who came from distant parts. All the surveyors and other officers likewise suffered, although they took the precaution to return to Paris each night to sleep. The physicians also who were commissioned to inquire into the circumstance did not escape.

In these two examples we see that the endemic disease did not only attack the local residents, but those likewise who had bivouacked on the spot for a time, those who were there only in the daytime, and those even who did no more than pass rapidly through the infected neighbourhood; the cause therefore produced a similar effect in all these cases, for it produced the same kind of disease, the only difference being in its intensity.

The case is very different with regard to scrofula. The

effects of endemic influence are not observed excepting in persons born on the spot ; a man of originally sound constitution does not become scrofulous by inhabiting a locality in which the disease is endemic ; neither do his posterity in the first generation ; it does not become so until after several generations ; it commences with the most weakly children, and progresses with a rapidity which is governed by the local circumstances amid which they live, but which is in proportion chiefly to the alliances which are contracted with the indigenous population.

We have known many persons who have occupied situations of importance in the departments of the north, of the Marne and Aube, in each of which scrofula reigns endemically ; but neither they nor their children have become scrofulous, although their residence in such localities has extended over several years.

Another remark of importance in connexion with the two examples lately adduced is this, that although humidity in those cases produced agues, it did not produce scrofula. Similar facts without number may also be accumulated in Holland. We see moreover, that when the emanations are putrid, that is when they are charged with animal and vegetable matters, they produce fevers of dangerous character—typhus, dysentery, &c., but they never give rise to scrofula.

Lastly, the inability of humidity to produce scrofula, acquires further confirmation from the dissertations which have been lately published upon the antagonism of tubercular diseases and intermittent fevers.

From the preceding observations, we think that we are justified in arriving at the following conclusions : that the opinion which attributes the origin of scrofula to moisture is altogether a fallacy ; that scrofula reigns as an endemic disease in large tracts of country, which are not only not

damp, but are absolutely remarkable for dryness; that there are many damp and marshy places where scrofula is totally unknown; and lastly, that scrofula does not always rage with equal intensity among a people who live under exactly the same circumstances, and therefore that the cause of endemic scrofula, whatever it may be, does not possess any essential quality which is appreciable to the senses.

ART. II. *On the production of endemic scrofula by importation.*

We shall perhaps be more likely to arrive at the due comprehension of the causes of endemic scrofula by going somewhat out of the beaten track; instead therefore of seeking for these causes in the natural features of the locality, let us suppose that scrofula is imported into a place of unusual salubrity, and one which is inhabited by a fine population. In such a case we do not hesitate to say that the disease would take root, and would spread in proportion to the extent of the importation; and that a few years would be sufficient to render it endemic in the place.

It is more than probable that this imaginary case is a correct exemplification of the mode in which scrofula has become endemic in its present situations, and that little or no influence has been exercised in the establishment of the disease by the qualities of the air or water of the locality.

If a man allies himself with a healthy family, and introduces into it the scrofulous predisposition, what is this but a veritable importation of the disease as far as that family is concerned? Why, then, may not scrofula be introduced into a town or village as well as into a single family?

This is probably the mode in which the disease has become so general in the town of Nice. It may be considered to have been imported by the consumptive patients who resort to it as a place of residence; for it would be unreasonable to look for a local exciting cause of the disease in a neighbourhood which, from its mildness of climate and other favorable circumstances, has always been considered as adapted to the cure of pulmonary disease.

When the armies of Spain returned from the New World laden with treasures, they imported at the same time the venereal disease, a disease which, from its contagious and hereditary qualities, is an evil which far more than counterbalances the glories of their conquest. It is only since the importation and general diffusion of syphilis that scrofulous diseases have become so general among the Spaniards, and that they have lost all the energy of their natural character. The syphilitic cachexia, and, as a natural consequence, the scrofulous diathesis also, has made the more progress in Spain, that the former disease is, in that country, generally either neglected altogether or treated by remedies which are much too inactive to obtain a radical cure.

The importation of hereditary diseases is the most fearful calamity by which a nation can be afflicted; it is a calamity far more dreadful than the most deadly pestilence. The latter, however mortal at the time, passes away with the causes which produced it; it may even reanimate the population, so to speak, by carrying off the feeble and the sickly; but hereditary diseases, when once implanted, remain after their first cause has passed away, and multiply themselves with a rapidity which soon renders them general among the population.

So true is this assertion, that we could mention many large towns and cities where it is doubtful whether more

than one in twenty of the indigenous population could be found entirely free from the scrofulous taint. The inhabitants in these towns are all scrofulous; those even who do not appear to be diseased are proved to be so nevertheless, by the fact that they become the parents of scrofulous children.

We remember hearing one day in society of the marriage of a young man of the province, whom we had treated some years before for several different forms of scrofulous disease. The lady who mentioned the circumstance of the approaching marriage of this young man gave utterance at the same time to some very just reflections concerning his probable state of health. Another lady, who was well acquainted with the native village of the engaged parties, replied to these observations by the remark, that "most likely the husband would make the same discoveries respecting the health of his wife as she would respecting his." This lady went on to say that scrofula was so fearfully common in that village, that it was no unusual thing to see children of five and six years old who had suffered amputation of the legs or arms on account of scrofulous disease. These subjects of conversation seemed to make no impression whatever upon the feelings of the audience; many even joked upon the diseases which the future prospects of the affianced parties were certain to entail upon them.

We shall conclude this chapter by recapitulating our remarks upon the impunity with which a healthy man may inhabit a locality in which scrofula is endemic, and upon the origin of the disease by importation. We have said in a former page, that an individual who is born with a healthy constitution will not become scrofulous by living in a place where the disease is general; and that his im-

mediate posterity will be free from the taint, which can only be ingrafted upon his descendants in the course of several generations. So also parents born in a scrofulous district, if they be themselves tainted, will not be able to ensure themselves the blessing of healthy children by emigrating into a more salubrious country; on the contrary, they will introduce the germs of the disease among their new neighbours. The advantages of emigration will never be evident until after several generations, and then only in those instances in which the infants are placed under the care of healthy nurses, and are submitted to a well-devised system of physical education, to which must be added judicious matrimonial alliances. The injurious effects of the importation of diseased families is not observed in large towns or cities such as Paris; but it will readily be conceived that in small towns or villages a few families will, by intermarriage, be sufficient, in the course of time, to scrofulize the whole population.

Although scrofula is assuredly very common in Paris, it can scarcely be said to be endemic. The frequency of the disease is to be accounted for not so much by any quality in the air or soil as by the life of privation or dissipation on the part of its inhabitants. All the numberless miseries of life deteriorate the generative power, and when the stock is once tainted, the leven spreads in mathematical progression. Scrofula shows itself in the children in the third generation of those whose ancestors entered Paris full of health and vigour, and from the third generation the malady rages even to the utter extinction of the family name.

ART. III. *The antiphlogistic treatment of venereal diseases considered as a cause of endemic scrofula.*

Many authors believe as we have before said, that the great frequency of scrofula in Spain is to be accounted for by the neglect or insufficient treatment of the venereal disease in that country.

This observation is one of great importance; and it is one which should convince those surgeons of their error, who deny the specific efficacy of mercurial preparations, and attempt to cure syphilis by an almost negative plan of treatment.

Had there been a shadow of truth in the value of this treatment, it would long ago have superseded all other methods, for it is one of very easy application; and the most obstinate prejudices must eventually have yielded to the authority of well-ascertained facts; far from this, however, it now has but few supporters, and as far as our own opinion is concerned, we do not doubt that the antiphlogistic plan of treatment of venereal disease is a sure mode of establishing the syphilitic cachexia, for we have frequently occasion to undertake the cure of secondary symptoms in persons whose primary attack has been treated upon the antiphlogistic plan.

Such lamentable consequences would not be of frequent occurrence if syphilitic disease were more methodically treated by mercurial preparations; but, like all other valuable medicines, mercury has always had some opponents who would if they were able exalt above it some other mode of treatment. These opponents consist for the most part of men of one idea, who can see nothing but those injurious effects which have followed and always will

follow the routine and abused employment of the remedy. If mercury is to be condemned because it produces serious effects in ignorant or injudicious hands, so may be also bloodletting, or quinine, or the use of purgative medicine, for all of these remedies may do harm instead of good, when used by men who do not make themselves acquainted with their proper and safe modes of administration.

The controversies which have arisen in the present day respecting the antisymphilitic virtues of mercury, are no more than a resuscitation of the discussions of former times, and will doubtless be a second time set at rest by the testimony of facts. It is a painful thing to see the experience of our predecessors thus set at nought upon a question of such importance, for it throws the minds of medical men into a state of uncertainty and embarrassment, and leads them to the adoption of those half measures, which fail to eradicate the venereal poison, and which, therefore, leave the patients to the melancholy chance of becoming the parents of scrofulous children.

ART. IV. *Intermarriage considered as a cause of endemic scrofula.*

At one time the royal roads were the only means of communication between the different parts of France, and these roads were not universal, and were often much out of repair. The roads of a secondary order and the by-roads were also few and incomplete, so that the intercourse between villages and even towns of some note could only take place by narrow paths, which could not for the most part be traversed excepting on foot.

It may readily be conceived that in such a state of things removals from one town to another must have been diffi-

cult, and consequently that they would rarely take place. It is not long since that travelling was almost unknown in France; a man who had once been from Orleans to Paris became remarkable for the remainder of his life; and a villager frequently had no knowledge of places a league or two removed from his own hut. In addition to this, neighbouring villages frequently entertained feelings of the most jealous rivalry, which commonly led to fierce and sanguinary contentions. These causes combined operated in confining the lives and intercourse of each village within its own narrow limits.

From want, therefore, of external relations, the inhabitants intermarried among each other; they even made it a point of honour to seek a wife in their own village; and the youth who went elsewhere for a partner was looked upon almost as a culprit. For a girl to quit her native soil, and to establish herself in any other village, supposed her to have failed in gaining a husband in her own, and that she put up with a stranger for want of a better.

The consequence of such customs was, that the people married among themselves and often among relations, so that at length some villages formed, as it were, but one large family. The effect of such unions being to produce a gradual deterioration of blood, the population, therefore, after a few generations, passed into the scrofulous condition almost as a matter of course, and this condition, when once established, has been directly propagated by inheritance. It is indubitable that such is the origin of many of those cases of the general diffusion of scrofula among a population, the starting point of which cannot be determined in the present day, and for which no cause is to be discovered in the circumstances attached to the locality.

Even in the nineteenth century there are many places

the customs of which, relative to marriage, favour the development of scrofula; and in which men neglect, in their own cases, what they are careful to provide in the breeding of their cattle and the cultivation of their crops, namely, the crossing of the breed.

These ignorant beings, who marry without any thought of the future lot of their offspring, know well enough that the productions of the earth degenerate in the third generation, and they, therefore, are at some pains to get fresh seed, in order, by crossing the varieties, to obtain a succession of good crops; and they are equally cautious in the breeding of their live stock. But when it comes to their own case, and the blood and constitution of their children is in question, it seems in their estimation to be a matter of secondary importance.

So is it also in society at large. We continually see persons, who ought to know better, contract alliances among their immediate relations, for considerations which, in their minds, take precedence of all those which we have made it our duty to point out, and attention to which is absolutely necessary for the purpose of ensuring the happiness of the parties themselves, as well as the health of their offspring. But these alliances are contracted in spite of all that we can say, and although it has been a matter of general observation from time immemorial, that the marriage of relations cannot be productive of healthy and vigorous children.

Buffon has justly remarked that the law which interdicts marriage between relations is a law of nature rather than of policy. This remark inculcates advice which no one follows, though every one reads and admires the works of that great naturalist; it has not perhaps prevented one marriage between relations, when that marriage has been arranged upon selfish considerations, and, as is

generally the case, without reference to the health of either party.

The inhabitants of many villages in France and other countries, the race of mountaineers, and many other classes of society, all furnish numerous and incontestable facts in proof of the opinion, that the race deteriorates from a deficiency in the crossing of blood. Alexander Bodin has remarked in his *Statistics of the Department of the North*, that the inhabitants of Lisle beget scrofulous children when they intermarry among themselves; but that it is not so when they ally themselves to strangers. At Orleans, also, marriages among relations are exceedingly common; and we can find no other reason than this for the general diffusion of scrofulous diseases among the inhabitants of that great city.

The fearful prevalence of scrofula among mountaineers is a matter of general observation; and in these people also there is no other mode of accounting for the disease than in their frequent intermarriages, and the rarity of their mingling their blood with that of the plains. Neither the pure and bracing air, nor the salubrity of the soil, nor their sufficiency of nourishment, avails in preventing the spread of the scrofulous taint among the inhabitants of Auvergne, of Cevennes, of the Alps, and of the Pyrenees.

In Jersey, the noble families seldom marry excepting among themselves, and the consequence is that in that island the native aristocracy are well-nigh extinguished by scrofulous diseases. The same thing happens in Spain, where mesalliances in noble families are still more rare than in any other country; but the Spanish noble is a diminutive rickety being; stammering is a frequent complaint in their families; and their children die in great numbers. We were formerly acquainted with a Spanish nobleman who was deformed; he had been the father of

five children, four of whom had been destroyed by scrofulous diseases; the fifth and only survivor was rickety and was shapen like himself.

The evil effects of too close an intermarriage has not been confined to the nobility of Spain; the higher classes in every country have suffered to a greater or less degree. Indeed by far the greater number of the illustrations of the frequency and mortality of scrofulous diseases which are recorded in this work, have been drawn from among titled families.

The aristocracy is degenerated in the first instance by too exclusive alliances in their own grade, and in the next place because when weakened by too long a course of such alliances, they have at length become scrofulous. Scrofula being once generated becomes hereditary as a matter of course, and increases in intensity in each successive link in the line of posterity.

The Jews, scattered as they are over the whole world, seldom marry excepting among their own people, and it is for this reason that this race, once so fine, has so manifestly sank into a condition of absolute degeneration, and is to the present day decimated by scrofulous diseases. One may almost foresee that they will one day become extinct by the natural progress of scrofula, and in correspondence with the laws of the hereditary transmission of that disease.

It is impossible therefore to insist with too much earnestness upon the necessity of crossing the blood, in order to stay the progress of endemic scrofula; for it is only by successive crossings that we shall be able to eradicate the taint from and to fortify the constitution of populations which have long been its victims.

It arises as a natural conclusion from the foregoing remarks and illustrations, that endemic scrofula originates

in causes totally unconnected with the local characters of the place in which it prevails. These causes number among others the importation of the malady by marriage with a diseased stranger, the injudicious treatment of venereal diseases, and the want of crossing of blood, or in other words too near an intermarriage either among inhabitants of the same town, or still more so among members of the same family; but we repeat that the prevalence of the disease in certain localities has no evident source in the state of soil or atmosphere.

CHAPTER II.

ON THE INFLUENCE OF CLIMATE AND SEASONS UPON
THE PROGRESS OF SCROFULOUS DISEASES.

THE observations which we have to bring forward respecting the influence of climate and seasons upon scrofulous disease, will be arranged under two separate sections, each of which will still further confirm the foregoing remarks upon endemic scrofula.

§ I. *On the influence of climate.*

It would not be logical in this investigation, to compare one climate with another relatively to the frequency of scrofulous diseases, for by the adoption of such a comparison we should prejudge the question ; and we should attribute to the climate what in reality is not the effect of its influence.

Scrofula is a disease of common occurrence under climates of the most diversified nature. Tubercular diseases are frequent in the north, as in England and in Russia, but they are not less prevalent in Spain and Italy.

Tubercular diseases extend themselves in a certain climate in proportion to the prevalence, in that climate, of those causes which we have shown to be able to produce

them. Let us suppose there to be a given latitude where scrofulous disease is unknown ; we can still produce it at pleasure by importation ; but it would be quite wrong in such a case to attribute to the influence of that latitude what has been derived by importation from without. There is abundance of evidence of the most conclusive nature to prove that a man does not become tubercular through the influence of climate ; in other terms, that no climate can convert an originally healthy man, into a scrofulous subject.

There is not, however, the smallest doubt that the latitude in which we live has a considerable influence in modifying the characters of our species ; and we must not therefore affirm that climate has no influence over the progress of scrofulous diseases. But what that influence is we cannot determine with accuracy. We have seen scrofulous patients from every latitude, temperate and tropical, but we could never discover any difference in the features of their disease ; neither could we seize upon any peculiarity which could fairly be attributed to the effects of climate.

The only circumstance which has forcibly arrested our attention is, that the natives of the tropics experience the most fatal consequences from a residence in the temperate zone. The scrofulous diathesis develops itself in them with extreme rapidity ; and the invasion of tubercles, though confined to no organ, takes place in the lungs with such intensity, as quickly to bid defiance to all attempts to cure them. We have had as many as a dozen scrofulous negroes under our care, and some among them were men of independent fortunes, but we have never been able to cure a single individual. The chances are but little more in favour of creoles ; they are rarely cured, although medical treatment occasionally effects a great amelioration to their condition. It is likewise a well-established fact that the greater num-

ber of exotic animals from hot climates, die of tubercular disease of the lungs when confined in our menageries.

§ II. *On the influence of the seasons.*

As a general rule the first invasion of scrofula takes place in the spring, and the same period is marked by the subsequent exacerbation of the disease. So remarkably true indeed is this remark, that we often find ophthalmic patients reckon up the number of their attacks by the number of springs that have passed since their first illness. Those who are afflicted with tubercular glands, also notice that the most rapid growth of the tumours occurs in the early part of the year, and the same thing has been observed in cases of lupus. We have also seen scrofulous cicatrices reopen in the spring for many years in succession; and tubercular abscesses have been known to discharge more abundantly at the same season. Fistulous canals also of all kinds discharge more pus at this than any other part of the year; and in fact scrofulous diseases in general appear to acquire fresh activity at the time when nature is awakening from the long repose of the winter.

We may often derive great assistance in forming our prognosis by a careful observation of this peculiarity in scrofulous diseases. Whenever, in fact, the annual vernal recurrence of this disease begins to diminish in intensity, we may be assured that the case is in progress of cure. Take as an example, the case of a child of twelve years old, who has cervical tubercles and scrofulous ophthalmia; after a treatment which lasts from April to October, the symptoms are found to be considerably alleviated, and the medication is suspended for the winter months. The child grows during this period, and he remains as well as he was

during the exhibition of the medicines, and in some cases, perhaps, will have progressively improved. But in the succeeding spring, the digestive organs become disturbed, and considerable fever is established. Soon the eyes become red, and copious lachrymation ensues, with gradual enlargement of the cervical glands. Here is, therefore, a recrudescence of the disease; but the relapse is less intense than in the former spring, the disease is evidently mitigated in severity, and the original predisposition has been, to a certain extent, modified and corrected by the preceding treatment. A second and a third recurrence to medicine, in favorable cases, still further improves the constitution, and the occurrence of puberty often then restores the patient to as good a state of health as his constitution will admit of.

It is scarcely necessary to state that, although we acknowledge the great influence of the spring season in modifying the progress of scrofulous diseases, we do not for a moment regard that season as a cause of scrofula. We never see, for instance, a healthy child become scrofulous at that period; on the contrary, healthy children then make the greatest progress in their development. It is only when the morbid predisposition is present, and the body is not in a state to derive beneficial effects from the return of light and warmth, that the influence of these agents, instead of being profitable, tends to propel the germ of hereditary disease, and to favour its progress when once established.

CHAPTER III.

ON THE EXTERNAL OCCASIONAL CAUSES OF SCROFULOUS DISEASES.

THE doctrine which attributes the production of scrofula to certain occasional external causes has already been combated by the opinions which we have brought forward on the subjects of the hereditary transmission and the endemic origin of scrofula.

It cannot be expected in a work like the present that we can occupy our pages with the lengthy enumeration of those occasional causes of scrofula which authors have copied one from another, without ever taking the trouble to convince themselves of their existence by personal experience. Most of these causes are imaginary; but the errors to which their admission has given rise are so deeply bound up with the more valuable acquisitions of science, that it is a most difficult task in the present day to cause them to be separated. It is, however, of great importance that the value of these causes should be justly appreciated, and that this fact should be fully recognized, namely, that if they were all reunited, their combined operation would not be sufficient to make a healthy man scrofulous.

In order to convince our readers of the truth of this statement, we shall analyse some of the principal external agents admitted by authors to be capable of causing scrofula.

ART. I. *The invasion of scrofula is generally spontaneous.*

Scrofulous diseases manifest themselves in the earliest periods of infancy, and undergo various changes in form and situation until the age of puberty; at which epoch either the speedy death of the patient is rendered probable, or he acquires a much improved state of constitution. This is the ordinary course of scrofula, whatever be the class of society in which it shows itself; and we would here call the attention of our readers to a fact which arises naturally from this observation, namely, that in the greater number of cases among the class of artisans, scrofula appears in the children before they are apprenticed; before, in fact, they are exposed to those causes of ill health which are considered to have the power of rendering them scrofulous. On the other hand, the children of the upper classes are in no case exposed to the occasional causes of scrofula mentioned by authors; but among those classes, nevertheless, there are more scrofulous children than in the families of artisans.

When scrofula is once established in the constitution, the disease develops itself without the aid of any external cause, and sometimes even when the hygienic circumstances among which the patient lives are of a kind the most conducive to robust health.

Scrofula is doubtless one of the most common diseases to which the human race is amenable, and much more common than is generally imagined, for the world in general looks upon those only as scrofulous who manifest one or other of its more ordinary signs. But is it not evident that the human race would be almost universally scrofulous if moisture, inefficient nourishment, ill-venti-

lated houses, &c. could make a healthy man scrofulous. In every age, and in every place, workmen and artisans of all sorts have been submitted to these hurtful influences without any compensation in an abundance of food, and still less in the observance of any other hygienic rules; and our species must be endowed with great powers of resistance, not to degenerate more quickly than it has yet done, the major part by fatigue and privation, the minority not the less certainly by the gratification of immoderate desires.

ART. II. *Vaccination considered in its relation to scrofula.*

Parents not unfrequently accuse vaccination of being the cause of the scrofulous diseases under which their children labour; nevertheless, we have not, in any case, been able to establish any necessary connexion between the two forms of disease. Scrofula has not been observed to be of more frequent occurrence since than before the discovery of vaccination; a fact which we consider to be in itself an unanswerable objection to those who would trace the outbreak of scrofula to its influence.

A great number of persons, however, still hold the opinion; and we have known several who have declared that nothing should induce them to allow any future children to be vaccinated. This precaution, however, would be of little avail in most of the cases alluded to, for the hereditary taint is but too much evident in their families. It is to be hoped that these blind and foolish objections to the blessings of vaccination will ere long be done away with.

ART. III. *On the connexion of scrofula with menstruation.*

It has been imagined by some, that infants which are begotten while the woman is menstruating will be born scrofulous. We have rigorously analysed the cases which have been supposed to support this opinion, without being able, in any degree to acquiesce in its truth; on the contrary, we have been always able to discover some more probable explanation of the occurrence of the disease, in the presence of one or other of the causes mentioned in the First Part of this work. We affirm that we have never known a case of scrofula which can fairly be attributed to intercourse during the presence of the menstrual flux; but we have occasionally known parents to allege this as a cause, because it hurts their *amour propre* less than to own either that they themselves are scrofulous, or that the disease is in their family.

ART. IV. *On the contagious principle which has been attributed to scrofulous diseases.*

It has been said, but without sufficient reason, that scrofula is a contagious disease. This quality has been even accorded to it by a parliamentary decree, which went so far as to prescribe certain measures for preventing the spread of the disease.

As far as our own opinion is concerned, we can affirm without hesitation, that, after five and twenty years' acquaintance with scrofula in all its forms and degrees, we have never observed a single case of contagion. At the Hospital of St. Louis there are no particular wards allotted

to scrofulous patients; but they are mixed indiscriminately with the other patients, who are for the most part affected with various skin diseases. They have likewise but one common ground for exercise, but no case of contagion has ever been witnessed.

In our private practice, we have never known a husband communicate scrofula to the wife, nor the wife to the husband. The intimate relations of conjugal life do not inoculate the malady, even when one or other of the partners is deeply diseased.

This evidence, derived both from public and from private experience, is in our opinion sufficient to determine the question in the negative. The opinion of the contagious nature of scrofula is, nevertheless, general; and it is no uncommon occurrence for us to be asked whether such and such a scrofulous child may be allowed to play with his brothers and sisters. These fears are founded upon a mistaken view of the family temperament, and of the frequent occurrence of the disease in the family. If one child after another in a large family, as is often the case, be attacked by scrofulous disease, the parents will believe in contagion rather than there can be any hereditary cause for the malady; and the fact that one child is attacked after another is quite sufficient grounds for them to imagine that the second child contracted the disease from the first.

If, however, scrofula were contagious, it would not confine itself to the members of the family, but would attack also those friends and neighbours who came into contact with the diseased children. A scrofulous schoolboy would, as in the case of hooping-cough, measles, smallpox, &c. communicate the disease to his playmates. But nothing of the sort has ever been known. The contagion of scrofula, in short, is a prejudice which has long been discarded by science, and will soon be rejected by the world.

ART. v. *On the inoculation of scrofulous pus.*

Many medical men have inoculated dogs, and even the human subject, with the pus from scrofulous sores, in order to test the contagious nature of the disease. These experiments have, as is generally known, proved satisfactorily that the disease is not transmissible by inoculation. We have not thought it incumbent upon us to repeat the trial; for, to own the truth, it is repugnant to our ideas to expose those who trust themselves or who are trusted to our care, to any circumstances which are capable of compromising their health. We do not recognize our own right, or that of any one else, supposing it were possible, to inoculate a healthy person with so serious a disease as scrofula.

The inoculation of morbid poisons, with the exception of that of vaccine, has never yet had any good result; while deplorable consequences have, on the contrary, unfortunately been but too frequent. Virulent diseases, when contracted in the usual way, are often mild, compared with the same disease acquired by inoculation; in the latter case, they often assume a violent and dangerous character. Of this we have many examples.

It is well known that the elder Cullerier and a pupil of the Venereal Hospital not only had their health deeply injured, but each lost an eye in consequence of the accidental application of pus from a venereal bubo. Many will also remember the deplorable death, twenty years ago, of those students whose experiments upon themselves produced such painful and unexpected results — results so fearful that more than one of them committed suicide.

Quite recently, too, our young and unfortunate colleague,

Dr. Hourman, physician to the Hospital of l'Ourcine, died, after prolonged and most cruel suffering, from the inoculation of the syphilitic poison, by an accidental abrasion of the skin of the hand. These facts are more eloquent than the most seductive reasoning; and it will, we think, be sufficient to call them to mind, to prevent every reasonable man from performing experiments which are without utility, and may be full of danger to those who submit to them.

ART. VI. *Moisture and other agents, considered in their relation of occasional causes of scrofula.*

There is no external agent which has been so much insisted upon by authors as an occasional cause of scrofula, as moisture, the solvent action of which destroys unceasingly all inorganic bodies, and which is not less injurious to organized beings. To the human species it is particularly so, for it is a most powerful cause of disease, generating catarrhal, rheumatic, and putrid fevers, dysentery, &c. Wherever moisture exists, either alone or associated with heat, or animal and vegetable exhalations, it imparts malignancy to all the diseases which arise within its influence. People who live surrounded by it are feeble, and in some cases degraded even to cretinism. But, on the other hand, it is present in many places in which scrofula is uncommon and even unknown; and scrofula, therefore, is not one of the diseases directly induced by it. In England, sheep fed upon moist pastures are all liable, about four years old, to be attacked with a dropsical cachexia; but tubercles are not found in these animals—the only appearance after death being watery effusion into the different tissues of the body.

But although damp does not absolutely originate scrofula, it is, nevertheless, worthy of particular study, as it produces the most injurious effects upon scrofulous subjects. We shall not, however, study it separately, but in connexion with the other occasional causes with which it is habitually associated, and shall examine their combined operation, 1st, in certain individual cases, and, 2d, in several general facts. By this means we shall be best able to appreciate the precise kind and degree of influence which moisture exercises in the production of scrofulous diseases.

§ 1. *Particular facts.*

We may very frequently meet with cases of scrofula in practice which, at first sight, appear to have been produced by damp; but the fallacy of the opinion in such cases is quickly displayed by further inquiry. The following is a case in point.

In the month of September 1827, a clog-maker was admitted into the Hospital of St. Louis, who had large tubercular tumours on each side of the neck. He was a young man, of 26 years of age, but as he appeared to know very little about his family, we could not establish the presence of any hereditary cause for his malady. He had lately left the prison of Poissy, where he had passed two years, having previously been three months in one of the prisons of Paris. In the prison of Poissy he had worked in the cotton line, in workshops which were on the ground floor, and very damp.

Any one might suppose, on the first view of the case, that this young man, who had not been scrofulous in his childhood, and in whom no hereditary cause could be traced, had

indubitably acquired his scrofulous disease under the unfavorable circumstances by which he was surrounded at Poissy. A further inquiry, however, contradicted such a surmise. We demanded of the patient how many persons generally worked in the cotton-rooms; he told us, about one hundred and fifty or sixty. We then desired to know if there were many scrofulous persons among this number; giving the patient to understand that by scrofulous we meant not only cases similar to his own, but such as he saw around him in the wards of the hospital. He replied that there was no other than himself.

Our next question was, whether he had witnessed similar cases in the shops on the first and second floors, occupied by cabinetmakers, jewellers, &c., and which, from being higher and more airy, were consequently dry. He said that he had often seen five or six scrofulous men among as many hundred of these prisoners. It resulted from these inquiries, therefore, that, in the damp rooms in which the cotton manufactory was carried on, there was but one scrofulous individual in one hundred and fifty or sixty, while the other and more healthy shops contained one in a hundred.

Since this observation was taken, we have been in communication with a manufacturer who employs a great number of the prisoners at Poissy; he entirely confirms the truth of the information given by our patient.

The following case is likewise an example of the apparent production of scrofula by the influence of damp; but in this case it is very evident that the external agent operated only in developing the innate predisposition.

In 1832, a fireman was admitted into the hospital for tubercular tumours on each side of the neck; he informed us that he had seen similar disease in several members of his brigade who regarded it as caused by the moisture to which they are continually exposed. In fact

these soldiers are generally on guard at the theatres, every second day from five in the afternoon until one in the morning, and are much exposed to wet and cold in a place almost deprived of the light of day. When this man left the hospital, we were almost induced to think with him that the agents to which he had been exposed had some influence in generating his disease.

A few months, however, after his departure, he brought his sister to us for advice, and he then furnished much fresh information respecting the health of his family.

This man's sister was a woman of thirty-two years of age, very stout and prematurely aged. It was very plain that she had been the subject of ophthalmia in her childhood for the eyelids were still red and deprived of lashes, and their borders were covered with a morbid secretion from the meibomian follicles. She had also a daughter who suffered from cutaneous scrofula affecting the face. This soldier therefore who was at first regarded as the only scrofulous member in his family, had a scrofulous sister who was herself the mother of scrofulous children. We were right therefore, as it turned out, in considering that the damp to which the patient had been exposed, was only the cause of the development of tubercles in a person predisposed to them, and not of the generation of the predisposition.

On the 18th of January 1829, a man named Tessier entered the hospital, affected during the last eighteen months for the first time with ulcerated tubercles on each side of the neck, and with ophthalmia and coryza. The man was apparently of good constitution, but came from a damp district, and had long lived on a ground-floor room. He had also been in the army, and had frequently slept on the ground in his wet clothes. His father had died at the age of fifty-five, and his mother died suddenly.

In this case we may remark the following circum-

stances: first the late appearance (for the first time) of scrofulous symptoms; secondly, the operation of several occasional causes, but especially of damp; and thirdly, the absence of all evidence of hereditary predisposition: all which circumstances tended to the opinion that the disease in this patient had been produced *de novo*.

But there were other facts which proved the anterior existence of the scrofulous predisposition. In the first place, he had lost two brothers, one of whom died of consumption at eighteen years of age; secondly, he had lost a sister in childhood, and another sister was married, but had not been able to rear any of her children. With such facts as these in his previous history can we believe that this man became scrofulous solely by the influence of external causes? We are the further inclined to believe that this man did not manifest the signs of scrofula until so late a period in his life, only because the predisposition happened to be less marked in him than in his brothers and sisters, and that the occasional causes operated in developing this predisposition; it is not improbable, moreover, that had he always lived under salutary conditions, his constitutional tendency might have been all but extinguished; but it was impossible for him to resist the operation of hereditary predisposition and external causes combined.

We shall find in studying scrofulous diseases among the patients of a public charity, that the greater number of these belong to the lower grades of society, and are all consequently more or less exposed to causes of ill health. The apprentices to all trades are more or less deprived of light and air, and frequently exposed to damp; their food also is insufficient or of bad quality, and their hours of labour are too prolonged. This mode of life must undoubtedly be in every respect prejudicial, but in order to appreciate its just influence in the production of scrofulous diseases, it is

necessary to take into consideration the previous history of the individual, so as to make due allowance for the influence of his original constitution.

A shoemaker for instance, or a tailor, or a weaver, becomes scrofulous during his apprenticeship, and is attacked with cervical tubercles, or white swelling. In the investigation of the causes of these diseases we are apt to be arrested by those which seem to have immediately preceded the development of the disease, and we proceed no further; but if we inquire more deeply into the antecedent history of the patient, we shall find perhaps that he has had rebellious inflammation of the eyes in childhood, or an abscess which it has been difficult to heal; or it will be found that he has been subject to chilblains, or intestinal worms, and that at length the neck has been invaded by tubercles which multiplied and increased in size each succeeding spring, in spite of any amelioration of regimen. These tubercular tumours therefore are intimately connected with the disease of earlier years; in fact they are but one link in the chain of scrofulous diseases, which develop themselves independently of the conditions under which the subject may happen to be placed.

We have seen many young men in whom scrofulous disease first declared itself during the period of their apprenticeship; and we have always made it a point, in such instances, to question them as to the number of workmen engaged in the same room, and as to how many of that number became scrofulous. We generally find upon making these inquiries that the patient has been the only scrofulous person among four or five, or a dozen, as it may be, exposed to precisely the same influences.

Scrofulous children are constantly brought to the hospital of St. Louis, who inhabit damp rooms deprived of light and air; such, for instance, as those of the porter's

lodges of Paris. But upon making minute inquiries, we frequently find that the disease has broken out some time before the child had become an inmate of this unwholesome tenement; before, in many cases, the parents have been so reduced in life as to be compelled to undertake the office of porter to the hotels.

We have frequently endeavoured to ascertain whether, in any case, all the persons exposed to the same influences have become scrofulous; but we could never hear of a single instance of the kind.

These reflections embrace the majority of the occasional causes of scrofula which have been described by authors; for these, in general, are all accumulated in the workshops of the artisan. The workman who labours in a damp room is not exposed to the influence of moisture alone; many other causes of disease are superadded, but especially those of fatigue, insufficient food, and often intemperance. We have seen, notwithstanding, that scrofula is not common among persons exposed to these causes, but that it is in consequence of a special predisposition on the part of the individual that the ill health produced by these agents takes the form of scrofulous disease.

If we pass from public to private practice, the scene is completely changed. In the latter case, occasional causes are generally absent altogether; and, on the contrary, the patients enjoy, in a greater or less degree, all those conveniences of life which render the suspicion of the operation of debilitating agents unwarrantable. It frequently happens to us, from the nature of our occupations, to visit alternately our hospital patients and those of our private practice. We have always, when so employed, been struck with the similitude of scrofulous diseases in every grade of society; and we ask ourselves, whether it is probable that infirmities which are always the same, and the

characters of which are so accurately defined, can arise from causes so different as those of external agency on the one hand, and those of an hereditary nature on the other.

It is, at all events, most certain that a full half of the cases of scrofula arise spontaneously, without the possibility of the co-operation of external causes. The other half, it is true, appear to countenance the idea of the potency of certain occasional causes; but these causes, in reality, have no power unless there previously exist that organic temperament which is recognized as the scrofulous habit. The truth of this is exemplified in the following cases.

Chambry, æt. 18, always enjoyed good health up to the age of thirteen, having been well lodged and fed in the house of his father, who was an innkeeper. At the age of thirteen, he became a weaver, and worked in a cellar; three years from this time scrofula appeared successively in the elbow, wrist, and bones of the hand. The occurrence of this disease induced him to leave his trade, which he did in order to put a stop to the caries which had already commenced; and it was reasonable to expect that a suspension of the malady would have taken place, had the scrofulous affection of the bones originated in the effects of damp alone; but such was not the case; it arose from a far more powerful cause, that of hereditary transmission. Chambry, in fact, had already lost a brother and sister of scrofulous disease, who had not been in the least degree exposed to the injurious effects of humidity. He had also several first-cousins who, like himself, were scrofulous, although they had not experienced any of the external causes supposed to have the power of generating the disease.

Antoine Frisch, æt. 15, was admitted into the Hospital

of St. Louis in June 1829. He had a delicate white skin, with red hair, and his lips and extremity of the nose were slightly hypertrophied. He had a tubercular tumour the size of a pullet's egg, which was moveable and in an indolent condition. It was surrounded by smaller tubercles, which, by their junction with it some time or other, would add to its dimensions. This child was apprenticed in a button manufactory, and slept in a small confined recess, in a damp room on the ground-floor. In this crib slept in all six apprentices, and it was so low that they could only dress themselves by kneeling upon their mattress, which lay upon the ground. As may be supposed, the patient complained greatly of the close and tainted atmosphere in which he was accustomed to sleep, and attributed his malady to the continued operation of this cause for eighteen months. We shall see, however, by inquiring into the previous history of the patient, that the injurious circumstances under which he lived could not have generated his scrofulous disease; for it had commenced at a much earlier date, and its progress had not even been sensibly precipitated during his apprenticeship.

The injurious agents to which he had submitted had clearly interfered with his corporeal development; but as far as the tubercular disease under which this child suffered is concerned, that commenced at a period far antecedent to his apprenticeship. In point of fact, the tumour had first shown itself at the age of twelve years, and had been looked upon by his friends as a sign of his growing. It had, moreover, been preceded by other signs of scrofula; for he was the subject at eight years old of an intense attack of ophthalmia, which lasted for two months; and since this attack his eyes had been continually weak, and were frequently inflamed in the summer time. From the time, however, of the appearance of the glandular enlarge-

ment, the condition of the eyes became permanently improved. The history, therefore, of this patient demonstrates the outbreak of scrofula six years before he slept in the damp place above alluded to, and before he had been exposed to any unwholesome influences.

We may obtain still further evidence to account for the scrofulous condition of this patient, by inquiring into the health of his parents. His mother was a woman of weakly constitution, and had always been an invalid; she had spit blood several times, and eventually died of consumption, at the age of twenty-four.

The child, therefore, was manifestly scrofulous before he had been exposed to damp, bad air, &c., and consequently we cannot attribute his disease to those influences.

Simeon Ansenius, a wool-carder, æt. 22, was admitted into St. Louis in 1835. He had tubercular glands on each side of the neck, but they were not as yet agglomerated. His mother was six years older than his father. In his childhood he was troubled with worms and chilblains, and the glandular swellings commenced at the age of eight years. These tumours remained stationary up to the age of seventeen, although the patient had worked for eight years in succession in a damp woollen manufactory. Their development occurred subsequently to this, while he was employed in a more healthy workshop.

In this instance, therefore, scrofula remained stationary, in spite of the action of damp. In the next case we shall observe that the disease actually disappeared spontaneously, under the same circumstances, and reappeared a few years afterwards, when the patient was engaged in a more healthy occupation.

Bergthold, who was tubercular from the age of nine years, had ulcerated cervical glands at the age of twelve.

These ulcers cicatrized spontaneously, while he was employed at Rouen, in a very damp workshop. At the age of twenty-two this patient worked in an apartment at Paris which was perfectly dry; he nevertheless had a relapse of the tubercular disease. He died shortly after, of pulmonary consumption.

The foregoing observations render it evident that the anti-hygienic conditions which are accumulated in the workshops of the majority of trades, produce a permanently injurious effect upon the artisans. This we willingly admit: that which we deny is, that they have the power of rendering any individual scrofulous who does not possess the scrofulous predisposition or habit beforehand. This being our opinion, it is easy to foresee that we shall entertain similar ideas respecting certain other accidental causes to which scrofulous diseases are so often attributed.

A man named Olivier, *æt.* 26, entered the Hospital of St. Louis with the following scrofulous symptoms: white swelling of the right shoulder, with three fistulous openings; scrofulous abscess in the lumbar region; and intense palpebral ophthalmia of both eyes. The lashes were entirely absent from the lower lids, and the pupils were habitually dilated. He was in a hectic condition, with loss of appetite, emaciation, and sleeplessness.

This train of symptoms had commenced four years previously, after a long walk in the rain, to which circumstance he attributed their origin. But could this possibly be the cause of disease of so severe a character? What would become of mankind, if a youth of healthy constitution cannot walk twelve miles in the rain without becoming tuberculous?

The reason that this circumstance became the exciting cause of scrofula in the present instance, and introduced a train of symptoms which eventually proved fatal, was that

this young man inherited the scrofulous habit from his mother, who died of pulmonary consumption, at the age of thirty-seven.

Olivier was cured by the iodine treatment, after a lapse of twenty months, and shortly afterwards was appointed superintendent of the baths. He continued this office for seven years, when the respiratory organs were invaded by tubercular deposit, and he died at the age of thirty-three, in the last stage of marasmus.

Many patients affected with white swelling attribute their disease to a blow or a fall; and, unfortunately, the treatment of such cases is too often founded upon the presumed cause.

A young man, *æt.* 16, was admitted into the Hospital of St. Louis for white swelling of the elbow-joint, with caries of the bones, and several fistulous openings. The patient referred his disease to a fall on the shoulder, eighteen months previously: but it so happened, that his brother was also the subject of white swelling, which had come on without the intervention of any external cause.

Local injuries are for the most part innocuous, as far as the production of scrofulous disease is concerned. In a school not one in a hundred boys becomes the subject of white swelling, although they continually meet with blows and falls in the prosecution of their games. If local causes gave rise to scrofula, how is it that the disease so rarely follows under circumstances in which these local causes are in constant application? There can be but one explanation of this fact, which is, that they have no necessary effect, but give rise to scrofulous disease only when the predisposition exists. We could relate numerous instances in support of this statement, but one will be sufficient for our purpose.

Three schoolboys were under our care, belonging to as

many different institutions, and each labouring under white swelling—one of the shoulder, another of the elbow, and the third of the knee-joint. The latter case proved rapidly fatal; and each possessed the scrofulous temperament in the highest degree.

In all these cases, the disease was attributed to blows received by the patients in playing with their schoolfellows; but it is far better accounted for by the past history of the individuals themselves, and by the constitutional peculiarities of their parents.

When engaged upon the subject of family temperament in the First Part of this treatise, we mentioned the case of a young man of twenty-three years of age, who was affected with fistulous caries of the right index-finger. This young man attributed his disease to a wrench of the finger fifteen months before. It may be remembered, moreover, that although his constitution appeared sound, we nevertheless discovered the cicatrices of scrofulous ulcers, and that we were able to recognize the hereditary taint in his family, although he stoutly denied the possibility of its existence.

We shall conclude by an example, in which we shall analyse the respective value of the occasional and the hereditary causes of scrofula.

Louis Tourbier, *æt.* 20, a commissionaire, entered the hospital in May 1831. Since the age of fourteen, he had been the subject of numerous abscesses in the iliac region, and on the posterior aspect of the thigh, and in the left axilla. When we first saw the patient, the suppuration from these different abscesses was immense, they communicated with each other, in different directions, and their extent may be judged of by the fact that they admitted at one injection as much as three hundred grammes of the iodine solution. The patient considered that all these abscesses arose from falls or from strains in carrying heavy

burdens; and it would be difficult to find a case in which at first sight the action of such causes appeared more manifest. It is, however, more than probable that such severe consequences would not have occurred, but from the presence of hereditary predisposition. That this predisposition really existed is clearly proved by the consideration of the following circumstances.

Tourbier was born of a father who had committed suicide, in a fit of insanity, at the age of thirty-seven. His mother although of apparently sound constitution, died three months after her ninth confinement, in a state of extreme emaciation; it is fair to presume therefore that she died of consumption which, as is well known, frequently supervenes upon parturition. Lastly, of her nine children, the patient was the only one living. Setting aside even the health of the parents, how can it be admitted that an individual who has lost eight brothers and sisters in childhood can himself be born with the elements of a sound organization? It is quite evident that the occurrence of so marked an exception among the members of a large family, would be contrary to the laws of nature.

§ 11. *General facts.*

The individual facts which we have lately reported took place under the influence of certain occasional causes of disease, of which causes they were hastily considered to be the effect; but a more profound analysis has contradicted this opinion, and discovered in all of them that the true cause was one of hereditary origin.

Although the above facts may appear sufficient to elucidate the subject now under debate, we shall, nevertheless,

still further investigate the so-called occasional causes of scrofula, as they are seen to occur in certain examples of more general application, and all of which are frequently brought before us. These examples will include the regimen of prisons, that of camps, and that of ships at sea, each of which will afford an excellent opportunity of studying the subject in question, as each comprises in a greater or less degree the majority of those injurious agents which are mentioned by authors as being occasional causes of scrofulous diseases.

1. *Regimen of prisons.* These abodes are generally damp, and give rise to most, if not to all, the so-called occasional causes of scrofula. Misery, in all its varieties, privation of light, air, and exercise; sometimes excessive heat, at other times excessive cold; gross and insufficient food, filthy clothing, and demoralization of every kind: such are the concomitants of a prison.

The reunion of these circumstances is the cause of numerous diseases. Scabies, prurigo, scurvy, dysentery, putrid fevers, as well as other diseases, are of frequent occurrence among prisoners; but scrofula cannot be considered as one of these; for not only is it not endemic in prisons, but, as we have already had occasion to remark, it is only rarely observed in the damp and close workshop of the artisan.

The frequency of the above-mentioned diseases among prisoners is doubtless the ordinary effect of the causes to which they are exposed; for a better regulation of these institutions has done much towards rendering those diseases not only more rare, but of greatly mitigating their severity.

2. *Regimen of camps.* Soldiers are subjected to numerous debilitating agents, especially when in campaign.

During the revolutionary wars, the causes of mortality were so numerous and active, death mowed down so rapidly in the hospitals those who had escaped it on the field, and the population was so frequently renewed, that the most powerful and direct causes of ill health had not time to produce the scrofulous principle.

In the besieging armies, however, which were for a length of time exposed to damp, and privation of all kinds; to the influence of insufficient and unwholesome diet; to thirst, fatigue, and despair; here surely scrofula would have frequently appeared, had such agents the power of producing it. But such is far from being the case; neither the besieging armies nor the besieged, whose fate is still more unfortunate, presented an unusual number of scrofulous persons. If the siege of Antwerp had lasted two years, the army would have been decimated by dysentery and scurvy, but not by scrofula.

3d. *Regimen of vessels.* Sailors are a race of men subject to special hardships; their vessel once wetted is never thoroughly dried again, even in long voyages. But, although they are attacked by special diseases, and even by those which arise from causes identical with the supposed causes of scrofula, scrofula itself is very rare among them.

We have, therefore, three modes of life,—that in prison, that of the army in the field, and that of ships at sea,—which, till within recent times at least, have combined all the causes described by authors as capable of originating scrofula, and yet that disease has never been described as frequent in either case. Fevers, dysenteries, cholera, and scurvy have all been noticed, and some have been made the subject of special treatises, but nowhere are scrofulous diseases mentioned as appertaining either to military or naval service.

The natural and legitimate deduction from these observations is, that the occasional causes described by authors have no necessary effect; and that when scrofula manifests itself under their influence, it is in virtue of the existence of an hereditary taint in the individual. It is equally clear, however, that when these influences are permanent, they are always injurious to our species, and that those populations which are continually exposed to them are incapacitated from procreating robust offspring.

The study of the external causes of disease applied to those persons who are under the special charge of government has already had a most happy effect in regard to their sanitary condition; the rights of humanity are now more respected than they have ever previously been, and, as a consequence of this most beneficial change, epidemics of all kinds have become less frequent.

The life of the seaman is far less full of hardship; his nourishment is of better quality, and his clothing more carefully attended to; and the result has been that we have been able to perform the longest voyages without the fear of those deadly outbreaks of scurvy, dysentery, cholera, &c., which decimated, and sometimes extinguished, the crews of former expeditions.

The same benefits have accrued to the soldier: his encampment and food, as well as all the circumstances appertaining to his condition, have undergone the happiest alterations, and the barracks are no longer the hotbed of epidemic diseases.

In the present age, improvement is the order of the day, and the advantages already derived from such a spirit are incalculable. Paris, in particular, has been rendered more healthy in every respect. The sewers have been cleansed, and fountains of wholesome water have been

multiplied; narrow streets are pulled down, and wide ones built in their stead; and every year adds to that noble line of quays which embanks the river, and, by quickening the current, more frequently renews the atmosphere of this vast city.

The food of the people, although still below what may be desirable, has nevertheless been greatly improved during the last twenty years; there is more comfort and domestic morality, and many diseases have almost entirely disappeared. Scurvy, in particular, has become so rare that it is seldom seen, even in the extensive wards of the Hospital of St. Louis, where at one time it was met with in abundance.

Scrofula would likewise be less common among the labouring classes if their aliment was more abundant and substantial; if they were not obliged to work beyond their strength for the lowest wages; and if those trades could be deprived of their injurious characters, which now reduce the artisan to a state of constitutional debility, by which his reproductive powers are so deteriorated, that his posterity must necessarily be scrofulous.

Considered in this light, the study of occasional causes affords a new interest in reference to the treatment of scrofula; for there is no method which can be completely efficacious in this disease, while the patient continues to be surrounded by the causes which produced its development.

We are even assured, from ample experience of the fact, that hygienic rules alone will in some cases arrest the progress of scrofulous diseases, and that in all of them tender and efficient nursing forms an important item in the treatment.

We cannot, however, forbear to repeat in this place, that scrofula is often rapidly fatal, even in families who

are shielded by their condition from all the occasional causes of the disease, and in which the children receive every care and attention which it is possible they can require. There are few physicians but must be acquainted with wealthy families which can never rear their children; families which, though often numerous, are extinguished, by convulsions, water on the brain, intestinal worms, mesenteric disease, &c.—all of which are so many scrofulous diseases, which carry off even those children whose circumstances are of the most favorable kind. We do not sufficiently reflect upon cases of this nature: these are the cases which exhibit the fatal effects of hereditary taint in its fullest extent, and which on that account resist the most enlightened system of medical and hygienic treatment.

CONCLUSION.

THE diagnosis of scrofulous diseases is in general sufficiently simple; the special character of an inflammation of the eyes, of an abscess, or of a white swelling, is demonstrated by the presence of the cicatrices of preexisting tubercular ulcerations, or by the coincidence of the diseased glands. A scrofulous disease is also generally attested by the presence of parasitic animals, as intestinal worms, in the patient, or in the other children of the family; and lastly, by a particular physiognomy, which an experienced eye can seldom mistake.

But it is no longer a matter of facility, if we would arrive at the determination of the causes of these diseases. On this subject we often obtain the most erroneous notions; for the patients or their friends constantly substitute the false for the real, the fancied occasional causes for the only true one, *hereditary transmission*. These erroneous notions concerning the etiology of scrofulous diseases are unfortunately but too readily admitted, even by medical men; and they have the evil effect of modifying the treatment of the case, in a manner disadvantageous to the patient; for a wide difference ought to be made between the treatment of an accidental malady—one arising solely from a local cause,—and one of which is closely allied to the hereditary temperament of the subject.

There are also difficulties in the study of the causes of scrofula which belong to the subject itself. The history

of a scrofulous individual does not comprise the history of his own health alone, but it should include that of the parents, and that of the brothers and sisters; and many valuable hints may also be derived from the consideration of the health of the collateral branches of the family, all of which have a mutual resemblance of temperament.

In order to arrange with precision the numerous details which arise out of the history of a scrofulous person, it is necessary to scrutinize the patients with the closest attention; but it is especially of importance not to put leading questions; for by so doing, the patient is induced to make statements rather in accordance with the ideas of his interrogator than with his own convictions.

The difficulties do not diminish as the number of patients increases, for the interrogation of each has its own difficulty; each new patient must undergo a sort of education, in order to make him comprehend what is required of him; for if left to themselves, both the patient and his friends will tell you what they think rather than what they have experienced.

But the greatest difficulty of all is to make a scrofulous patient speak of the hereditary origin of his disease; his own *amour propre* and that of his parents will often throw a veil over this part of the inquiry which no management can lift up. In many cases we have failed to elicit the fact of the existence of hereditary taint until long after the first examination. Indeed, if one were to believe many patients, these ailments would have no cause at all, least of all an hereditary one.

The belief in the absence of a family taint is so incontrovertible, in some persons, that it resists even the evidence of the senses. A young married lady, some years ago, brought her daughter to us with hip-joint disease and

elongation of the limb. This lady, a diminutive creature, repelled with indignation the idea of the disease having been inherited; she, nevertheless, could not assign it to any external cause. Her sister who accompanied her was also short in stature, of feeble constitution, and had black and carious teeth; she had, moreover, failed to rear any of her children. We remarked to the mother of the patient all that the condition of the sister warranted us in saying, in connexion with the scrofulous disease, with which the child was afflicted; but it was all to no purpose; nothing would persuade her that her daughter's constitution at all resembled that of her own sister.

We attended in 1832 a young lady from the department of the North, but could not satisfy ourselves respecting the origin of her disease; being well aware, nevertheless, that she could not have been exposed to any external cause of scrofula. The treatment had been proceeded with for two months when we learned that the grandmother was deformed, and that her mother and aunt had also curvature of the spine.

It is true we had made up our minds as to the case being one of hereditary scrofula, from the fact, that her brother had died at six years old of water on the brain. She had likewise three other brothers and sisters who were of weakly constitution.

The blindness of parents shows itself in numerous ways; but especially in reference to the general occurrence of scrofula in the family. It would appear that, as the infants which they are obliged to allow to be scrofulous are a constant source of vexation and anxiety, that they attempt to put a limit upon their misfortune, by shutting their eyes to the similarity of the constitutions of the other children.

Medical men too, it must be allowed, make the most

palpable mistakes in diagnosis, and their errors tend not a little to foster the illusions on the part of the parent.

We were acquainted with a mother and daughter who were most sensible persons in every other respect; but nothing could convince them that the bronchocele, which they both had, could have been inherited the one from the other; the mother would not believe that such was the origin of the disease of her daughter, and the daughter's filial love prevented her seeing that she had derived it from her mother.

Some years since we had a young lady, *æt.* 13, under our care, with cutaneous phagedænic scrofula affecting the nose, and accompanied by cervical tubercles. The mother of this child was in tolerable health, but suffered habitually from leucorrhœa, and from weak eyes. This lady had also that treacherous embonpoint which, taken in connexion with the blenorrhagic symptoms above alluded to, clearly pointed out the scrofulous constitution. In leaving her house on one occasion, we happened to meet her father in the street, and found that he had a suspicious ulceration on the nose, which much resembled that of his granddaughter. They had omitted to mention the existence of this disease in the maternal grandfather, and when we mentioned its connexion with the malady which affected the little girl, they could scarcely comprehend our meaning.

In the spring of 1825 we were consulted for a young lady, *æt.* 10, who was the subject of impetigo of the scalp. The elder sister suffered considerably from palpitation of the heart, and had a deformed chest. Having noticed that the buckle of the girdle was not in the median line, we were induced to suspect that both sisters had spinal curvature. This was found to be the fact.

The elder of these girls, concerning whom we were only incidentally consulted, was more diseased than her sister,

and we therefore declared that some hereditary tendency to scrofula must exist in the family ; but in this opinion the aunt on the father's side (the father had died of consumption,) who consulted us in the case, did not at all participate. She, however, was a person of that exceeding fatness, which we look upon as one manifestation of the scrofulous temperament. (Chap. I, on the *Scrofulous Complexion*.) It was useless, however, to insist upon this ; no one would have been convinced, although her fingers exhibited the traces of severe chilblains, and her eyes of old and rebellious ophthalmia, and although she had a son who was intensely scrofulous.

It must not be supposed that these illusions of a ridiculous *amour propre* are confined to the higher classes only. Sixteen years ago, when conversing with a scrofulous patient in the Hospital of St. Louis, he insisted that he was the only one in his family so diseased, and that he had a sister who was very beautiful. We were determined to see this girl, and made the discovery that she had formerly been a patient for tubercular tumours, one of which still existed in the right side of the neck. She died suddenly, a few days after this occurrence.

The fireman, whose case we have already related, had no intention of deceiving us ; on the contrary, he firmly believed it when he told us that he was the only scrofulous individual in his family.

Observations of this nature are always difficult to be obtained ; and they are the more so when the blindness of the parents is sincere. The ties of marriage, maternal and filial love, but especially self-love, produce illusions which we ought always to strive to detect, but not always to dissipate. It would be easy to write a long chapter on these human weaknesses ; they may, to a certain extent, even be considered as causes of scrofulous diseases, for

they tend to divert the physician from the choice of the proper system of treatment : but this task we shall leave to others.

We shall here terminate our labours. We do not for a moment believe that this treatise does not present many imperfections ; we nevertheless think that we shall have contributed somewhat to the progress of science, and to the art of healing, if we be only so fortunate as to persuade medical men to adopt the new views which we have endeavoured to enunciate. They are the fruit of a personal experience of more than thirty years, acquired within the precincts of an immense hospital, and in the course of an extensive private practice ; and we feel convinced that these views are not only the expression of truth, but that they will throw new and important light on that subject which has ever been the end and aim of our aspirations—the treatment of scrofulous disease.

ESSAY
ON
THE TREATMENT
OF THE
PRINCIPAL VARIETIES OF SCROFULA.
BY THE TRANSLATOR.

TREATMENT OF SCROFULA.

CHAPTER I.

ON THE PREVENTION AND ERADICATION OF THE SCROFULOUS DIATHESIS.

THE researches of M. Lugol on the etiology of scrofulous disease render it sufficiently obvious that its chief cause is to be sought for in the selfish inconsiderateness of parents who have yielded to the natural impulse which leads them to increase their species, without a due regard to those moral restraints which should always operate as a check upon the eagerness of mutual attachment. This remark is, in fact, of the widest and most general application. We seldom find any evil of striking magnitude which may not be traced back to some remote cause; and this cause, in regard to the diseases of the human frame, is more frequently than is generally suspected, to be sought in the fact, that some previous generations have thought only of themselves, and neglected their posterity. "*Homines hominibus plurimum et nocere et prodesse possunt,*" is an adage not only applicable as regards our contemporaries, but also as to the results of our proceedings, as affecting those who come after us. Those who

are anxious to obtain the reputation of benefactors of their species seldom limit their exertions to the performance of works which will die with themselves. There is a thirst for posthumous fame, an anxious desire to be remembered after death, which manifests itself no less in the improver of land, the planter of trees, and the builder of houses, than in the literary man, the warrior, and the statesman. And yet it is strange that the same feeling should so easily be subdued by the impulses of passion in that very case which Plato has selected as the readiest and most striking example of the longing after immortality—the case of those who are anxious to leave behind them children who may transmit through a long chain of descendants a continued testimony that they themselves have existed. And yet it is so: with the lover, in spite of all that Plato has said, or modern philosophers may inculcate, the present is all in all; the future lessens in his esteem. If it were otherwise, how many of those who are drawn together by the ties of mutual endearment, would shrink with horror from the prospect of entailing upon their innocent offspring the bodily ailments which a little reflection or, at all events, a little medical counsel would convince them that they bore in their own persons.

Let us pass, however, from these general reflections to the immediate subject of the present chapter. That scrofula is one of the diseases which are transmitted from parent to child, is admitted, with one or two exceptions, by all medical writers; and whether the opinion be correct or not, that it can originate *de novo*, under the influence of certain adverse circumstances, there can be no doubt whatever that, in the great majority of cases, the disease is imparted by hereditary transmission. The obvious deduction from this fact, therefore, is, that the only efficient check that can be applied to the ravages of the

malady is by placing some restriction upon the marriages of those persons whose condition of health renders it probable that they will become parents of scrofulous children.

It has been proved by the foregoing researches that a scrofulous progeny is not only derived from progenitors themselves actually scrofulous, but that certain other conditions of parental health are amenable to the same misfortune. In order, therefore, to compass the obliteration of scrofulous disease, it will not be sufficient that those individuals should abstain from perpetuating their species, in whom the overt signs of that disease are present: those also must be included in the ban in whom the predisposition only is or has at any time been manifest. It is an error to suppose that an individual who has been the subject of ulcerated cervical glands, or scrofulous disease of the joints in childhood, is in after life in a condition to become the parent of healthy children, because he or she has acquired a certain amount of increased constitutional vigour. The amended health of such persons has reference only to themselves: they are, in the opinion of M. Lugol, almost as likely to beget a scrofulous progeny as those who exhibit the more manifest signs of the disease at the time of marriage.

That such individuals, however, as well as those who, though they are not manifestly diseased in their own persons, have scrofulous brothers or sisters, should abstain from following the bent of their inclinations in regard to marriage, is not to be expected; and it therefore becomes a question of the utmost importance to the well-being of society to determine, what are the circumstances connected with the marriage of scrofulous persons which may tend to the production of the least possible evil.

Directions on this subject are to be found in the writings of Sir J. Clark,* Dr. Combe,† and Dr. Smith;‡ and as they are in every respect judicious, I cannot do better than to take them for my guide in the following observations. In the first place, the scrofulous person who determines upon forming a matrimonial connexion should be careful, on the one hand, not to engage in it at too early an age, nor, in the second place, to postpone it till he has passed the meridian. It is generally allowed that the children, even of healthy parents who have married too young, are apt to be scrofulous; and, *à fortiori*, the same thing will occur where either parent possesses the scrofulous predisposition. The earliest period at which a man ought to marry, according to Lugol, is the age of twenty-five, as he can scarcely be said to have arrived at maturity before that age. A female, more particularly when scrofulous, ought not to be considered as marriageable before the age of twenty-one or twenty-two.

As it is of importance to avoid every supplementary cause of the disease, it ought to be a rule in the union of the scrofulous, that there be no disparity of age between the parties, as the offspring is rarely observed to be healthy when such is the case; it is particularly expedient that the wife be not older than the husband. Indeed, M. Lugol has remarked that even when the man is healthy, the offspring is liable to scrofula, if he impregnates a woman older than himself.§

It is most correctly remarked by Dr. Smith,|| that “from the experience afforded by the study of natural

* Encyclop. Pract. Med. Art.—Tubercular Phthisis.

† Physical and Moral Management of Infancy.

‡ On Scrofula.

§ Vide Part I, Chap. ii, Sect. 2, Art. 5.

On Scrofula, p. 150.

history in general, and of the human race in particular, the fact comes broadly and unequivocally before us, that the offspring of parents related by blood are inferior in physical organization to their parents; and that if these kinds of unions be continued for several generations, the constitutional failings and tendencies to disease possessed by the original parents reappear in each successive generation with multiplied intensity, till the race becomes extinct from the combined effects of early mortality, mental imbecility, and sterility." If this be the case, as it is almost universally believed to be by medical men, even when the parties related are of sound constitution, it must be obvious, upon the most casual reflection, that no circumstance is more certain to add to the intrinsic probability that scrofulous progeny will spring from scrofulous parents, than the marriage with a blood relation, as a first or second cousin, for instance.

It need scarcely be said that a person of a scrofulous habit should most studiously avoid an union with a person belonging to a family which exhibits the same constitutional failing.* "A strumous individual intermarrying with another similarly circumstanced offers the most striking example which can possibly be afforded of the violation of the laws of healthy propagation. The faults in the constitution of each parent are almost sure to appear with redoubled intensity in the children of such an union."

To recapitulate. It would be an act of the most exalted self-denial for those of ascertained or suspected strumous descent to remain in a state of celibacy; but if, as is more than probable in the majority of cases, marriage be determined on, it should only be allowed in connexion

* Op. cit. p. 154.

with the following precautions. Not to marry before twenty-five or after forty; to avoid, above all things, an alliance with a blood relation; and to regard a union with a person of the same morbid predisposition to be an inevitable means of procreating a diseased offspring.

Having thus endeavoured to place before the reader the exact position which every scrofulous person, as well as those who, though not absolutely scrofulous, are in a condition unfavorable to healthy reproduction, occupy in reference to the further extension of the disease; and having shown that the only mode of checking its progress is to place restrictions upon the marriages of such persons, I shall now pass on to the consideration of the best mode of preventing the outbreak of the disease in those cases in which the predisposition is known or presumed to exist, and of eradicating that predisposition.

Here the question meets us *in limine*—Is the eradication of the scrofulous diathesis a matter of probable facility? Many will answer in the affirmative; but I will venture to assert, without fear of contradiction by any one who has had much experience of scrofula, that there are few things falling within the province of the physician which are of more difficult accomplishment. That all symptoms of the disease may be, in the great majority of cases, either entirely obliterated, or so amended as to afford the patient a tolerable share of health for the future, is a matter of notoriety; but I much question whether the scrofulous diathesis is ever eradicated to the extent of withdrawing the individual from the risk of procreating scrofulous children.

The management of an individual born of scrofulous parentage is, in the main, to be conducted upon the same principles at all stages of his existence. There are, however, certain modifications to be pursued, obviously arising

out of the age of the patient, which I shall proceed to point out.

When, from the known constitutional peculiarities of the parents, an infant is suspected to be scrofulous, it should, unless the contamination be clearly confined to the father, be intrusted immediately to a wet-nurse. The mother ought not, in any case, to suckle her child, however well she may be prepared so to do, if she or her family exhibit the scrofulous diathesis. It is a curious fact, that the milk of a tubercular cow,—an animal which is very subject to tubercular disease when confined in stables, as they frequently are in large cities,—has been found to contain seven times as much phosphate of lime, the main ingredient of scrofulous tubercle, as the milk of a healthy animal.* Whether the milk of a scrofulous woman is similarly altered has not been determined; the fact, however, is remarkable as an isolated fact, and shows at least this much, that the milk of a diseased animal does not possess natural qualities, and is therefore to be presumed to be unfit for the purposes of healthy nutrition.

The choice of the wet-nurse is a matter requiring great caution and judgment; but it is one on which I fear too little discrimination is exerted in general, both by the parent and the medical adviser. Provided a woman has a lusty and florid look, and has no obvious marks of disease about her, she has frequently consigned to her without further inquiry the delicate and important task of rearing a scrofulous infant. Now it must be well known that even a robust appearance is not at all incompatible with the presence of the scrofulous diathesis; nay, more, many highly scrofulous women are remarkable in early life for those attributes of the feminine form which are not only

* Baudelocque, *Etudes sur les Causes de la Maladie Scrofuleuse*, p. 33.

considered by the world in general as indications of health, but are regarded as highly beautiful. If a nurse, therefore, be chosen solely with reference to a well-developed female form and florid complexion, the end which we have in view will not unfrequently be defeated. She should not only be free from the smallest trace of scrofulous disease herself, but it is important that there be no appearance of the predisposition in her blood relations. If her own children manifest any symptoms of the disease, it would be the height of folly to engage her.

Dr. Combe, in a work which should be in the hands of every mother,* observes, "that the nurse should resemble the mother in all the characters in which the latter can be considered healthy; she should be nearly of the same height and bulk, for it has been noticed that the child of a tall, thin mother rarely thrives upon the milk of a woman of short stature and thick set. It is also of great importance that she should have been delivered as nearly as possible at the same time as the mother; a new-born child nursed upon milk a few months old is very apt to become scrofulous."

It is usual to judge of the fitness of the nurse by the simple inspection of the milk; but this is a most fallacious test, as the fluid may undergo various important changes without assuming any difference of appearance which is appreciable to the unassisted eye. M. Donné† has demonstrated that "the milk may be so altered as even to cause the death of the child, and yet preserve its outward appearance. The nature of the changes can only be decided by the microscope. Healthy milk is found to contain "globules of various sizes, perfectly chemical in form,

* Treatise on the Physiological and Moral Management of Infancy.

† Brit. and For. Med. Rev. No. XI; and Combe, p. 46.

with regular borders; and they swim freely in a fluid in which no other particles are suspended." Any departure, therefore, from this normal regularity of the globules, or the superaddition of granules and irregular particles, as happens during the *colostral** condition of the milk, must be considered as an evidence of unfitness, especially if the milk be examined after the twenty-first day, by which time, in healthy women, all *colostral* appearance ought to have subsided.

The moral qualifications of a nurse are no less important than the physical, not merely in reference to the disposition of the child, but also as regards its bodily health. "It is well known that violent rage, or habitual sourness of disposition, is peculiarly apt to impart an injurious quality to the milk. Children have been thrown into convulsions by sucking soon after the nurse has given way to violent passion."†

A marked instance of this kind has been related by Von Ammon. "A carpenter quarrelled with a soldier who was billeted upon him, and the latter rushed at him with his drawn sword. The wife of the carpenter at first trembled with alarm, but soon threw herself furiously between the combatants, and wrested the sword from the soldier's hand. She, while yet in a state of great excitement after peace had been restored, took her infant from the cradle where it had been lying in the most perfect health, and gave it the breast. In a few minutes the infant left off sucking, panted, and fell dead upon the mother's bosom."

Some difference of opinion exists among medical men as to the effects which menstruation exerts upon the qualities

* Colostra or colostrum, the milk secreted immediately after delivery.

† Eberle on Children, p. 35; and Combe, p. 221.

of the milk. M. Raciborski,* who has examined the subject minutely, has determined that menstruation produces very little alteration in the qualities of the milk, with the exception that its richness is somewhat diminished. But the preponderance of authority tends to the belief that a woman who menstruates during lactation rarely makes a good nurse, and in a matter therefore of so much importance as the management of a delicate and scrofulous child, we should act most in accordance with the dictates of prudence, in refusing as a wet-nurse a woman so circumstanced.

The milk of the nurse should be the only food of the strumous infant for six or seven months, when the appearance of the incisor teeth points out that the digestive organs are prepared for a different diet. In no cases should a scrofulous infant be suckled longer than ten or eleven months; the pernicious system of prolonged lactation which is common among the poor is a fruitful source of the development of scrofulous symptoms. Whatever artificial food may be decided upon, should be given for the first month or two from a bottle prepared in the usual way; the spoon should only be introduced very gradually, for until the child has acquired the full power over the organs of deglutition, not only is there a risk of choking, but the stomach is apt to be overloaded. In addition to the farinaceous matters which form the basis of the different kinds of artificial food, the scrofulous infant should be fed every or each other day, with some animal broth.

Important as is the feeding of the scrofulous infant, it forms but a part of the régime necessary to ward off the development of the predisposition with which it is born. Certain precautions are likewise necessary in respect to

* Journal de Pharmacie. Edin. Med. Journal.

ventilation, exercise, clothing, &c., which I shall now proceed to mention.

Although the researches of M. Lugol have rendered it doubtful whether vitiated air and other anti-hygienic conditions have really the power of originating the scrofulous diathesis, it is indubitable that they are most energetic agents in the actual development of scrofulous disease. We need only compare the results of the mortality of infants in cities and in country districts, to be convinced that there is nothing to be compared to the breathing of a close and vitiated atmosphere, as a cause of infantine death. In the Dublin Lying-in Hospital, at one period, one child in six died within the first nine days of their life, but the cause having been discovered, and an improved system of ventilation introduced, the mortality fell to one in twenty. It appears also in the Report of the Registrar-general, that in a London population of 1,594,890 infantile diseases destroyed 6932, while out of the same number of inhabitants in country districts 2347 only died, so that three times as many infants die annually in large cities, as in the country.*

Illustrations of this nature might be multiplied to almost any extent, but the two here adduced are sufficient to show the importance of bringing up all children, but especially those who are born with the scrofulous diathesis, in the country; without this as Sir J. Clark truly observes, "all our efforts to improve their health will fail."†

The scrofulous child, however, should not merely live in the country, but should be as much as possible in the open air. I have frequently had occasion to notice the extraordinarily good effects which an out-of-door life pro-

* Combe, *op. cit.* 156.

† *Encyclop. Pract. Med.* Art.—Tubercular Phthisis.

duces upon scrofulous disease, in the cases of children who during the period of gleaning, are in the fields from sunrise to sunset for days together. Scrofulous glands as well as other forms of strumous disease, frequently undergo a notable amelioration during this time.

It may be gathered from the foregoing observations that the nature of the apartment in which a scrofulous infant passes more than half its time, is a subject of no trifling consideration. The nursery should be an upstairs room, but not the uppermost story, as it will in that case be subject to great variations in temperature; it should be well ventilated, but not exposed to currents of air. Especial care should be taken that the sleeping-apartment should be of this character. On this subject parents are generally very neglectful: they are careful to have an airy day-nursery, but do not reflect that all the good effects of the latter are neutralized by obliging the infant to pass twelve hours out of the twenty-four in a smaller room, occupied perhaps, by a nurse and several other children. I consider that the bedroom is of far greater consequence than the day-room, and would strongly urge the necessity of supplying a delicate child with pure air during the night. To the neglect of this precaution must be attributed, in a great measure, the development of the scrofulous constitution in the children of the rich; for in them we cannot admit the agency of insufficient food, cold, dampness, &c.

Baudelocque* lays great stress upon the form and arrangement of the bed; and condemns, with reason, the custom of drawing the curtains closely round the bed or cradle. This practice must still further diminish the supply of wholesome air, already perhaps too limited from the smallness of the room. The same author gives an

* *Op. cit.* p. 13.

ingenious explanation of an old opinion which might otherwise appear ridiculous, namely, that it is injurious for a child to sleep with a grown up person. The injury is produced, according to him, by the child being of necessity covered up by the bed-clothes, which are raised over his head by the greater bulk of his bedfellow. In point of fact, the child breathes over and over again the small portion of air confined beneath the coverlid.

Children of the strumous habit are peculiarly susceptible of cold, and should therefore be well defended against variations of temperature. Many a delicate child has been sacrificed to the false notion of hardening the constitution by exposure, which is unfortunately so prevalent in the present day. Cold sponging or bathing is a most powerful means of increasing the vigour, and diminishing the tendency to catarrhal attacks; but it should not be too early adopted in the case of scrofulous children, as their powers of reaction are small. The water should be tepid in the first instance, and gradually diminished in temperature.

As the scrofulous child grows up, the same course of hygienic treatment must be persisted in, modified only in accordance with the conditions in which the individual is placed by his increasing years. Animal food should be taken twice a day, at least—Sir A. Cooper says three times—if the digestive powers be in a tolerably active state. Scrofulous subjects are less susceptible of stimulus than healthy persons, and may therefore be allowed wine or malt liquor in small quantities.* Exercise in the open

* Without discussing the truth of the deductions which the experimenter derives as to the power of producing tubercles at will, it may not be out of place to allude to certain experiments made by M. Coster, (*Bulletin de l'Académie*, vol. iv,) in which he considered that the deposition of tubercular matter might be prevented by the use of ferruginous bread. He placed rab-

air, cold bathing—but especially in the sea,—and a prolonged residence at the sea coast will materially assist in fortifying the constitution.

Education and the choice of a calling or profession, are other circumstances which require great consideration in the case of persons of the strumous diathesis. Children of this habit are not unfrequently remarkable for a brilliancy of perception and a general activity of mind, which induce the injudicious parent to subject them to a mischievous and sometimes fatal intellectual discipline. If there were no other reason to be alleged in opposition to the close attention to study than this, that it necessarily confines the child within doors, it is of itself sufficient to invest such a practice with a peculiar danger in the case of scrofulous children. The evils arising from the early cultivation of the intellect are not so perceptible in boys' schools: in them much of the mischief is neutralized by their constant exercise in the open air; those evils are seen in their highest degrees in female boarding-schools, and in infant-schools. In reference to the former, I will quote from the energetic writing of Sir J. Clark.

“The prevailing system of female education is indeed fraught with the most pernicious consequences: at a period of life when the development of the physical constitution demands the most judicious management, young girls are sent to school, where no other object appears to claim consideration than the amount of mental improve-

bits, guinea-pigs, and other animals in those circumstances which are frequently found to accompany the manifestation of tubercular disease, as damp, cold, confined air, &c.; giving to some their natural food only, and to others the additional diet of bread made with a certain proportion of some preparation of iron: the former invariably became tuberculous, the latter remained free from tubercle. It might not be altogether useless to try the effect of this bread as a part of the ordinary diet of scrofulous persons.

ment or, rather, variety of accomplishments with which they can be stored. At an early hour in the morning the pupil is set down to the piano or drawing-table, where she remains in a constrained position and often in a cold room till the whole frame, and more especially the lower extremities, become chilled.....While boys have the advantage of a playground, the unfortunate inmates of a female boarding-school are only allowed to walk in stiff and formal monotony, resembling, as Beddoes justly remarks, a funeral procession, and wanting nothing to funereal melancholy but sables and a hearse."

He proceeds to remark that the upper extremities and muscles are never exercised in these individuals, and therefore become feeble, and that the inevitable consequence, in most instances, is curvature of the spine. The frequency with which this latter condition follows the present injudicious system of female education is strikingly shown in a note appended to the excellent article on Physical Education, by the late Dr. Barlow.* "We lately visited," says Dr. Forbes, the editor, "in a large town, a boarding-school containing forty girls; and we learned that there was *not one* of the girls who had been at the school two years, as was the case with the majority, who was not more or less *crooked*." Sir J. Clark thus continues: "While the natural form of the body is destroyed, the general health suffers..... In short, all the requisites for the production of struma may be found in a large proportion of female boarding-schools where the system we have described is pursued."

That this picture is not overcharged the experience of every physician practising in a large town will bear testimony; and we can therefore have no difficulty in pro-

* Encyclop. Pract. Medicine.

nouncing that a girl belonging to a scrofulous family ought, whenever it is practicable, to be educated at home, as, in that case, a system of judicious management can be adopted, which, in a boarding-school, appears to be impossible.

But what shall we say of infant-schools? They are, without exception, the most monstrous mistake that a misguided benevolence ever committed. It is a sight to me full of painful reflections to see these little victims, for I can call them nothing less, sitting in doleful monotony in a large dull room, and breathing an atmosphere the contamination of which is too obvious to the senses; the little faces which should be radiant with smiles, trained to pitiable and unnatural solemnity over letters and figures with which they should have been unacquainted for two or three years to come. It would be well if the "march of intellect" votaries, who would teach an infant to read before he can walk, would consider how many children they send to a premature grave, or condemn to a life of feebleness, by their absurd though well-meant exertions.

In the choice of a profession or trade the scrofulous subject should be guided by the same general principles which we have mentioned as necessary to the well-being of their earlier years. Those employments should be avoided which expose the individual to a confined atmosphere and want of exercise; such as the business of tailor and shoemaking, millinery, &c., and those should be preferred in which the opposite conditions obtain, as agricultural pursuits, surveying, the navy, &c.

It should constantly be before the eyes of the physician, in the treatment of accidental diseases in scrofulous subjects, that their feeble constitution is ill adapted to sustain an active depletory treatment. In curing their diseases we have done but half our duty: our great object should

be to cure them at the least possible expense to the constitutional powers. We shall deserve but little praise for the removal of a fever or an inflammatory attack, if the patient be the subject of some decided manifestation of scrofula which has been mainly induced by an injudiciously depletory method of treatment.

It will be necessary, in the majority of instances of strumous cachexia, to combine medicinal with hygienic treatment. These subjects are peculiarly liable to functional derangements of the stomach and bowels, which will not yield to simple dietetic regimen. The occasional exhibition of a purgative, as a few grains of hyd. c. cretâ with rhubarb, and the employment at intervals of iodine in the manner hereafter to be mentioned, will, in most cases, be sufficient to remedy these temporary derangements.

In conclusion, I would repeat that we must not expect that the scrofulous diathesis is to be easily eradicated, or even corrected, without considerable attention and patience in the adoption of the means above indicated. But in the majority of cases, although we may not be able to guarantee the freedom from scrofulous symptoms in their posterity, we shall, if the case be taken in hand sufficiently early, be justified in promising, as far as the patient is individually concerned, a greatly amended state of constitution.

CHAPTER II.

GENERAL TREATMENT OF SCROFULOUS DISEASES.

THE history of scrofula from the time of the origin of the preposterous belief in the virtues of the royal touch, and the equally fallacious tenets of the herbalists and "cul-lers of simples," up to a comparatively recent period, has been but a lengthened exposition of different and in many instances diametrically opposite methods of treatment. Evacuants and tonics, alkalies, mercury, and electricity, have all had their supporters, and have all in their turn been neglected or cast aside. It may be truly said, that until within the last fifteen years the treatment of scrofulous diseases was conducted upon no fixed principles, and hence the universal belief in their incurability, which formed a part of the medical creed of bygone days.

From the time, however, that M. Lugol commenced the researches which are, in extent of benefit conferred, and for advancement of really useful medical science, unequalled by the labours of any other individual in any other department of medicine, the necessarily fatal character of scrofulous disease ceased to be recognized. Although numerous cases will present themselves in which, as in pulmonary consumption for instance, or in one form of acute hydrocephalus, scrofula seizes upon a vital organ, or in which it invades certain structures, as the bones, which are either altogether indisposed to reassume healthy action, or do so with such extreme slowness, that the

powers of nature sink under the protracted struggle ; yet it may be safely affirmed that the greater number of the various forms of scrofulous disease are—mainly it must be allowed through the instrumentality of the author of the preceding researches—brought readily under the control of well-directed medical treatment.

The importance of combining hygienic with the other modes of treating scrofulous disease is fully admitted by every writer upon the subject ; Baudelocque and Lugol in particular insist upon the necessity of this practice, and state that without it the most judicious medical treatment will frequently be foiled. In this sentiment I entirely concur, and am inclined, in the cure of the slighter cases, to attribute more credit to the influence of diet, pure air, &c., than to the agency of medicine. The close connexion which exists between the progress of scrofulous disease, and the supply of pure air is clearly demonstrated in the observations of M. Baudelocque* in cases of strumous ophthalmia. It was found by the writer who had the charge of a portion of the patients in the Hôpital des Enfants Malades, that whenever the weather was either so rainy or so exceedingly cold, that the children could not go out of doors, that there was invariably an increase in the ophthalmic affection ; and on the other hand that it subsided upon the return of fine weather. These remarkable alterations, as he justly remarks, could not have been due to any local effect upon the diseased organs ; for had that been the case, the exacerbations would have corresponded with the occurrence of bright sunshine, rather than with a cloudy state of the atmosphere.

It will be unnecessary to mention at any length the

* Op. cit. p. 439.

dietary which should form part of the general treatment of scrofulous cases, as that has already been alluded to. I shall merely state that unless some contraindicatory symptom be present, all scrofulous diseases will be benefited by a meat diet, and the moderate use of porter or wine.

Every case which will admit of it—and if we are to believe M. Lugol, there are few that will not, even the worst cases of scrofulous disease of the joints—should be the greater part of the day out of doors. Those who are not able to walk should sit in the open air; anything, in fact, is better than to pass the chief part of the day in the confined air of a sick-room or hospital ward. This is a point which I would strongly urge upon the attention of all who have the care of scrofulous cases, as I feel convinced that many instances of the failure of iodine are due to the neglect of insisting at the same time upon the patient's taking exercise in the open air.

Bathing either in cold or warm sea-water has usually been included in the general treatment of scrofula; but a variety of opinions exists, even in the present day, as to the exact value which should be accorded to it. Cullen* considers cold sea-bathing as “the most efficacious remedy which could be devised;” Russel,† on the other hand, preferred the use of warm sea-water; while others again throw discredit upon the good effects both of sea-air and sea-water. Thus, Thompson‡ remarks that “it is always difficult to distinguish between the effects immediately arising from the application of salt water to the body, and those which arise from the increased temperature of the bathing seasons of the year; from the exercise which bathing patients take in the open air; from the change of situation and

* First Lines of Physic, vol. iv.

† On Scrofula.

‡ Lectures.

amusements, and, in the poorer classes, from the more nourishing diet and the exemption from labour in which they are permitted to indulge during their residence at sea-bathing quarters." Lloyd* also declares his belief that sea-bathing has no specific powers over the disease; and Mr. Chalk,† whose opportunities of judging have been great, seems likewise doubtful of its efficacy in very many cases. The explanation of this discordance of opinion appears to be that, like many other remedies of general application, sea-bathing has been used indiscriminately. There can be no question but that in some forms, and in the more enfeebled stages of all scrofulous diseases, the immersion of the whole body in cold sea-water would be productive of serious mischief; but I may be permitted to state, after some years' experience of the effects of sea-bathing, that when exhibited with a proper regard to the actual state of the vital powers, without which the most certain remedies will occasionally prove injurious, that it is a most valuable resource in the treatment of scrofula. Those who have had occasion to treat this disease both at the sea-coast and in an inland district, will readily admit the important aid which they have derived from sea-air and water.

The limits which I have allotted to this essay will not admit of more than the cursory mention of the various medicines which have been from time to time vaunted as efficacious in the treatment of scrofula. Such are the muriate of barytes, recommended by Pinel, Hufeland, and Crawford; muriate of lime, by Fourcroy; cicuta, by Fothergill; and alkalies—but especially the liq. potassæ—by Brandish. In reference to the latter medicine, how-

* On Scrofula, p. 43.

† Medical Gazette, April 23d, 1841.

ever, I would observe, that, given in the doses of from half a drachm to a drachm three times a day, it occasionally produces a rapid diminution of glandular tumours; but it does not, as far as I have been able to observe, accomplish any correction of the tubercular diathesis. Its action appears to be confined to the increase of the powers of absorption for the time being, without in any way lessening the tendency to a fresh tubercular deposit. It is, nevertheless, a satisfactory medicine in those cases in which the preparations of iodine are contraindicated.

It is advisable, in the majority of cases, to premise the special treatment of scrofula by the exhibition of purgative medicine during two or three days. The formula to which I am most partial is that recommended by Sir A. Cooper, consisting of

Pulv. Rhæi; pulv. Calumbæ; and Hyd. c. cretâ.

The repetition of these medicines will also be necessary once every three weeks, especially during the administration of iodine.

The establishment of issues has long been a favorite item in the treatment of scrofulous cases with many physicians, but it is condemned by others. The advantages and disadvantages of this remedy, and the conditions under which it should be employed, are well discussed by Baudelocque.* "In the treatment of scrofula," he observes, "issues should neither be employed nor forbidden without discernment; experience proves that they may be either very beneficial or productive of great injury, according to the state of the patient. To establish, for instance, a new drain upon the system in a patient already the subject of numerous ulcers, would be to add to an evil already sufficiently great. So also, to torment an emaciated

* Op. cit. p. 516.

infant in the last stage of marasmus with the same thing, would be a means of rendering its condition still more hopeless. But, on the other hand, to make an issue in a scrofulous individual who presents the redundancy of cellular tissue, the rounded limbs, white skin, &c., so well described by Alibert ; or in the case of another, in whom an abundant suppuration is about to be dissipated by the cicatrization of ulcers, or by the removal of a limb ; is to conform to the dictates of reason, and to assist in the cure."

We now pass on to the most important part of the general treatment of scrofulous diseases—the exhibition of those medicines which are believed to have a specially anti-scrofulous action. These are iodine and the cod-liver oil.

It is not my intention to occupy the reader's time with the medical history of iodine, as information on this point may be found in almost every late work upon scrofula ; suffice it to say that, from its accidental discovery to the present time, it has been universally allowed to possess more power in the treatment of the different forms of that disease than any medicine with which we are acquainted.

But great as the therapeutic value of iodine undoubtedly is, there is perhaps no medicine in general use which is given with so little discrimination, or the effects of which are more variable according to the greater or less degree of judgment with which it is employed. The great error with British practitioners appears to me to be that of giving this medicine in too liberal doses, in which case its tonic and special effects are superseded by its more irritating qualities. It is only in this way that we can account for the more frequent failures of the medicine in this country, than among our opposite neighbours. There can be no difficulty in according to the distinguished

author of the foregoing researches the merit of having introduced those precise notions of the effects and modes of administering iodine in scrofula which we now possess, for although Coindet and Manson both preceded him, the information which they afford is comparatively meagre.

M. Lugol makes use of iodine in a great variety of ways in the treatment of scrofulous diseases. His internal treatment consists in giving iodine and iodide of potash in certain proportions dissolved in distilled water; and his external means are baths, ointment, lotions, and injections. He has been induced to prefer the administration of the aqueous solution to the tincture, from the impression that the latter is liable to decomposition, and to deposit free iodine upon the mucous membrane of the stomach. This fear, however, it may be stated, is considered by Baudelocque to be perfectly without foundation. The doses employed by M. Lugol will appear to British practitioners to be exceedingly small, as he rarely exceeds one grain per diem. His usual formulæ are of three kinds, as follows :

No. 1.	Iodinii	grs. $\frac{3}{4}$;	Potass. Iodidi,	grs. $1\frac{1}{2}$;	Aquæ	$\bar{\text{viii}}$.
2.	„	1;	„	2;	„	„
3.	„	$1\frac{1}{4}$;	„	3;	„	„

He commences the treatment of all his cases by giving two thirds of No. 1 in the day, equal to half a grain of iodine; in the second fortnight he gives the whole in the day. He then gradually increases the dose by giving the second and third formulæ, but never exceeds the latter. Great stress is laid by him upon the time the medicine is exhibited: he recommends the first dose, consisting of half the daily quantity, to be taken before breakfast, the second in the afternoon, an hour before dinner. The quantities of iodine given by Baudelocque are smaller than those of

M. Lugol, and a late writer* would even still further diminish the dose to 1-10th of a grain, and a grain of iodide of potash, three times daily. The results of my observations of the remedy are perfectly in accordance with the statements of these writers, that more benefit is to be derived from giving the medicine in small doses and much diluted, than by the heroic doses we occasionally witness in this country.

In administering iodine, we must not lose sight of the fact that after a certain time the system becomes so habituated to the medicine, that it ceases to produce further good effects; we shall see for instance, that a scrofulous ulcer, which up to a certain period has been healing apace, suddenly ceases to undergo the reparative process. In this case the internal use of the medicine should be suspended for two or three days, and the use of a purgative substituted. By this arrangement we shall generally find that on resuming the iodine a fresh impulse is given to the healing process. Iodine likewise gives rise after a certain time to symptoms indicating that its medicinal are about to be replaced by its poisonous effects. The first symptom of this is usually frontal headach, followed by heat and itchings of the conjunctiva and nasal mucous membranes. There is frequently also pain in the stomach of a gastrodynic character. All that is needed upon the occurrence of these symptoms is to omit the medicine for a few days, and to give diluents and gentle aperient medicines. The ill effects are in general very transitory, and the medicine may be safely resumed after a short interval.

It is not necessary in the present day to do more than allude to the severe consequences which were once supposed to attend the prolonged exhibition of this medicine,

* Smith, *op. cit.*

such as absorption of the mamma in the female, and of the testis in the male, with general emaciation, hemoptysis, &c. This opinion has been long rejected, and my own observations quite bear out the remarks of M. Lugol, that so far from producing emaciation, there are few or no medicines which, when given judiciously, possess such high tonic powers as iodine, and that patients grow fat under its use, instead of losing flesh. There are doubtless some individuals who from peculiar idiosyncrasies cannot take iodine without great derangement of the stomach, and in others it occasionally produces unlooked for consequences, such as inflammation of the joints;* but these cases are rare exceptions: in a general way there is no medicine more safe, or of which the beneficial operation is more uniform than that of iodine in scrofulous diseases. So high an opinion, indeed, does M. Lugol entertain of its merits, that he does not hesitate to state, that it modifies scrofulous diseases with as much certainty as mercury does those of venereal origin.

Of the different modes of applying iodine externally, the most powerful is the iodine bath, first introduced by M. Lugol. It is applicable to every form of scrofulous disease, and may be either general or local. It is spoken of in the highest terms by M. Baudelocque, especially in the treatment of ulcerations or abscess, accompanied by excessive suppuration. "The discharge," he observes, "is always notably diminished, and the appearance of the ulcers much improved." So great has been the benefit derived in this respect, in the hospital to which he is attached, that not more than one fourth of the usual quantity of lint has been necessary in the dressing of scrofulous sores, subsequently to the introduction of the baths. The

* Vide Medical Gazette, July 1st, 1842.

same advantage is found also in scrofulous disease of the bones and joints.

The bath used for iodine must be made either of wood or marble, as it forms a soluble compound with zinc, tin, or lead. The proportions of the ingredients used by Baudelocque are as follows :

Water, 60 gallons.

Iodine, 2 drachms.

Iodide of potassium, 4 drachms.

Lugol's formula is stronger, consisting of 3 drachms of iodine and 6 of the iodide to an ordinary bath. The quantities for children should be about one third those for adults.

Iodine is likewise advantageously used in the form of ointment, especially to indurated scrofulous tumours, and ulcerations. Lugol's formula contains

Iodine, grs. xij,

Potass. iodidi, ʒ iv,

Axungia, ʒ ij.

The ointment of the London Pharmacopœia contains five times the quantity of iodine, but less of the iodide of potassium.

Iodine lotions and injections are also extensively employed by M. Lugol. For these purposes he advises three different strengths, as below :

No. 1. Iodine, grs. ij ; Water j.

2. „ iij ; „ ij.

3. „ iv ; „ iij.

He uses these formulæ as lotions to the eyes in strumous ophthalmia, and as injections into fistulous canals, chronic abscesses, diseased joints, and into the nostrils and vagina in scrofulous ozæna and leucorrhœa. Baudelocque regards this solution as too feeble for the injection of fistulous

canals, and recommends them of the strength of from 12 to 20 grains to the pint of water.

Lastly, iodine may be used in a concentrated form for the purpose of repressing exuberant granulations; but I agree with M. Baudelocque that, for this purpose, its operation is inferior to that of the nitrate of silver. A saturated solution of iodine will, however, be found very serviceable in remedying the inequalities of scrofulous cicatrices, and causing them to assume a colour more in unison with the surrounding skin. Lugol's formula is

Iodine, ʒj,

Potass. iodid. ʒj,

Aquæ destillat. ʒij.

The above is a very condensed account of the operation and modes of exhibiting iodine, but a more lengthened detail would have been unnecessary, as I shall frequently have to recur to the different topics contained in this chapter in a subsequent part of this essay. Previously to quitting the subject, I will briefly mention the different compounds of iodine, and their use in the treatment of scrofulous diseases.

The "Iodide of potassium" has already been noticed in its combination with the pure metalloid.

The "Iodide of mercury" is a very active preparation, but is one which is not generally required in the treatment of the ordinary forms of scrofula. It is, however, an exceedingly useful medicine for producing mercurial action in scrofulous subjects when such action may be required. I have found it also a valuable medicine in the form of ointment, in lupus.

The "Iodide of lead" is not much used internally; but as an ointment, it is one of the best external applications to scrofulous ulcers, as well as to the eyelids in strumous ophthalmia. The more irritable the state of the sore, the

greater is the advantage of this over any other preparation of iodine.

The "Iodide of sulphur" is chiefly employed in the porriginous eruptions to which strumous children are subject.

The "Iodide of iron" is a preparation much valued in the present day, and with justice. It is particularly serviceable in the amenorrhœa of scrofulous females, and in mesenteric disease. The best formula is that of the *Syrupus ferri iodidi*.

The oil which is obtained, by spontaneous percolation or by pressure, from the liver of the cod-fish (*gadus asellus*) has of late years enjoyed considerable reputation in the treatment of scrofulous diseases. As in the case of burnt sponge, the therapeutical properties of the oil have been supposed to depend upon the presence of a minute quantity of iodine, which substance it has been proved to contain by the researches of Hopfer de l'Orme,* Springwühl, and Gmelin.

Dr. Bennet,† who has published an essay upon the use of cod-liver oil in various diseases, speaks very highly of its efficacy in scrofula. Its action, however, he thinks is much greater in some forms of the disease than in others. It is exceedingly useful when the osseous texture is attacked, as in caries and scrofulous white swellings. It is equally serviceable in mesenteric disease, accompanied by great atrophy. In ophthalmic otorrhœa and cutaneous scrofula, its action is less perceptible, and in glandular affections, prior to ulceration, its therapeutic value is insignificant. The following cases illustrating the efficacy of the oil, which are given in an abridged form, occur in

* Hufeland's Journal, bd. 82, heft 4, 115.

† Treatise on the Ol. Jecoris Aselli, p. 34.

Dr. Bennett's treatise above alluded to. The first case is one mentioned by Brefeld. In scrofulous caries occurring in a female, eight fistulous openings led to the diseased bone, which was swollen to a great size. The discharge was fetid and profuse, and the patient was in an advanced stage of hectic. Amputation had been determined upon when Brefeld proposed the trial of cod-liver oil as a last resource. The patient perfectly recovered. A case of lumbar abscess depending upon caries of the vertebræ is also reported by Tauffled.* The patient was a young man eighteen years of age, who had an immense abscess in the lumbar region, with paralysis of the lower extremities. Hectic fever and emaciation had apparently announced the hopelessness of the case. The oil was given without expectation of benefit; but to the surprise of every one, the paralysis gradually subsided, and the patient became robust.

The *modus operandi* of cod-liver oil is thus explained by Dr. Bennett:† "It appears to consist in the stimulation of the lymphatic glands and vessels, and by these means increasing the activity of the capillary system. By its action on the former the process of assimilation is facilitated and the appetite increased. The quality of the blood is thus improved, and so, lastly, the different organs of the body become better nourished, and receive more *turgor vitalis*."

I am not able to add anything from personal experience to the preceding account of the operation of this oil in scrofulous diseases. I have exhibited it several times, and with but inconsiderable success, in chronic rheumatism, but have hitherto preferred the preparations of iodine in scrofula. The high repute, however, which it

* Gazette Médicale de Paris, 1837, p. 503.

† Op. cit. p. 51.

enjoys on the continent, especially in Germany, and the valuable testimony to its virtues afforded by Dr. Bennett, as well as in the more recent treatises by Drs. Klencke and Panck,* are sufficient to warrant its exhibition in a class of diseases in which the physician, however extensive may be his resources, is occasionally driven to his wit's end. It is given internally, in the dose of a tablespoonful three times a day; and may be used as an external application to scrofulous ulcers, and, as a liniment, to the abdomen in mesenteric disease.

* Brit. and For. Med. Rev., Oct. 1842, p. 441.

CHAPTER III.

ON THE TREATMENT OF SCROFULOUS AFFECTIONS OF THE GLANDULAR SYSTEM.

THE external system of lymphatic glands is so frequently the seat of tubercle, as to be always associated with the popular idea of scrofula ; and some few medical writers, among whom we may mention Henning, have partaken of the opinion that true scrofula is limited to those structures. The fallacy of such views need not be insisted upon in the present day.

Of the external lymphatic glands, the cervical are those which most commonly assume the scrofulous action ; next to these are the axillary, and then the inguinal. The internal glands, as the bronchial, mesenteric, &c. also frequently become the seat of tubercular deposit, which, in those situations, gives rise to severe and sometimes fatal diseases. The secretory glands are likewise subject to the same pathological change ; but among these our remarks will be confined to the tonsils, the mamma, and testis, as these are the organs in which strumous disease is most readily detected, and most amenable to treatment.

Scrofulous enlargement of the glands of the neck, which may be regarded as the type of glandular scrofula in general, commences under the form of small oval swellings, which gradually become more numerous, and by their reunion occasionally form one large tumour. In other

cases, a single absorbent gland becomes diseased, and goes through all the phases of scrofulous action without the implication of others. These tumours in general give but little pain, and are at first of a stony hardness, and moveable under the integument. They may remain an indefinite time in this state of indolence, or may proceed more or less rapidly to suppuration. The size to which glandular tumours arrive before this event occurs is very variable; they sometimes assume an enormous magnitude while yet in their indolent state, so that the whole neck appears to be hung round with them. They may even cause death, as happened in a case in the hospital to which I am attached, by the pressure which they exert upon the trachea and large cervical vessels.

Sooner or later, however, this state of indolence is disturbed, and the tubercular matter undergoes the process of softening,—a change which is natural to it in whatever tissue it may be deposited. When this is the case, the tumour at first begins to feel doughy, and fluctuation becomes gradually more and more distinct. The skin above the tumour inflames, and, if left to itself, eventually ulcerates, giving exit to a thin fluid, mixed with flakes of tubercular matter. The opening or openings gradually enlarge, and coalesce by the ulceration of the attenuated integument; and the abscess then presents the appearance of a scrofulous ulcer.

In other cases, tubercular tumours, instead of suppurating, remain stationary, often acquiring a large size; and, according to Lugol, Begin, and Hamilton,* may then undergo the scirrhus transformation. I have reason to believe that such was the case in the instance just now alluded to.

* On Scrofulous Affections.

The process above described may be divided, in reference to treatment, into three stages: the stage of engorgement, the stage of softening or suppuration, and the stage of ulceration. We shall consider only the two former stages in the present chapter; the latter will be more appropriately treated of in the chapter on the scrofulous affections of the skin and cellular tissue.

In accordance with the prevailing opinion at the time, that scrofula depends upon the presence of a virus in the system, which the enlargement of the glands was an effort of nature to discharge, the practice of the older surgeons was generally directed towards precipitating the occurrence of suppuration; another mode of procedure arising out of the same doctrine, was the ablation of the diseased glands by the knife. Both these practices are now justly discarded, and in their stead we have the more rational one of endeavouring by all possible means to obtain the absorption of the tubercular matter without suppuration.

For this purpose, the ordinary remedies are the application of leeches, evaporating lotions, and the local and general use of iodine. With regard to leeches, or any other mode of abstracting blood, I am strongly convinced that no benefit is in general to be derived from them in any kind of scrofulous disease. But as it may in some cases be difficult in the first instance to determine whether a glandular swelling be due to tubercular deposit or simple inflammatory engorgement, a few leeches may be applied once or twice; but unless the relief afforded by the abstraction of blood be very decided, their repetition should be strictly avoided. Much valuable time is frequently thus thrown away, and in some cases I have reason to think that suppuration is expedited. The same inertness of action or positive injury, though not to an equal extent, attaches to the use of evaporating lotions.

The only mode of treatment which can be relied upon for the dispersion of scrofulous glands, is the local and general employment of some preparation of iodine. The most usual method of applying this remedy is in the form of ointment. The formula of the London Pharmacopœia is one of the best which can be recommended; but it is much stronger than that used by M. Lugol, and, in children with very irritable skin, may require to be diluted with lard. The application of this ointment once in the day will generally be sufficient; if it be rubbed in oftener, there is fear of exciting inflammatory action in the tumour, rather than of producing the local excitement of the absorbents. Where there is any considerable tenderness in the parts, the tincture of iodine may be applied with a camel's hair brush, instead of the ointment.

This, together with ioduretted baths, which are of great service, and should form part of the treatment in all obstinate cases of scrofulous disease, and the internal administration of Lugol's mineral solution, the *Tinct. iodinii c.* or the *Syrupus ferri iodidi*, with an occasional aperient, comprises the whole medicinal treatment of the first stage of strumous glandular enlargements, and will, if adopted sufficiently early, be generally successful in causing the dispersion of the tumours. But in other cases, either from an innate proclivity to suppurative action, or, as is often the case, from the fact that the treatment is not commenced until softening of the tubercular matter is imminent, the enlarged gland will proceed to form an abscess in spite of all we can do. The usual practice in this case is to endeavour to hasten the suppuration by the application of poultices. This plan I object to for the following reasons. In the first place, even though suppuration has evidently commenced, the bursting of the abscess may, in some cases, be prevented by the absorption of the

inclosed matter; and as it is a paramount object, in every instance, to avoid the unsightly scar which the opening of a scrofulous abscess is prone to leave, we should not even throw away this remote chance. And again, the integuments are so relaxed and debilitated by the constant application of poultices, that when the matter is evacuated, there is an increased probability that the occurrence of granulations will be delayed, or that they will be pale and flabby. I am in the habit of persevering with the use of iodine (generally in the form of the tincture, under these conditions) to the very last, under an impression which I am glad to see supported by Dr. Smith in his late work,* that even where it fails to prevent the formation of abscess, such a proceeding tends much to circumscribe the limits of the suppuration. This is of the more consequence in those cases which Mr. Goodlad* has described, in which suppuration takes place in the cellular tissue external to the gland.

When, however, from the redness of the integument, and the superficiality of the fluctuation, the evacuation of the contents of the abscess becomes inevitable, a question arises as to the propriety of allowing the enlargement to ulcerate spontaneously, or of hastening the process by surgical interference.

The objections to the first proceeding are twofold: in the first place, the process of ulceration being slow, the extent of the abscess is likely to be larger, and a greater amount of integument will therefore be separated from its cellular connexions; secondly, an abscess opening spontaneously rarely opens in the most favorable position, or at a single point; the ulceration therefore, and,

* On Scrofula, p. 101.

† On the Diseases of the Glands, p. 75.

consequently, the cicatrix, will be more extensive. This latter reason is sufficient in itself, if the enlarged gland be in a conspicuous situation.

It is advisable, therefore, upon all grounds, that a scrofulous glandular abscess should be opened by art, and early; as soon, in fact, as fluctuation becomes distinct, for by this precaution there will be less integument deprived of vitality, and the cicatrization will be more prompt. Some difference of opinion exists as to the nature of the incision, whether it should be a mere puncture in fact, or whether it should traverse the superficies of the abscess. Henning strongly advises puncture with a trochar, taking care to close the wound immediately after the evacuation of the pus; others prefer the large incision, from the knowledge that the puncture is likely, in many cases, to increase by ulceration to the extent of the detached integument, and because, by making a free opening, we diminish the fear of the formation of sinuses. The plan of proceeding which I should recommend is this: to puncture the abscess with a broad-shouldered lancet, and after evacuating the contents, to inject it with a solution of iodine; (Iodinii grs. ij-iv; Potass. iodidi grs. iv-viii; Aquæ destillatæ Oj.) The injection is to be allowed to remain for a few minutes, and a compress of lint is then to be applied. By this means we may sometimes, if the whole of the tubercular matter be evacuated at once, obtain the gradual obliteration of the cavity of the abscess. If, however, it be observed after a few days, that there be no tendency to this fortunate termination, but that the peculiar scrofulous discharge still continues, it will be as well, if the abscess is not very extensive, to enlarge the opening by a free incision: when this has been done, the abscess puts on the appearance of the scrofulous ulcer, the treatment of which will be considered in the next chapter.

Before leaving this part of the subject, it may be mentioned that M. Baudelocque disapproves altogether of evacuating scrofulous abscesses by the lancet. This he does from the fact that the thin separated integument is seldom reunited to the subjacent parts, and that there is always difficulty in healing the ulcer formed by the incision, unless the whole of the unhealthy skin is removed. He therefore prefers opening the abscess by caustic, including the whole of the diseased integument in the operation. The caustic recommended by him is one made of equal parts of quicklime and potassa fusa made into a paste with spirits of wine. This is smeared over the necessary extent, and allowed to remain for the space of five minutes * The eschar is thrown off at the end of a few days, when the application may be repeated, if necessary.

The deposition of tubercle in the internal glandular system gives rise to diseases which, with the exception of pulmonary consumption, are the most irremediable of all the forms under which the scrofulous diathesis is manifested. There is no part of this system which may not be the seat of the deposit, and it is rare to see one portion diseased without the greater or less implication of the rest; but our remarks will be confined to the consideration of tuberculization of the bronchial and mesenteric glands, as in these situations the disease is manifested by relatively more determinate symptoms.

Tuberculization of the bronchial glands, or bronchial phthisis, as it has been called, is not an uncommon disease in childhood; it seems, in fact, at that age to occupy the place in the scale of relative frequency of the tubercular deposit, which is assumed by pulmonary

* Baudelocque, *op. cit.* p. 318.

disease at a later period. The tubercular matter is usually infiltrated throughout the substance of the glands, and in most cases is first deposited in the centre. It has been observed by M. Louis,* that, unlike other glands similarly affected, the portions unoccupied by the deposit are of a blackish or grayish colour; but he does not venture upon any explanation of the peculiarity.

Tubercular bronchial glands occasionally produce certain consequences which are less to be attributed to the nature of the lesion, than to its locality. Thus they may compress the bronchial tubes, the large blood-vessels at the root of the lungs, or the branches of the pneumo-gastric nerve; but, independently of the information to be derived from such effects, the symptoms of bronchial tubercle must always be considered as obscure, and the diagnosis can in general only be arrived at by exclusion. The best directions for obtaining a correct opinion in a suspected case, which I am acquainted with, are given in the work of MM. Rilliez and Barthez,† whose investigations have tended greatly to elucidate the subject: They are briefly as follows: "If we observe cough, emaciation, fever, and night sweats in a child of from three to four years of age, without being able to detect any indication of tubercle in the brain, lungs, or abdomen, we may then suspect its existence in the bronchial glands." The diagnosis is confirmed if there be constant dullness, on percussion, in the interscapular region, with intermitting occurrence of the auscultatory phenomena, indicative of softened tubercular matter.

In a disease of so much obscurity as that of bronchial tubercle, it must be obvious that little information can be

* Louis on Phthisis. 2d Edition.

† *Traité clinique et pratique des Maladies des Enfants.*

given as to its curability under medicinal treatment ; but having direct anatomical proof, in the cretaceous matter which is frequently found in these glands, that they are capable of undergoing a spontaneous cure, we are justified in the belief that the removal of the tubercular product may be accomplished by suitable treatment when it is not deposited in such abundance as to interfere with the neighbouring important structures. But as the treatment of this disease is precisely similar to that which is most serviceable in the next form of tuberculization to be mentioned, I shall, in order to avoid repetition, postpone its consideration until I speak of the treatment of mesenteric disease.

Scrofula mesenterica, mesenteric phthisis, tabes mesenterica, are some of the names which have been given to a scrofulous affection of the glands of the mesentery. As has been said of the same affection of the bronchial glands, the diagnosis of mesenteric disease is a matter of considerable difficulty ; for, setting aside the scrofulous aspect of the patient, there are no positive signs by which it is to be recognized, until the tubercular tumours have acquired such dimensions as to be perceptible through the abdominal parietes. Many of the symptoms generally attributed by authors to that affection are in reality dependant upon other concomitant lesions, any of which may occur independently of the glandular disease.

Mesenteric scrofula is generally fatal ; for not only is nutrition perverted or altogether suspended by the glandular derangement, but in most cases tubercles are also present in the lungs. This complication has been stated by Guersent to exist in five sixths of the cases of mesenteric disease which occur in the Hôpital des Enfants Malades.

The cure, both of mesenteric and bronchial tubercle,

is to be attempted upon the principles which have been enunciated in the preceding chapter, on the general treatment of scrofula. The patient must, in both cases, be surrounded with fresh and, if possible, with sea air. The food must be nutritious and plentiful, and the alvine secretions must at the same time be kept in a state of regularity by the occasional use of Pulv. rhæi with Hyd. c. cretâ. In both diseases, the vegetable tonics will be of service; but the chief reliance of the physician must be placed in the preparations of iodine. Iodine baths will be found very beneficial, more particularly in the mesenteric affection, in which the intestinal mucous membrane is sometimes in too irritable a condition to bear the internal administration of the medicine. In the latter disease, we may likewise anoint the abdomen with the Unguent. iodin. c., or paint it each other day with the saturated tincture.

The effects of cod-liver oil promise to be of considerable benefit in mesenteric disease, if we may believe the statements of Dr. Bennett.* He observes, that "in no disease with the exception of rachitis, are the good effects of the oil so well established as in this. In these cases, indeed, it is often very striking in its operation, curing the disease when every other remedy has failed." In support of his assertions, he relates a very interesting case which occurred to Dr. Nebel of Heidelberg.

Scrofulous children are very subject to a chronic enlargement of the tonsil glands, which in some cases exist, even from birth, but more generally commences a few years later. In the slighter forms of this enlargement, but little inconvenience is experienced beyond hoarseness and an inability to breathe with the mouth closed; and as the child grows up the glands gradually diminish in size. But

* Op. cit., p. 125.

in other cases the disease is of most serious import, and gives rise occasionally to alarming symptoms of asphyxia, especially when, as is frequently the case, the tonsils are further tumefied by the occurrence of catarrhal inflammation.

This form of glandular disease is in general rebellious both against general and topical medicinal treatment. Strong astringent gargles, the local application of lunar caustic, or of the tincture of iodine, may occasionally be of service; but in severer cases the only remedy is the removal of the enlarged organs either by ligature or by excision. The latter mode I consider preferable, and with the help of an ingenious instrument invented by M. Velpeau it is an operation of perfect safety and facility.

In scrofulous females, the breast is occasionally the seat of tumours of a tubercular nature, which often excite very considerable alarm from their resemblance in their earlier stages to diseases of a more formidable nature. These tumours may remain in an indolent condition for an indefinite period, but in the majority of cases, if unchecked, proceed slowly to suppuration. The evacuation of the matter, which partakes of the characteristic scrofulous appearance, gives rise in these cases to ulcerations and fistulous canals of great depth and extent. When the tumour is single, it is generally found towards the centre of the breast, and is perfectly moveable. In most cases it may be handled without much inconvenience, but in women of irritable fibre, an examination not unfrequently leaves the tumour in a painful state for the rest of the day. Strumous breast usually shows itself after puberty, but in some instances it occurs before that period. It will in most cases be found to be accompanied by a chlorotic state of the system.

The treatment of this affection consists in the rectifica-

tion of the cachectic state of the system, and in promoting the absorption of the tubercular matter by local applications. As the menstrual discharge is either absent altogether, or deficient in quantity in most of these cases, the preparations of iron may be usefully combined with those of iodine, either given each separately, or in chemical union under the form of the iodide of iron. The second indications may be fulfilled by frictions with the Unguent. iodinii comp. of the London Pharmacopœia, or with that made according to the formula recommended by M. Lugol. The ointment of the iodide of mercury may also be used if the case is one of more than usual obstinacy.

When the breast has suppurated, as will sometimes happen, iodine may be still applied in the form of poultice; and by injection into the cavity of the abscess, and the fistulous tracks.

The testis is also occasionally attacked by tubercular disease. The affection is well described by Dupuytren,* Sir A. Cooper,† and Sir B. Brodie,‡ but the most modern as well as the most perspicuous account of it is to be found in Mr. Curling's late work.§ The disease commences and proceeds in the most insidious manner, and more frequently affects the epididymis than the body of the gland. The tubercular matter, according to the observations of Mr. Curling, is deposited both within and between the tubuli. His description of the scrofulous testis is as follows. "The patient's attention is first attracted by a slight uneasiness in some part of the gland, generally the epididymis, which is found upon examination to be somewhat enlarged, prominent, and hardened. Sometimes the

* Chirur. Clin., tom. i, p. 101.

† Medical Gazette, vol. xiii, p. 337.

‡ On the Diseases of the Testis, p. 154.

§ Practical Treatise on the Diseases of the Testis and Spermatic Cord.

whole organ feels slightly enlarged and indurated, though it more frequently forms a tumour with an irregular surface. Very little pain is experienced in the part ; and there is but slight tenderness on pressure. After a longer or shorter period, one of the prominences begins to increase so as to be observed externally, and to feel tender and painful ; the skin becomes adherent, ulcerates, and bursts, giving vent to a soft caseous matter mixed with pus. This is followed by the formation of a fistulous sinus, which discharges a scanty, thin, serous pus. Similar changes may take place in other parts of the testis, occasioning two or more sinuses which lead into the interior of the gland. After the deposit has all come away, if the original disease be arrested, and no more tubercular matter be found, reparative changes sometimes take place, the discharge ceases, the fistulæ close up, leaving the organ more or less diminished in size, or entirely wasted, according to the extent to which it had been disorganized by tubercular deposit."

The treatment of strumous testicle is in every respect similar to that recommended for the same affection of the breast, namely, iodine internally, and iodine frictions in the indolent stage, iodine cataplasms and injections into the fistulous tracks, after the abscess has burst. The diet and manner of life must also be precisely the same. When all treatment fails, the removal of the diseased organ is recommended by Dupuytren and others.

CHAPTER IV.

ON THE TREATMENT OF SCROFULOUS AFFECTIONS OF THE SKIN AND CELLULAR TISSUE.

THE integument and subjacent cellular membrane are more frequently invaded by scrofula than any other tissue ; for, independently of those forms of the disease of which they are the especial seat, they are almost invariably implicated in the progress of scrofulous affections originating in other structures, as in the glands, bones, &c.

The order in which I shall treat of the scrofulous affections of the above-mentioned parts is as follows : 1st, Those which are located in the skin and cellular tissue conjointly, as the indurated hypertrophy, the scrofulous abscess ; and 2dly, those in which the skin alone is mainly implicated, as scrofulous ulceration, one form of lupus, and the porriginous eruptions.

The indurated hypertrophy of the skin and cellular tissue may occur in any portion of the body, but is most frequently observed in the upper lip and columnæ nasi, and gives rise to that fulness of those features which is commonly noticed as one of the signs of the scrofulous habit. This affection may exist in various degrees : in some cases the parts are simply tumid without any discoloration of the integument ; but in other instances, the skin is of a dull red colour, and deeply fissured in various situations. The constant cracking of the lip in this con-

dition, together with the bleeding, and the formation from time to time of dark crusts, give the patient a most repulsive appearance.

The treatment of this condition consists in the daily use of an iodine ointment, or in applying the tincture to the inner surface of the lips and nostrils. There is another form of scrofulous induration, which shows itself in the form of roundish or oblong projections of the skin, of a dull red colour, and occurring either singly, or grouped together under various forms. This form of disease, which is the *scrofule cutané* of M. Alibert, is generally indolent, but occasionally becomes inflamed, and assumes the appearance of numerous small abscesses, which contain a sero-purulent fluid. The usual course of these abscesses is to degenerate into irregular ulceration, which are occasionally very rebellious under treatment. There is frequently at the same time the complication of an impetiginous eruption. The most efficacious remedy against these indurations of the skin is the application of the ointment of the iodide of mercury, combined with the internal use of the iodide of iron and sarsaparilla. But they sometimes resist all treatment of this kind, and can only be dissipated by the use of caustic. Many forms of caustic, which will be mentioned when we speak of lupus, have been recommended for this purpose. I have tried several, and have now resigned all in favour of the chloride of zinc, which, for convenience and certainty of operation, I believe to be unequalled. With this caustic I have lately cured a most obstinate case of the disease in question against which I had for a year previously tried the most powerful resolvent ointments, and various caustics, as the concentrated nitric acid, &c. without effect. The disease in this instance occupied the right cheek and top of the nose, and consisted in about thirty of these indurated

elevations, some of which were indolent, others in a state of ulceration, and covered with dark-coloured crusts.

Scrofulous abscesses, in most cases, arise from the glandular affections, which were described in the last chapter; but it is not uncommon for strumous persons to be the subjects of collections of matter which are altogether unconnected with disease of the glandular system. These abscesses, though very frequently they are so, are not always the consequence even of the deposition of tubercular matter. In some instances they are examples of the simple chronic abscess, and, in that case, are readily curable by the preparations of iodine. In the majority of instances, however, they originate in the deposition of tubercular matter in the cellular tissue, which undergoes the same changes as it does when located in the absorbent glands. These abscesses are more difficult of cure than the former. A third, and the most severe form of abscess occurring in the scrofulous habit, is that which is connected with diseased bone, such as are seen in the neighbourhood of the joints, and in the instance of psoas or lumbar abscess.

The two species of abscess first mentioned are included by French writers under the name of *abcès froids*, and may occur wherever cellular tissue abounds. Their first appearance is frequently made immediately after an attack of measles, fever, or some other complaint in which the vital powers are much depressed. The prevailing opinion in such cases is, that the scrofulous habit is directly produced by the debilitating agents which have preceded its development; but I am inclined to believe the opinion of M. Lugol to be the correct one—that the scrofulous symptoms are only *developed* by the fever, and that the habit must have preexisted, although it had lain dormant till

called into action by the accidental malady. The formation of chronic scrofulous abscesses is often preceded by a local engorgement, which abates as suppuration advances; they are in general free from pain, and may remain stationary for months. The skin is not discoloured in the first instance, but, as in the case of glandular tubercle, becomes reddened and inflamed as the matter approaches the surface. The diagnosis of this form of abscess is sufficiently easy; but where it depends upon the softening of tubercular matter disseminated in the cellular tissue, the presence of pus is not so easy of recognition as might be imagined; for the tubercular matter itself has so elastic a feel, as sometimes to mislead an experienced person into the belief of the existence of fluctuation.

Psoas or lumbar abscess is one of the most formidable of the varieties of scrofulous disease, being generally fatal, especially when connected with scrofulous caries of the vertebral column. This, however, is not the invariable cause of the complaint; it in some instances follows the softening of tuberculated lumbar glands, or of similar deposit into the cellular tissue in the neighbourhood of the psoas muscle. When such is the origin of the abscess, a fatal termination is not so invariable an occurrence; and it is probable that the case has been of this kind in the reported cures of lumbar abscess which are occasionally met with. I am not acquainted with a single well-authenticated instance of the cure of lumbar abscess arising from caries of the vertebral column; for, from the want of certain means of diagnosing that lesion, considerable doubt must ever attach to instances of recovery.

But to whatever cause lumbar abscess owes its origin, it always follows a definite track, guided by the course of the psoas muscle and its enveloping fascia, and the matter

eventually finds an exit in one of those situations in which the resistance is the smallest. These are, the anterior aspect of the thigh; its posterior lateral aspect near the trochanters, in which case the abscess is often confounded with hip-joint disease; and in the perineum, where it may be mistaken for ordinary perineal abscess.

In considering the treatment of scrofulous abscess, it must not be forgotten that nature sometimes accomplishes the removal of their contents without their evacuation, the cyst by which these purulent collections are bounded possessing active absorbing properties. Numerous cases are on record in which even lumbar abscess is said to have been so dissipated; and it is therefore advisable, in the chronic as in the ganglionic abscess, to prevent, if possible, the matter from approaching the surface. In order to effect this, the general means of treatment already indicated must be carried out with perseverance, the swelling being at the same time covered with the Unguent. iodin. c., or with the Unguent hyd. iodidi. The state of the bowels should be carefully attended to, more particularly in lumbar abscess; for, as might be expected, from the anatomical relations of the colon and the psoas muscle, a faecal accumulation is apt to aggravate the symptoms to a severe degree.

It is of great importance in the treatment of lumbar abscess, if the pain be not very acute, that the patient should take exercise in the open air, walking of course with the aid of crutches. This rule, which is strictly enforced by M. Lugol, is, however, contrary to the practice of many of our most reputable surgeons, who recommend that the patient should be confined to the horizontal posture, especially when there is suspicion of vertebral caries. I feel convinced, notwithstanding that the weight of authority is against such an opinion, that this practice

is productive of serious injury in scrofulous disease ; and I am pleased to find that such is also the conclusion of Mr. Chalk. In one of his valuable and practical papers published in the Medical Gazette, he observes, "Of late years I have had frequent opportunities of comparing the state of individuals who have been confined to their beds during the disease, and those who have been treated on the opposite plan ; and I have no hesitation in asserting that the advantage derived from the latter are infinitely greater, both as regards the shorter duration of the complaint and the degree of deformity produced."* It appears to me that experience upon the subject is not necessary in order to arrive at this conclusion ; it is one to which we must subscribe upon simple reflection on the etiological history of scrofulous disease. It is to be feared that many surgeons are so occupied with the local complaint that they overlook those elements in its causation and progress which are due to the constitutional vice.

I must be allowed to express an equal disapprobation of issues, moxæ, and the other forms of counter-irritation which are so commonly employed in the treatment of scrofulous abscess ; they not only do no good, but, according to my experience, produce considerable injury to the constitutional powers of the patient.

When it appears probable that the matter of a chronic abscess is about to burst externally, it becomes still more incumbent upon us to preserve the general health of the patient in the best possible condition, as he is destined to undergo farther inroads upon his constitution by the discharge, and by the irritation which the opening of a large abscess generally induces. Some difference of opinion exists among surgeons as to the propriety of making an early

* Medical Gazette, April 23d, 1841.

opening in these large purulent collections. Boyer* advises that the matter should be evacuated as soon as fluctuation is distinctly perceptible, but not before; and this is perhaps the prevailing opinion in the present day; but there are many names of note which might be cited as favorable to the practice of allowing the abscess to burst spontaneously.

The propriety of following either the one or the other plan depends, as far as I have been able to observe, upon the situation and size of the abscess. The great objection to allowing the spontaneous evacuation of the matter is, as has already been stated, that the extent of the abscess is likely to be much increased by the delay; and as it rarely opens by a single orifice, the deformity arising from the scar is generally much greater than when an opposite plan is adopted. When, therefore, the abscess is situated in a conspicuous place, as in the neck or upper part of the thorax, it is advisable to make an early opening while the skin is as yet but little detached from the subjacent cellular membrane. But when concealment of the cicatrix is not an object, and when the abscess is large and suspected to be connected with diseased bone, we ought always to keep in mind the serious consequences which follow the exposure of a large suppurating cavity to the air, and therefore to postpone the evacuation of its contents to the last moment. This is the opinion of Kirkland† and Pearson, and also that more lately expressed by Mr. Chalk,‡ whose testimony, in connexion with scrofulous disease, is extremely valuable. This precaution is essentially requisite in lumbar abscess; but it is scarcely less so in cellular abscess of large extent, and in abscess connected with the joints.

* *Maladies Chirurgicales*, t. i, p. 74.

† *Med. Inquir.*, vol. ii, p. 200.

‡ *Medical Gazette*, April 16th, 1841.

Should it, however, as it undoubtedly will, under certain circumstances, in all abscesses, be necessary to evacuate the contents by operation, the opening should be made at the most dependent part of the sac, unless, as is frequently the case, the matter points directly in the centre. Under these conditions, the spot pointed out by nature should be chosen for the puncture, as, from the absorption which the skin has undergone, it would be sure to ulcerate in any case. If the matter has a tendency to burrow after the opening of the abscess, and the whole of its contents cannot be expelled through the original outlet, counter-openings will be necessary.

In psoas abscess, from the great extent of the sac, and the proportionate danger of admitting air, it is of importance to evacuate the pus in such a manner as to obviate such an occurrence. For this purpose several plans have been adopted; but the best is that first introduced by Mr. Abernethy, and still much employed at the Hôtel Dieu, of making repeated valvular openings, and healing them by first intention, after a portion of the contents of the sac have been evacuated. By this means, as the abscess is never quite full, an opportunity is given for the upper portion of the sac to collapse and be obliterated by adhesion.

M. Lugol is in the habit of injecting scrofulous abscesses with iodine solutions, and with great success. It is a plan of which I can speak in praise in the cure of abscesses of medium size, as those connected with the knee-joint, tubercular glands, &c.; but I should question its propriety in lumbar abscess, or in simple cellular abscess, of very large size, as we should run great risk of admitting air in the necessary manipulations. The strength of the fluid to be injected has already been mentioned in Chapter II. Iodine frictions over the walls of the abscess, and iodine dressings

to the ulcerated openings are to be combined with the same internal treatment already mentioned.

Scrofulous ulceration may originate in one of four ways: it may be either a simple loss of substance commencing in the integument, or it may be the result of a glandular enlargement, a cellular abscess, or tubercular deposit, with its consequent changes in the bones and other deep-seated structures. But, from whatever cause, and in whatever part of the body they arise, there are certain characteristics by which scrofulous sores may be easily recognized. These ulcers are at first of a circular form, but assume various irregularities of outline as they increase in size. The bottom of the sore has usually a dull grayish and granular aspect; the margins are elevated, of a red or violet hue, bathed in pus, with the edges somewhat inverted, and undermined to a greater or less extent. If granulations arise, they are pale and flabby, with a tendency to rise beyond the level of the surrounding skin, and covered with a thin ichorous discharge. The progress of a scrofulous ulcer is tedious; it frequently changes both its form and aspect. It is in general indolent, but at certain times may become irritable and painful.

One essential feature in these ulcers is their tendency to irregular cicatrization, one portion granulating, while another still remains in a state of progressive ulceration; or the centre skinning over while the circumference shows no disposition to heal. The undermined edges which are the last to take on a reparative action are thus drawn together by the contraction of the central portion of the cicatrix, and when they at length granulate, they form an uneven and deformed cicatrix. It is chiefly in the neck that great deformity from scrofulous sores is observed, because not only are the absorbent glands more numerous in that

region, but the parts are constantly disturbed by the play of the subcutaneous muscles.

In the treatment of a scrofulous ulceration, we must be in a great measure guided by its situation. There is in general no great difficulty in healing a sore which is unconnected with diseased bone; but in certain situations, as in the neck for instance, it is not sufficient to heal the ulcer only, we must also endeavour to heal it with the least possible deformity. In this respect there is frequently too little care bestowed; we are too apt perhaps to be anxious to cure at all hazards a scrofulous sore, which has long resisted treatment, to be over particular as to the manner in which it is cured. But we are much to blame in the exercise of such injudicious haste. The simplicity of the means by which a scrofulous ulcer can be made to heal in an even and a regular manner, renders the presence of those unsightly scars which are often seen in scrofulous children, a lasting reproach to those who have had the medical superintendence of the patient.

As soon as scrofulous ulceration commences, the sore should be dressed either with iodine ointment, or with one of the solutions above mentioned. I generally prefer the form of ointment, and especially the Unguent. plumbi iodidi, to any other preparation in the first instance, reserving the solution for the more indolent condition which is apt to supervene after a few days or weeks. The Unguent. hyd. iodidi is also a valuable application in many forms of scrofulous ulceration. M. Lemasson, in a memoir which is appended to Mr. O'Shaugnessy's translation of Lugol's 'Memoirs on Iodine,' speaks favorably of combining opium with the iodine application. I have occasionally adopted the plan with advantage, particularly in extensive ulceration accompanied by great local and gene-

ral nervous irritability. The iodine bath, as has already been stated, is of material benefit in scrofulous ulcers. These means, together with the internal use of iodine, will in general speedily heal those scrofulous sores which do not depend upon disease of the bones; but in order to prevent deformity in the cicatrix, which will generally occur if the sore be not carefully attended to, some surgical interference will sometimes be necessary in addition to the ordinary treatment.

The method of preventing a deformed cicatrix is simple, and will in most cases be successful. I would not be understood to assert that scrofulous ulcerations can be made to heal without leaving any mark; that must be seen to be impossible, when we consider the extent of integument which is frequently detached from its cellular connexions. What I wish to state is that the deformity may be in all cases greatly diminished by well-timed interference. That form of cicatrix which depends upon the skinning over of exuberant granulations, and which appears as an elevated ridge, may be effectually prevented by occasionally touching the granulating surface with the caustic iodine, or with nitrate of silver, which is to be repeated until it shows a disposition to skin over from a level with the surrounding integument. But the more complicated cicatrices which would occur in many scrofulous sores, if allowed to heal spontaneously, are not so easily managed. The deformity may, however, if not prevented altogether, be considerably diminished by removing the undermined edges, the superposition of which one upon the other contributes mainly to produce the irregularity of the scar. This may be accomplished either by the knife or by caustic, but the former is to be preferred from the rapidity and certainty with which the operation may be performed. Baudelocque has given some excellent injunctions in regard to this

mode of treatment. "We should never operate," he observes, "until the abscess shows a disposition to heal, that is, until the tubercular engorgement has disappeared; if we act differently, it will sometimes happen that the sore will not cicatrize at all, and that the skin becomes still further detached, as the resolution of the glandular swelling progresses, and a second operation is then rendered necessary." M. Baudelocque gives the preference to a caustic, composed of equal parts of potassa fusa and quicklime, but the painfulness and tedium of its action are sufficient in my opinion to make it less advisable than the use of the knife.

This manner of proceeding is the best which can be devised for ulcerations of moderate size; but in some cases the integument is detached to so great an extent, that it would be most injudicious to attempt its removal. In these cases we must endeavour to cause union of the detached integument by the use of iodine injections, combined with pressure.

When scrofulous scars are already formed in the uneven and unsightly condition above alluded to, something may still be done towards their improvement. The bridles of integument which sometimes stretch across from one part of the sore to the other may be divided, and the elevated ridges may be removed with curved scissors. If the cicatrix is so irregular as not to admit of amendment, it may be advisable to include the whole in an elliptic incision, and having dissected out the deformed portion, to bring the edges together so as to form a simple cicatrix. This operation, however, ought never to be performed until such times as the patient's habit has undergone a decided amendment, as otherwise the incision might again give rise to scrofulous ulceration. Some benefit may be derived where the foregoing means are objected to, by the repeated ap-

plication of the caustic iodine to the deformed cicatrix, or by the use of the compound iodine ointment.

M. Lugol has described a disease under the name of *esthiomenic* or *corrosive* scrofula, which implicates both the skin and cellular tissue, and which chiefly confines its ravages to the face. The disease in question has been referred by many writers to that class which is known under the name of lupus, or *noli me tangere*, but as it appears to me with very questionable propriety. It is dissimilar to that disease in all its stages, and in no case produces those frightful mutilations which lupoid ulceration commonly induces. The true scrofulous affection commences as a pale flat elevation, around which the integument is of a dull red colour. These elevations are at first indolent, and covered with a thin scaly exfoliation, but sooner or later their summit begins to suppurate, and gives rise to dark tenacious crusts, which fall off from time to time, and exhibit a raw surface, studded with small acuminate granulations. The integuments at the same time become hypertrophied, and the disease extends not by ulceration, but by the successive appearance of the small button-like prominences.

This disease is one of peculiar obstinacy, and frequently resists treatment for years. It appears occasionally to undergo a spontaneous cure. The local treatment must be commenced by poultices for the purpose of causing the detachment of the scab. When this has been accomplished, the diseased part should be rubbed twice a day with the Unguent hyd. iodidi. I have tried the ointment of biniodide, but have generally found its action to be too violent and painful. It will be necessary at the same time to combine the internal exhibition of iodine; the best preparation of which in these cases is the iodide of iron, as there is frequently a coexistent chlorotic state of the system in

the patients, who are in the great majority of cases young females. By this treatment we may in some cases be so fortunate as to obtain a cure, but it must be allowed that in the greater number, we shall not succeed without the use of caustic. The caustic which I am in the habit of employing is one made of equal parts of chloride of zinc and gum tragacanth or flour made into a paste. It is by far the best escharotic which can be applied, as its action is perfectly local, and as it produces less erythematic inflammation than any other. The mode of applying it is to spread the paste two lines thick over the part to be acted upon, which ought not in any case to exceed the dimensions of a shilling at one time, and to allow it to remain twelve hours. When the eschar has separated, which it generally does at the end of five or six days, a clean healthy surface will be disclosed. The cicatrix is almost imperceptible.

Several of the cutaneous eruptions to which the periods of infancy and childhood are amenable, are so frequently associated with other undoubted manifestations of the scrofulous diathesis, and so frequently follow the application of those anti-hygienic circumstances which are seen to precede the development of scrofulous diseases in general, that there can be no difficulty in considering them to be intimately allied to the same morbid state of constitution.

It is at all events certain that the course and intensity of many forms of cutaneous disease are greatly modified by the presence of the scrofulous habit. The eruptions for instance, which accompany the process of dentition, and which are slight and of a papular form in healthy children, are seen to assume the pustular character in the children of weakly or scrofulous parents. So constantly has this fact come before my observation, that whenever I meet with an infant which suffers severely from eczema or impetigo

(the *crusta lactea*) during dentition, I am prepared to find other evidence of the existence of the scrofulous temperament in the family. The scrofulous origin of the common "scald head," the *porrigo favosa* and *scutulata*, is particularly insisted upon by MM. Biett, Cazenave and Schedel,* and by Dr. Cumin.†

It is not my intention in the present essay to do more than allude to these affections of the skin, and so far only as to acknowledge the propriety of admitting them into the category of scrofulous diseases. Their treatment is complicated and difficult, and appears to be as far as local means are concerned, so unconnected with the special treatment of scrofula, that I must refer to the numerous treatises on skin diseases for information upon the subject. I would merely remark, that the general means of fortifying the constitution which have been mentioned in the first and second chapters of this essay, will be found of material assistance to the local remedies in common use. From a considerable experience of their beneficial action, I now never undertake the cure of *porrigo* or the severer forms of *eczema* and *impetigo*, without causing the internal administration of some preparation of iodine, to enter into the treatment. Of the local action of this medicine I am not able to speak so favorably; having never derived any advantage in *porrigo*, either from the use of the iodine ointment, or the more powerful agency of the caustic solution, which is not equally to be obtained by the employment of other stimulating applications.

* *Maladies de la Peau*, p. 282.

† *Encyclop. Pract. Med.* Art.—*Scrofula*.

CHAPTER V.

ON THE TREATMENT OF THE SCROFULOUS AFFECTIONS OF THE MUCOUS MEMBRANES.

It is the opinion of Carswell, that the mucous membranes, considered in a general point of view, are by far the most frequent seat of tubercular deposit, and are the tissue exclusively or chiefly implicated in the tuberculization of every organ or structure of which they form a part. Without stopping to inquire whether there may not be some exaggeration in this view of the pathology of tubercle we may safely assert that the affections of the mucous membranes occupy a most important place in the enumeration of the diseases which are manifested in virtue of the presence of the scrofulous diathesis.

The bronchial mucous membrane is that which is least subject to scrofulous disorder before puberty; but after that period it is peculiarly amenable to disease in connexion with pulmonary tubercle. The lining membrane of the digestive apparatus is very liable to disordered function in persons of the scrofulous habit, and imparts a troublesome complication to the other strumous affections with which it is frequently associated. This condition, which is manifested by a feeble digestion, a capricious appetite, and a great susceptibility to gastrodynic irritation, is a common accompaniment of a high degree of the strumous diathesis. It adds much to the difficulty which at all times surrounds the treatment of scrofulous diseases,

as it is a condition which is intolerant of the preparations of iodine, and which must therefore be rectified before the special treatment of the case can be entered upon.

The mucous membrane of the female genital organs is occasionally the seat of a scrofulous affection both in the child and in the adult. Scrofulous children are very subject to purulent discharges from those parts, which have in many cases been mistaken for disease arising from gonorrhœal contamination. In the adult female, leucorrhœal discharges are commonly present whenever the general health is greatly deteriorated; but they are in general quickly and effectually removed as the health becomes re-established. But in scrofulous females, a catarrhal condition of the vaginal membrane is almost constant, however favorable the state of health may be in other respects, and, from its obstinacy and abundance, frequently produces the utmost exhaustion.

The derangement of the intestinal canal, which occasionally complicates other scrofulous affections, may in general be easily removed by the exhibition of gentle aperients, with alterative doses of Hyd. c. cretâ. The best treatment for leucorrhœa consists in the internal administration of the iodide of iron, and the employment of stimulating vaginal injections. In young girls the complaint may be readily removed by lotions containing iodine or the sulphate of zinc.

The pituitary membrane is frequently the seat of mucous or muco-purulent discharges in scrofulous children. The affection in many cases consists of a simple blenorrhagic state of the membrane; but from the accumulation of scabs at the orifices of the nostrils, it may occasionally become a very troublesome complaint, especially when, as is often the case, it is associated with the hypertrophy of the lips and alæ nasi, before alluded to. It gives rise to a

constant itching and tingling in the nasal passages, and is frequently connected with the presence of ascarides in the rectum, a symptom which, if not absolutely confined to scrofulous children, is well known to be more common and more difficult of eradication in them than in those of a healthy constitution. In other cases, the pituitary affection is more severe, and approaches nearly to the characters of ozæna. It depends in these instances upon scrofulous ulceration of the nasal mucous membrane, combined occasionally with caries of the turbinated bones.

Local treatment is not of much service in either of these forms of coryza; but slight benefit may sometimes be derived from the use of iodine ointments and injections. Our chief reliance must be placed upon aperient medicines, and the internal use of iodine, which will rarely fail in the milder forms of this disease, and, if it does not cure, will greatly relieve in the more severe form.

Strumous otorrhœa, like coryza, is an affection which varies much in severity, accordingly as it is limited to the external auditory passages, or as it depends upon inflammation and ulceration of the internal structures of the ear. In the former case, it is often seen to accompany the porriginous and eczematous eruptions which so frequently attack the backs of the ears and other regions of the head in scrofulous children, and appears to depend upon an extension of the eruption into the external auditory canal.

The scrofulous affection of the internal ear is a far more serious complaint than the one just alluded to: it commonly produces deafness, and not unfrequently is even the cause of death. It is for the most part slow and insidious in its progress, giving very little evidence of its existence, beyond a gradual decay of the sense of hearing. Sooner or later, however, the cavity of the tympanum becomes filled with purulent fluid, which has been secreted by its in-

flamed lining membrane; and the inclosed matter finds an exit by the rupture of the membrana tympani. When this has taken place, the air is admitted into the suppurating cavity, and produces injurious effects, though not to the same degree, analogous to those which are seen in large cellular abscesses. The matter, which is not only contained in the cavity of the tympanum, but is infiltrated into the mastoid cells, becomes fœtid and irritating, and ulceration is soon established. Caries of the mastoid cells then ensues, and gradually extends to the petrous portion of the temporal bone. From this spot the irritation is sometimes propagated to the contiguous portion of the dura mater, and the child dies, with symptoms of meningitis of the base of the brain. In the more favorable instances which form the bulk of the cases of strumous otorrhœa, the destructive process is not so extensive, but is limited to ulceration of the membrane of the tympanum; and caries either does not ensue at all, or does so to a small extent, and is confined to the spongy tissue of the mastoid process.

Otorrhœa is sometimes rendered tedious in its progress by the occurrence of morbid vascular growths, which are either seen to be attached to the surface of the membrana tympani, or to project through the inflamed membrane from the interior of the ear.

The milder forms of otorrhœa which are entirely an external affection, are readily cured by mild or gently stimulating injections, such as solution of the acetate of lead or sulphate of zinc. If this does not succeed, the auditory passage may be lightly touched throughout with lunar caustic, as recommended by Mr. Wilde.* The only effective treatment of the severer form of the complaint, after the mem-

* Dublin Journal of Medical Science, Jan. 1844.

brana tympani has given way is the frequent use of injections, which are not only beneficial as regards the condition of the internal membrane, but are necessary in order to ensure cleanliness, and to prevent the lodgement of the matter in the mastoid cells. Many different forms of injection are recommended. Itard speaks well of a solution of caustic potash; Curtis uses a mixture of equal parts of sulphate of copper, nitrate of potash and alum, with one sixteenth part of camphor, two drachms of which are dissolved in six ounces of distilled water. The sulphate of zinc and iodine solutions will also be found of service. The latter, according to Baudelocque, never fails to cure the slighter cases, and materially benefits those which are more severe. When the discharge is very foetid, the chloride of lime may be used as an injection. Before matter has been formed, leeches and blisters may be applied to the mastoid process, if the pain be very great; but, as I have before remarked, they will seldom interrupt the progress of the disease, if it be of scrofulous origin. The internal exhibition of iodine is of course to be persevered in. The polypoid growths may be effectually checked by the local application of lunar caustic, by means of an instrument adapted to the caliber of the meatus auditorius.

Scrofulous ophthalmia is a disease so familiar to the practitioner, that a minute description of its characters is quite unnecessary. It is one of the earliest, as well as the most common of the diseases to which the strumous temperament is amenable, forming, according to Beer, nine tenths of the ophthalmic attacks to which children are subject before puberty. Scrofulous inflammation is not confined to any one structure of which the eye is composed, but its most usual seat is the conjunctival membrane. Its duration, intensity, and course are subject to

great irregularities, and are much under the influence of atmospheric changes. The most prominent symptom is an intolerance of light, which is out of all proportion to the vascular excitement of the organ. We shall frequently be surprised to find a clear conjunctiva, when the profuse lachrymation and spasmodic closure of the lids would have led us to expect the most serious injury to the parts.

Some parts of the treatment commonly pursued in strumous ophthalmia are open to serious objections. The plan of confining a patient to a darkened room, as well as the frequent application of leeches, however valuable they may be in acute inflammation occurring in a healthy subject, are, in my opinion, worse than useless in the disease in question. It is no uncommon thing to see a case, which has become progressively worse and worse under the continual application of leeches and cupping, speedily improve under the very opposite plan of treatment.

Blisters are scarcely less objectionable than leeches; it is true that they will, in some cases, speedily remove the photophobia; but they so frequently induce glandular enlargements, and other disagreeable results, that I prefer attempting the relief of that symptom by other means. The plan of treatment which I have found most successful is as follows. To insist, in the first place, that the patient, instead of being placed in a dark room, be made to pass the greater part of the day out of doors; to discard the green shade whenever it is practicable; to eschew leeches, cupping, and blisters; and for the rest to trust to good food, tonic medicines, and stimulating local applications.

Of the internal medicines two only are worthy of notice, exclusive of aperients. These are quinine and iodine; the former is a most useful medicine in all strumous diseases; but in this particular affection, it is regarded by some in

the light of a specific. It is undoubtedly of great value as a tonic medicine in these cases; but it has no special effect upon the tubercular constitution, and therefore is unable to prevent the liability to relapse. For this purpose the only medicine worthy of any confidence is iodine; some preparation of which should be our sheet anchor in all cases of strumous ophthalmia.

The local treatment of the disease, although insufficient in itself, is, nevertheless, of the highest importance. It consists chiefly in the use of stimulating applications. Of these a great variety will be found in the works on ophthalmic diseases. Those most usually employed are solutions of the acetate of lead, sulphate of zinc, and nitrate of silver, to which may be added the iodine solution. Lugol places great confidence in the latter, and rarely uses any other, even in the most severe cases; he has related many instances in his *Memoirs*,* in which the patients have recovered by its use under the most unpromising circumstances. I have had but little personal experience of iodine as an external application in these cases, being so well satisfied with the action of the nitrate of silver as to have no desire to adopt any other remedy. The strength of this solution must vary according to the date and urgency of the symptoms; in the commencement of the disease, from two to four grains to the ounce of distilled water will form a lotion of sufficient strength; if it be farther advanced, and vesicles or minute ulcerations have formed upon the cornea, a stronger solution, or even the solid stick may be used with striking advantage. This application will in general be found to be the most effectual mode of combating the distressing photophobia and lachrymation; but if a direct sedative be needed, the *vinum opii*,

* Translation by Dr. O'Shaughnessy.

or an aqueous solution of the extract of belladonna may form part of the treatment. If the iris, as sometimes happens, be involved in the inflammation, the iodide of mercury may be advantageously substituted for the other preparations of iodine.

Another mode of local treatment in strumous ophthalmia remains to be mentioned, namely, the application of the nitrate of silver in substance, or the tincture of iodine to the exterior surface of the eyelids. The former of these plans was introduced by Mr. Wormald, and has since been highly extolled by Dr. Hocken,* as never failing when combined with appropriate constitutional treatment. In recent cases one application, according to him, is sufficient; in the more chronic two or three are required. The method of using the nitrate of silver is as follows: the eyelid is to be put upon the stretch so as to present a smooth surface, and after being moistened, the caustic is passed once or twice lightly over, so as to produce a slight blackening of the skin. Speaking of the local application of the tincture of iodine, Dr. Furnival states that "in the early stages, it will altogether and speedily arrest the morbid action, and in the latter periods it will greatly lessen, if not entirely remove, opacities of the cornea which have resisted all other remedies." The tincture is applied with a brush in a manner similar to that which has been mentioned of the nitrate of silver.

It must, however, be allowed, in spite of this apparent simplicity of the treatment of strumous ophthalmia, that there are few diseases which are, in many instances, so rebellious even in the hands of the most experienced physicians. It is a disease which will often require not only all his skill, but all his patience, for in none is the

* Lancet, Nov. 19th, 1844.

latter quality more likely to be put to the test. The frequent relapses in this disease, under the most unexpected circumstances, are calculated to cause him to despair of ever subduing the diseased action; nor will he be able to do so until, by a judicious combination of hygienic and general treatment, he has rectified that vice of constitution upon which the local effects depend, and by which they are so obstinately protracted.

CHAPTER VI.

ON THE TREATMENT OF THE SCROFULOUS AFFECTIONS OF THE OSSEOUS SYSTEM.

HAVING in the preceding chapters endeavoured to give a concise account of the treatment of the principal scrofulous diseases which originate in the soft parts, we have now, in the last place, to offer a few remarks on the management of those cases in which the bones are involved in the morbid process.

There is no part of the osseous system which is exempted from the invasion of scrofulous disease; but those bones are most commonly affected by it which abound in cancellated structure. As might be expected, therefore, the spongy bones which compose the joints of the wrist and ankle are especially amenable to the disease, as are also the expanded extremities of the long bones, and the bodies of the vertebræ. Scrofulous disease, however, occasionally, though much more rarely, attacks the denser structures composing the shafts of the bones.

Scrofulous disease of the bones, as of other parts, has for its essential pathological condition the deposition of tubercle, which takes place in the meshes of the cancellated structure. This is the primary lesion, according to the opinion of Sir B. Brodie and the best authorities, in all cases of scrofulous disease of the bones and joints, properly so called; but it has been considered by others that

strumous action may originate in any of the tissues which enter into the composition of an articulation. The latter opinion, however, is clearly untenable, if tubercle be the pathognomonic sign of scrofula; for if a strumous joint be examined in its incipient stage, that product is nowhere found but in the extremities of the bones. At a future period of the disease, it is undoubtedly found also in the joint itself, and in the neighbouring soft tissues, but not until the commencement of caries has allowed its extravasation from the cells of the bone.

Whether the bone affected by scrofulous disease be a vertebra, in which case it gives rise to spinal curvature with or without lumbar abscess; or in the iliac bones and head of the femur, constituting common scrofulous hip-joint affection; or in the ends of the long bones of the arm or leg, where it assumes the appearance which is vaguely termed white-swelling,—the origin and progress of the disease are the same, modified only by the anatomical disposition of the parts. The description therefore of the disease as it occurs in one spot will be applicable to all.

A bone which is about to become the seat of scrofulous disease first assumes an increase of vascularity, as is rendered sufficiently obvious by injection. The oily fluid, which naturally occupies the cells of the cancellated structure, is then absorbed, and in its place is deposited a yellowish or whitish matter, which is at first in a semi-fluid state, but subsequently becomes condensed into the peculiar cheesy consistence of crude tubercle. This, which may be considered the first stage of scrofulous disease of the bones, may remain stationary for an indefinite time, but sooner or later further changes ensue both in the bone itself and in the neighbouring structures, which we shall proceed to describe. In the bone itself the vascularity begins to diminish until at length it is reduced below the natural

standard. (Lloyd, Brodie.) The earthy material of the bones is soon removed by the absorbents, and it acquires such softness as to be readily cut with the scalpel. At the same time, if the affected bone enters into the composition of a joint, erosion or ulceration of the cartilages commences,—a change which is in general the signal for the outbreak of constitutional symptoms. The periosteum is also inflamed and thickened, and either begins to deposit bone in irregular masses, or is separated from its osseous attachment by a layer of pus. In the latter case, if the separation be considerable, a portion of the bone loses its vitality, and necrosis is added to the other pathological changes. In proportion as the bone becomes carious and the cartilages are removed, the ligamentous and cellular tissues participate in the mischief, and lymph is extensively poured out. The part is now swollen, and puts on the appearance which is characteristic of the so-called white-swelling.

The next change is the occurrence of suppuration in the joint and surrounding tissues, and the progress of the matter towards the surface. This, in the case of the external joints, is an extremely long operation, as the pus seldom takes the most direct route. In caries of the spine, the process is still longer, as the matter, in most cases, travels the whole length of the psoas muscle before it finds an exit. When the contents of the abscess have been discharged, the opening usually remains fistulous, and puts on the well-known appearance of an ulcer leading to diseased bone.

Certain other events are also observed in scrofulous disease of the bones which depend upon the nature of the organ of which they form a part. In the spine, the caries of the body of the vertebræ and the absorption of the cartilages are almost entirely limited to their anterior aspect,

the posterior portions remaining intact. In consequence of this, the bodies of the vertebræ fall together in front, and the spinous processes are made to project in an angular course. In the hip-joint the connexion between the head of the femur and cotyloid cavity is destroyed by suppuration, and the edges of the cavity being at the same time destroyed by caries, the head of the bone is thrown upon the dorsum of the ilium. In the same manner spontaneous dislocation sometimes, though much more rarely, occurs in the other large joints.

Scrofulous disease of the bones, when advanced to the stage of caries, is one of the most incurable maladies by which the human frame is afflicted, and the patient but too frequently sees before him the fearful alternative of a lingering death, or the loss of the diseased limb. It must, however, be said to the credit of medical science, that such a fate is of less frequent occurrence than in former days ; for not only has a more rational system of general treatment been founded upon a closer insight into the constitutional peculiarities with which the disease is associated, but we are fortunate enough to possess in iodine a remedial agent of a power unequalled by any other with which we were previously acquainted. It is probable too, that a far greater amount of success would follow our attempts to cure strumous disease of the bones, if we could in all cases undertake the treatment in its incipient stage, and if we were not thwarted by the senseless impatience of the patient. But such unhappily is seldom our lot : in the first place, the most remediable period is allowed to pass by before medical aid is sought ; and in the next, the patient is too apt to attribute his tedious course of treatment rather to the incapacity of his attendant than to the lingering nature of his disease. The secret of the great success which has attended the practice of M. Lugol, more particularly in

the Hospital of St. Louis, is to be found in the length of time which he is able to devote to the treatment. It is no uncommon occurrence in that institution for a scrofulous patient to be constantly under treatment for a period of eighteen months or two years; while in this country, he would either have been pronounced incurable, or have left his medical attendant in disgust or despair in half the time. Scrofulous caries, under the most favorable circumstances, cannot be cured without a persevering treatment of many months' duration; and it would be well in these cases, if the patient had this fact clearly placed before him.

In no form of scrofula is an attention to the constitutional origin of the disease more necessary than in that in which the osseous system is implicated. It is of the utmost importance therefore that the powers of the system should have every support which a wholesome and liberal diet and pure air can contribute. The digestive organs should likewise be maintained at their maximum degree of force, by the exhibition of the most efficient tonic medicines. Of these Sir B. Brodie places the greatest faith in the preparations of iron, and next to this in the liq. potassæ, given in some mild bitter infusion. The cod liver oil has also the reputation of being specially useful in scrofulous caries; and has been given with the best effects by Brefeld, Dieffenbach and others. But it is to the preparations of iodine, that we must most implicitly trust in this as well as in other scrofulous affections. Even in this intractable form of scrofula these medicines will sometimes be beneficial beyond belief, and the hectic and general failure of the vital powers will vanish as if by magic. I have seen more than one patient whom a lumbar abscess was daily bringing nearer to the grave, gain appetite and flesh, and the discharge cease in less than a month from the time of commencing the medicine. The mode in which it should

be exhibited need not be repeated, as it has already been sufficiently insisted upon.

Almost all who have written upon the subject inculcate the necessity of keeping a bone affected by scrofulous caries in a state of the most absolute rest, especially when it enters into the composition of a joint. Thus Sir B. Brodie* observes, "There is however, one rule respecting local treatment which is applicable to all cases, and which can never with safety be disregarded; the diseased joint must be kept in a state of the most perfect quietude." And, again in reference to spinal caries, "From the first moment in which the nature of the case is clearly indicated, the patient should abandon his usual habits, and be confined altogether to his bed or couch." The same opinion is expressed by Boyer, Phillips, and others. But on the other hand there are many deservedly high authorities on the subject of scrofula, and among them M. Lugol, who studiously avoid the confinement which is in a measure necessary to carry out the precaution of perfect rest of the diseased part. In the Hospital of St. Louis, patients may be seen walking about with all forms of scrofulous disease, and much of the efficacy which undoubtedly follows M. Lugol's treatment, is by him attributed to this bold innovation in treatment. Mr. Chalk also, in allusion to the treatment of hip-joint disease, plainly asserts that the patient should not be confined to his bed, unless active inflammatory symptoms be present.

It is somewhat difficult to decide between such discrepancies of opinion, when the weight of authority is so nearly equal. One thing, however, is sufficiently evident, that scrofulous disease of the bones being only a part of a

* On the Diseases of the Joints, p. 211.

general depraved habit of body which if not caused is beyond all doubt developed and aggravated by deprivation of pure air; a confinement in bed in a sick-room must inevitably tend much to diminish the benefit which might otherwise attend medicinal treatment. The question is this,—Is the local advantage to be derived from rest, or is it not more than counterbalanced by the injurious effects which confinement produces upon the constitutional debility? I am inclined to the belief that it is; and am therefore an advocate for the practice of causing the patient to take exercise if possible, and at all events, to be freely exposed to fresh air, even when exercise is precluded. It is obviously of paramount importance in spinal caries, that the weight of the body should be taken off the diseased vertebræ, and the recumbent position therefore becomes absolutely necessary as the only way in which that end can be accomplished; but it does not follow on that account that the patient must be confined to his bedroom. It could easily be so arranged that the couch which forms his bed at night, should be his carriage in the day, by which means he might be out of doors as much as is required without the risk of injury to the diseased part. The same plan might be followed in hip and knee-joint disease, where from the occurrence of accidental inflammation the recumbent posture is rendered advisable; but where there is but little pain I should strongly urge the advantage which will accrue to the patient, from his daily moving about in the open air upon crutches. The principal reason in my opinion why strumous disease of the upper extremities is more frequently subdued than in the lower, is solely this, that in the one case, the patient is allowed to take exercise in the open air, and in the other the routine practice is to confine him to bed.

Topical bloodletting by leeches and cupping, form a

principal part of the ordinary treatment of scrofulous disease of the bones, but its advantage is a matter of considerable doubt. Sir B. Brodie* speaks of depletion in very qualified terms; he does not in fact consider it necessary, excepting in cases in which it is required to arrest an accidental attack of inflammation induced by the too free exercise of the limb, or in any other way. Leeches are equally condemned by Mr. Chalk; and Mr. Phillips also observes, that "local and general bloodletting are only required where there is much pain and local reaction."† In opposition to these opinions many cases will doubtless be mentioned in which the most marked benefit has followed repeated leeching, and indeed many such have come under my own notice; but it fairly admits of doubt whether these cases were in reality instances of scrofulous disease, for it is well known, that in the early stage it is not easy to distinguish common synovitis, or ulceration of the cartilages, from incipient tuberculization of the bones. The difficulty of diagnosis is still further increased if the patient happens to present the signs of the strumous diathesis, in which case we are perhaps too apt to overlook the possibility of the occurrence of common inflammation. But if the case be clearly one of scrofulous origin, why should we expect tubercle to be more under the influence of local depletion in the joints than elsewhere? Of what use are leeches in strumous ophthalmia, in tubercular cervical glands, or in phthisis pulmonalis? I do not wish, however, to be understood to say that leeches are in no case required in strumous disease of the bones and joints, but only that they are not generally necessary, and never unless acute inflammation be superadded to the slow processes of tubercular deposition and softening.

* Op. cit. p. 211.

† Lectures, Medical Gazette, July 24th, 1840.

Counter-irritation, including the insertion of issues, setons, cauteries, moxæ, &c., has long been regarded as a most powerful means of treatment in scrofulous affections of the bones and articulations, and forms at the present time an important item in the management of vertebral caries and strumous white-swellings. Their efficacy, however, is far from being as incontestable as might be imagined from the great prevalence of their adoption. Their good effects have been much overrated, in consequence of the confusion which exists on the subject of white-swellings, more particularly in France, where two or three distinct affections are classed under that name. In ulceration of the cartilages, and in rheumatic diseases of the joints, the advantage of counter-irritation does not admit of doubt, but the case is widely different in the true scrofulous affection. In alluding to this subject, Boyer* observes, that "in scrofulous white-swellings, when the bones and cartilages are the principal seats of the disease, the soft parts being only consecutively implicated, counter-irritation, so far from being useful, may do considerable harm;" and in another place, "I have rarely seen any good effects from moxa; it increases the pain and accelerates the progress of the malady." Sir B. Brodie also says, "It rarely happens that any benefit is to be derived from the application of blisters or liniments; and indeed this observation extends to the whole of that class of remedies known under the name of counter-irritants."† And in reference to spinal disease, after stating that moxæ, &c. are of undoubted value where there is reason to believe that the morbid action commenced in the intervertebral cartilage, he proceeds to observe, that "in young persons with fair com-

* *Malad. Chirur.*, p. 527.

† *Op. cit.* p. 211.

plexions and dilated pupils, and in whom the disease has proceeded with little or no pain, (that is, in scrofulous disease,) they have appeared inefficacious or actually injurious.”* Similar opinions are likewise entertained by Mr. Chalk upon this subject, as will be shown in the following extract from his *Essays on Hip-joint Disease and Lumbar Abscess*. “As the use of counter-irritants, such as moxæ, issues, &c. has been generally recommended, and has so long found favour among surgeons, I shall take this opportunity of saying something of their use. The constant employment of them, and their constant failure in arresting the disease is strikingly exemplified in the cases received year after year in this infirmary (the Margate Sea-bathing Institution); and I consider them not only unproductive of benefit, but exceedingly hurtful to the patient. Whenever these applications are used in the vicinity of the joint during the existence of the tubercular diathesis, it is my firm conviction, based upon continued and oft-repeated observation, that a serious injury is inflicted, not only in these (hip-joint disease), but in all other strumous affections of the articulations, and that they are so many additional causes of irritation.”

These words, as it appears to me, express most exactly the position in which counter-irritation stands, in reference to tubercular disease; and yet it is a method which the great majority of surgeons persist in employing in consequence of those confused notions of the connexion between tubercular deposit and inflammation, which even the logical investigations of a Louis have failed to eradicate.

Compression, either by simple bandages, or by the conjoined use of mercurial and other applications, has been found of much service in cases of scrofulous caries, con-

* *Op. cit.* p. 275.

nected with the joints. This plan, which has been occasionally employed for many years, has lately been extensively tried by M. Lavacherie,* in the treatment of scrofulous white-swelling, and with the best results. This author states that he, by compression alone, has cured many cases which had been condemned to amputation. The practice of compression is also supported by Sir B. Brodie, but it is limited by him to the period in which suppuration is subsiding, and there appears to be a disposition to ankylosis. I am inclined to think favorably of compression in all stages of scrofulous disease of the joints, excepting when acute inflammation has been set up by accidental causes; but I recommend the adoption of the plan more as a means of keeping the diseased part in a state of absolute quietude than in expectation of a direct benefit from the compression of the weakened capillaries. In order that a motionless condition of the joint may be still further ensured, compression by a well-applied bandage may be advantageously combined with the use of splints, made of leather, softened and moulded to the shape of the part. By this means, in disease of the knee- and ankle-joints, the patient may be allowed to take walking exercise with crutches, at any period at which his strength will permit of it.

With respect to iodine applications in scrofulous caries of the bones, M. Baudelocque has observed that they are of much less advantage than in other forms of scrofulous disease. In this he is undoubtedly correct, to a certain extent; but I believe that the smaller benefit derived depends solely upon the greater slowness with which the interchange of organic elements is effected in the bones

* De la Compression contre les Tumeurs Blanches des Parties dures. Ghent, 1839.

than in the softer tissues, and the consequently longer time which they require before they take on a reparative action. Taking this fact into consideration, we have every reason to believe that the high character of the medicine is as decidedly manifest in these as in other scrofulous affections. The principal means of the external application of iodine in scrofulous disease of the bones is in the form of baths, ointments, and injections. General and local iodine baths have been used with the greatest advantage by M. Lugol, and form an important part of his treatment in all cases of scrofulous disease of the bones. Their application is not limited to any stage of the disease, but is equally if not more serviceable in the stage of suppuration than previously to its occurrence. Iodine frictions will also be found very efficacious, particularly in the first stage of the complaint. They should be made around the whole surface of the diseased joints, and on the loins in the case of vertebral disease. A piece of lint, smeared with whatever ointment has been fixed upon, may be advantageously placed beneath a bandage, applied as a compress. Iodine injections are extensively used by M. Lugol in the stage of suppuration, when fistulous canals are found in the neighbourhood of the diseased joint. A favorite plan of M. Lugol is to inject the fluid while the patient is lying in the iodine bath. Mr. Chalk does not speak so favorably of injections, having occasionally seen them produce sloughing of the soft parts: he does not, however, state the strength of the preparation which produced the injury. It has occurred to me to witness the frequent employment of this as well as of the other modes of using iodine, at the Hospital of St. Louis; and no such effects as those mentioned by Mr. Chalk occurred during the time I was in the habit of seeing M. Lugol's practice.

It may be gathered from the foregoing observations that there is much to be objected to in the ordinary treatment of scrofulous disease of the bones and joints. The practice of confining the patient in his room, as a general rule, is highly prejudicial; as are also the depletion and counter-irritation which are employed, almost as a matter of course. The only system of treatment which is really deserving of confidence is the internal and external employment of iodine, combined with such mechanical contrivances as shall enable the patient to be continually in the open air, without, on the one hand, producing injurious pressure, or, on the other, allowing concussion of the diseased joint. When the suppuration has abated and the diminished size of the ulceration points out the probability of the occurrence of ankylosis, it only remains to place the limb in such a position as shall ensure the greatest possible usefulness of the stiff joint.

Although the local and general treatment above indicated will frequently be successful in tubercular caries of the bones, and although since the introduction of iodine many limbs have been saved, which previously to that period would have been inevitably condemned to removal,—yet with all these advantages it cannot be disguised that a vast number of cases of scrofulous disease of the osseous tissues in certain situations, will sooner or later arrive at that condition in which the question of amputation is forced upon us. This question is one which requires the most careful consideration, and it must not be decided until a minute investigation has been made into the internal pathological state of the patient, as well as into the condition of the diseased limb. As has already been stated, the chief severity of scrofulous disease depends upon its universality. Tubercle is not only present in the vertebral column, or in the bones composing an articulation, but it is almost

invariably at the same time deposited in the lungs. So frequently indeed is this the case, that scrofulous disease, in whatever part of the body it occurs, rarely, and after puberty perhaps never, proves fatal until disorganization of the lungs has taken place. In the words of Lugol, "pulmonary consumption is the natural death of the scrofulous."

The first question therefore which arises, when the removal of the diseased bone is contemplated, is whether or not the lungs are so free from tubercular deposit, as to give a fair prospect of recovery when the immediate cause of the dangerous symptoms has been abstracted. If this deposit exist to any extent, and especially if softening have commenced, to remove the diseased limb would be to expose the patient to a painful and dangerous operation, leaving to him still the prospect of certain death. But if the tubercular deposit be only scanty, I do not consider that an operation is contra-indicated, for as the continuance of any exhaustion of the system offers the most favorable condition for the deposition of tubercle, the continuance of the local disease, would only precipitate the pulmonary complication. If therefore all other means have failed after a fair trial, and the constitutional powers are evidently sinking under the protracted struggle, there ought to be no hesitation as to the propriety of removing the diseased part. But the operation should in no case be performed until every other plan of treatment has been tried, nor until it is absolutely called for by the vital depression of the patient, for the most unpromising cases may occasionally yield to medical treatment as the following case will testify. A man, *æt.* 37, who had suffered under various forms of scrofulous disease from his childhood, was admitted into the Hospital of St. Louis, in the following condition. He had angular projection of the first two lumbar vertebræ with lumbar abscess, and bone had been

discharged through a fistulous opening in the groin. He had also white swelling of the right elbow, with fistulous openings, and the same disease in the left elbow and knee-joints. From the latter, spiculæ of bone were continually passing. Amputation had been several times proposed to him and refused. He was admitted without the least hope of benefit, as he was weakened to the last degree by diarrhœa and colliquative sweats. The ioduretted treatment was, however, commenced under M. Lugol, and to the surprise of every one the man was discharged perfectly cured after a treatment of six months' duration.

A more unpromising case than this cannot well be conceived, and it offers great encouragement not to resort to the knife too hastily, however appearances may be against the possibility of saving the limb. The removal of a scrofulous joint is not only contra-indicated by an advanced state of pulmonary disease, but it is also unwarrantable if several joints be affected simultaneously; for it can scarcely be said that the removal of one source of irritation will avail but little in comparison with the danger of the operation, if the same disease exists in another situation.

Having decided upon the propriety of removing the diseased bone, we have still the choice between the two operations of amputation and excision. The latter operation has not met with sufficient attention in the treatment of scrofulous disease. The loss of a limb is a matter of serious consequence to every one, but to a person whose livelihood depends upon the wholeness of his frame, it is tantamount to starvation, or to such a miserable alternative as the legislature has provided for helpless poverty. It becomes, therefore, an act of humanity, in the case of a labourer or mechanic, to endeavour, if possible, at the same time to remove the disease and to save the limb. That

this can be done, in many cases, is seen in the work of Professor Syme on 'Excision of Joints.'

The estimation in which the two operations should be held appears to me to depend upon the situation of the diseased part to be removed. The joints of the hip and knee are so large that the immensity of the surface required to granulate may fairly be considered as an insuperable objection to excision; and, moreover, the ligamentous union which takes place between the divided extremities of the bones, can seldom be expected to acquire such firmness as to sustain the weight of the body. In the lower extremities, therefore, amputation is indubitably the preferable operation. But the case is different in scrofulous disease of the smaller joints of the upper extremities, and I would suggest that the more frequent substitution of excision for amputation in these joints is worthy of greater consideration than has yet been accorded to it.

W. H. R.

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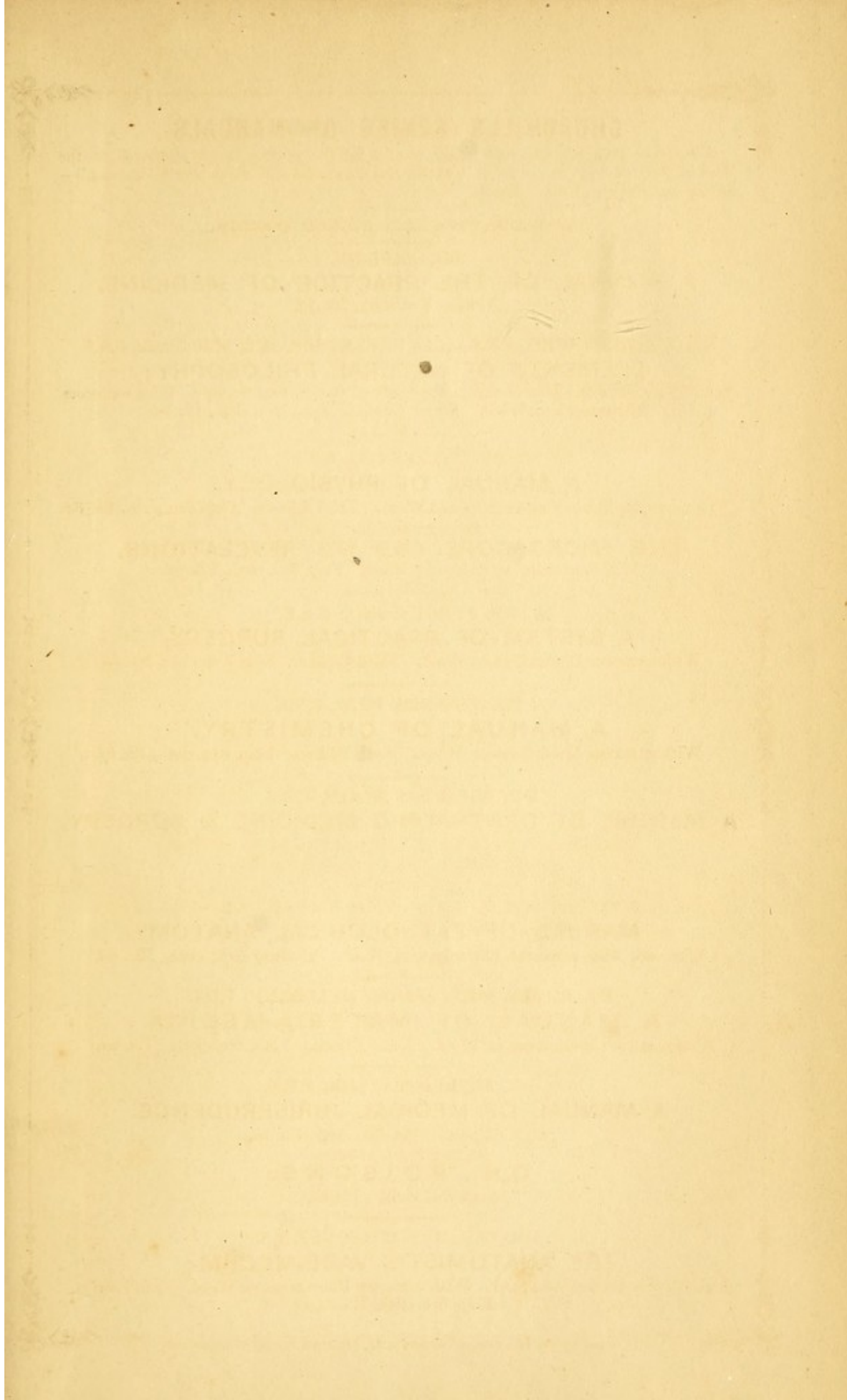
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