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Part the first.**

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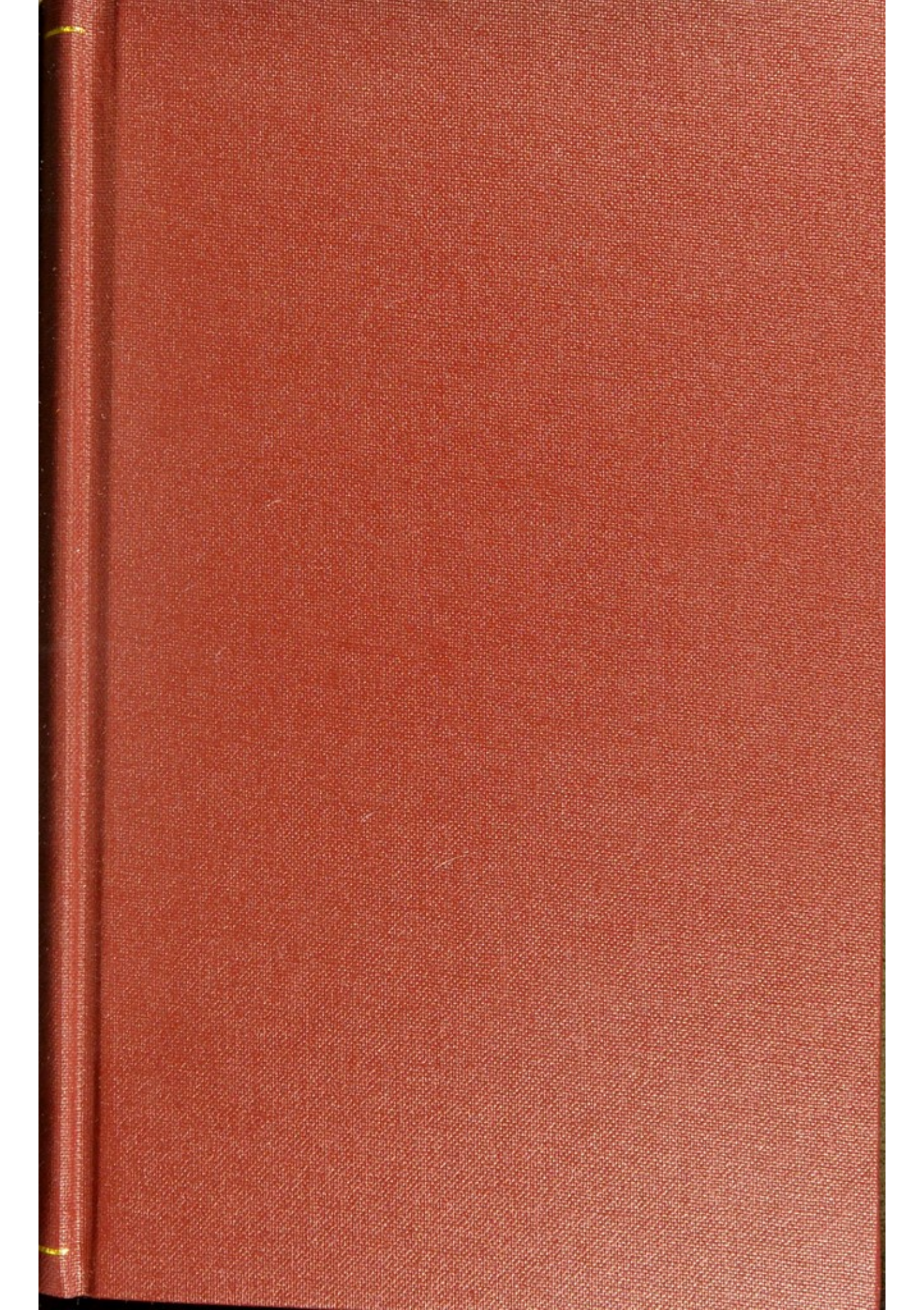
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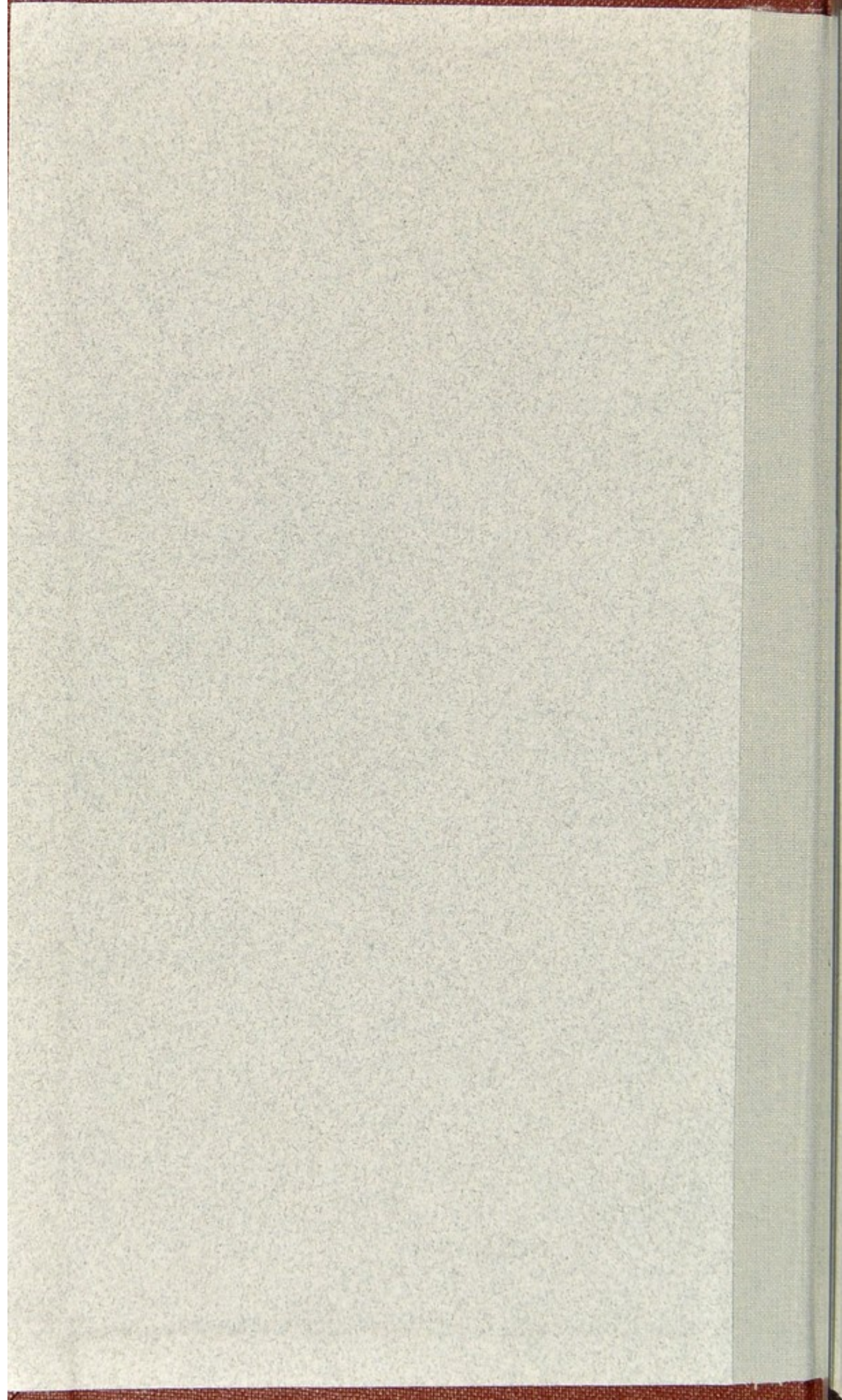
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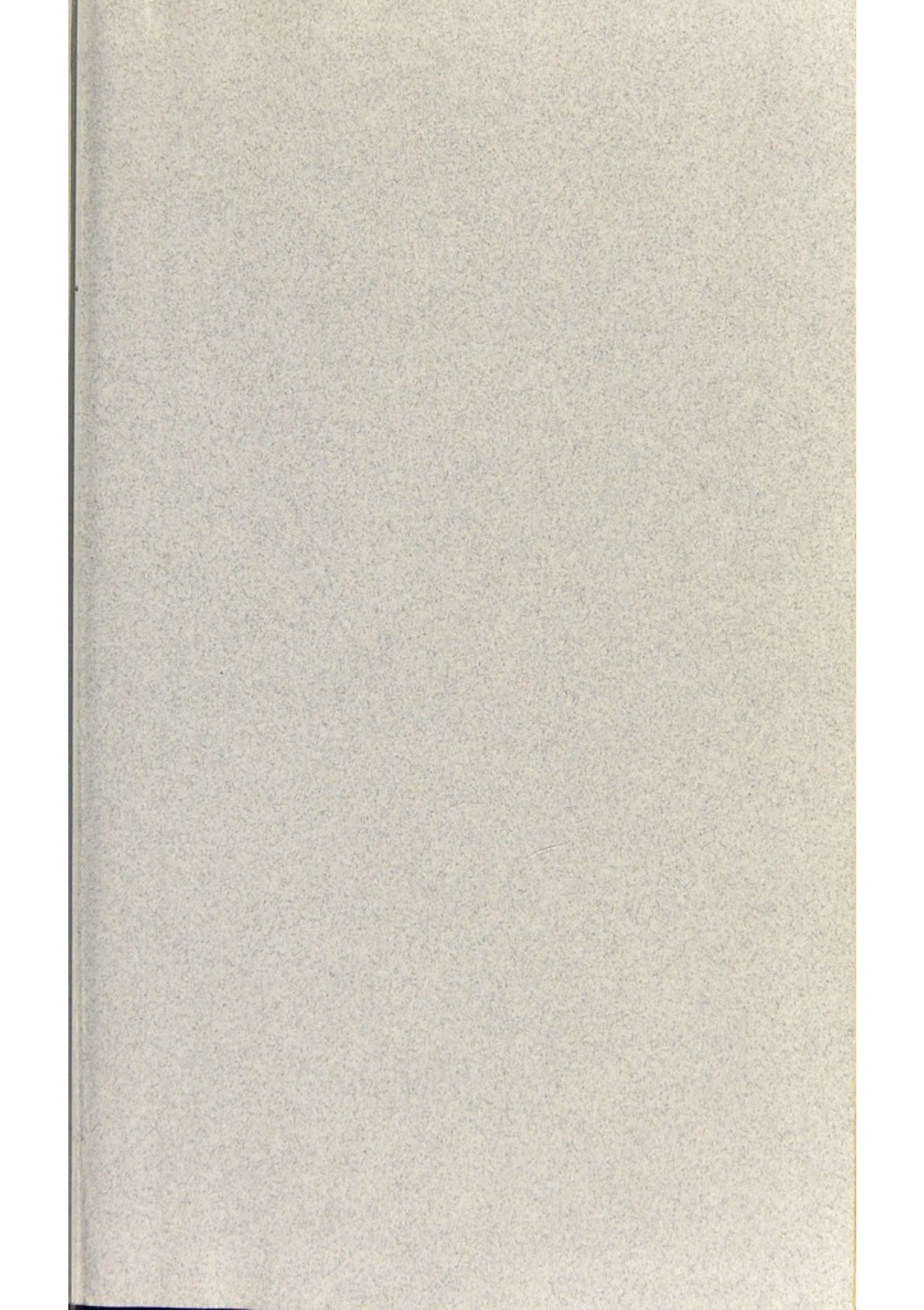
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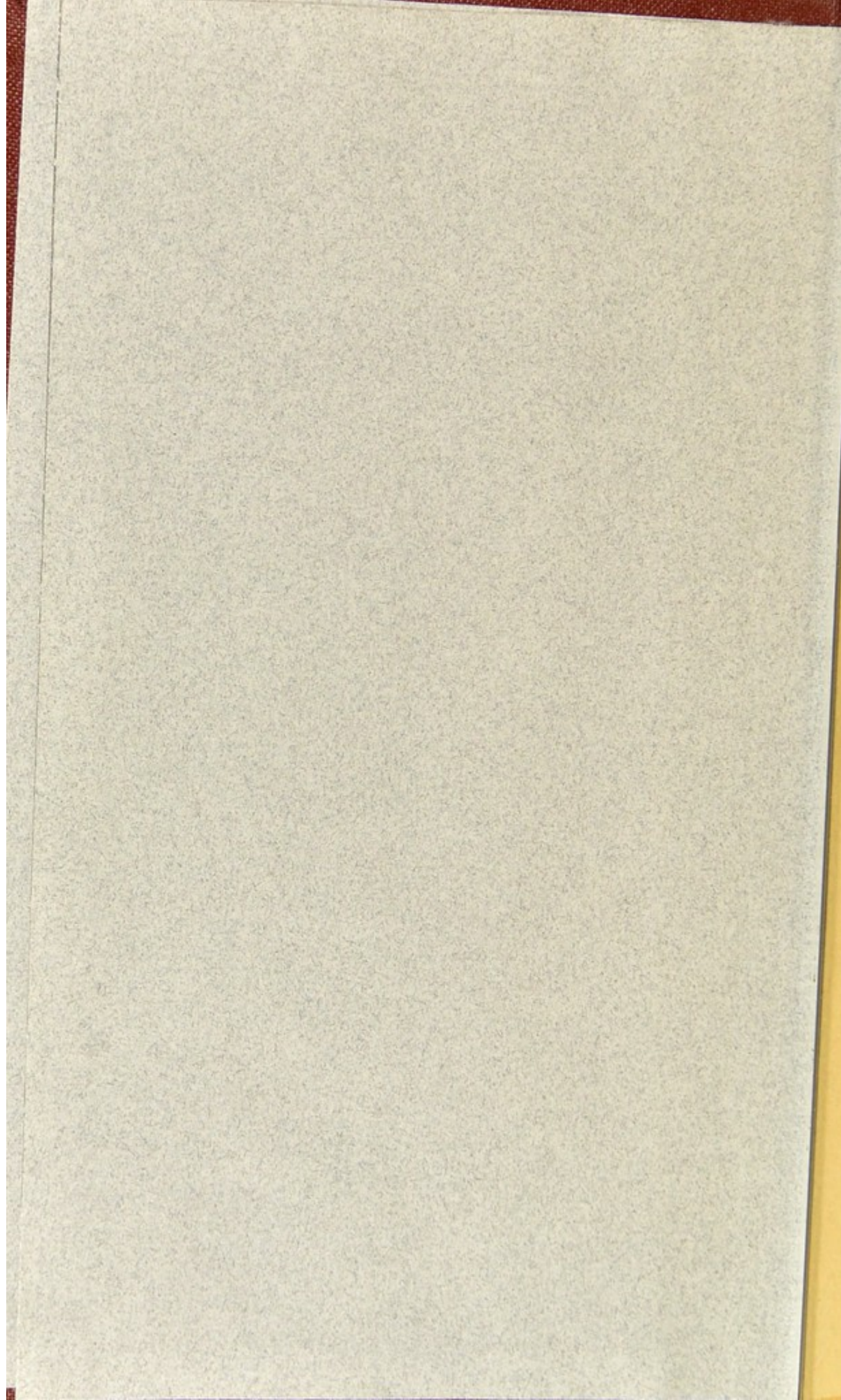


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PRINCIPLES

O F

Book 77

SURGERY,

FOR THE USE OF

CHIRURGICAL STUDENTS.

PART THE FIRST.



BY JOHN PEARSON, SURGEON

To the LOCK HOSPITAL, and to the
PUBLIC DISPENSARY.

—Rationalem quidem puto *Chirurgiam* esse debere, instrui
vero ab evidentibus causis; obscuris omnibus, non à
cogitatione artificis, sed ab ipsa arte rejectis.

Aur. Corn. Celsus in Praefat.

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39

PRINCIPLES

OF

SURGERY,

FOR THE USE OF

CHIRURGICAL STUDENTS

PART THE FIRST

BY JOHN L. BOWEN

OF THE LOUISIANA MEDICAL COLLEGE

NEW ORLEANS

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MDCCCXXXVII

T H E
P R E F A C E.

SURGERY hath commonly been defined the Art of curing diseases by external remedies, or manual operation ; and hence many people have imagined, that when a man has learned the art of dressing Sores, of applying bandages, and performing operations with a little dexterity, that he must necessarily be an accomplished Surgeon. If a conclusion so gross and fallacious had been confined among the vulgar and illiterate, the progress of Scientifick Surgery would have suffered little interruption ; but if young minds are directed to these objects, as the only important matters upon which their faculties are to be exercised ; if the gross informations of sense constitute the sum of their knowledge, little more can be expected from such a mode of study, than servile imitation, or daring Empiricism. Indeed some people have affected to oppose

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pose Surgery as an ART, to Medicine as a SCIENCE; and if their pretensions were justly founded, the former would certainly be degraded to a mere Mechanical occupation. But it is not very easy to comprehend the grounds of such a distinction. The internal and external parts of the body are governed by the same general laws during a state of health; and if an internal part be attacked with Inflammation, the appearances and effects will bear a great similarity to the same disease situated externally; nor are the indications of cure, in general, materially different. If by Science therefore be meant, “a knowledge of the laws of nature,” he who knows what is known of the order and method of nature in the production, progress, and termination of Surgical diseases, merits as justly the title of a Scientific practitioner, as the well-educated Physician. The practical parts of Physick and Surgery are very frequently disunited, but their Theory and principles are indivisible, for they truly constitute one and the same Science. But although the Science of Physick and Surgery cannot properly be
sepa.

separated, yet in the application of rules and principles to the knowledge and cure of Chirurgical diseases, an extensive acquaintance with the Theory of Medicine will by no means be sufficient for practical purposes : Lax and general notions floating in the understanding will be of little advantage, until they are reduced to something limited and specifick ; and except knowledge be in the detail, the application of it in particular instances will be attended with almost insurmountable difficulties. He therefore who desires to practise Surgery with probity and success, must study it both as a Science and as an Art ; for a man destitute of principles, is little better than a Surgical Automaton ; while the man of mere erudition, can only be considered as a learned Spectator.

It is not a little extraordinary, that in those practical Sciences, where the principles of action chiefly consist of probable truths, men should so often fancy themselves qualified to judge and to act without any previous study ; And yet if a young man performs but a mere routine in Lecture-rooms and Hospitals, he will probably

bly make no doubt of his professional qualifications. He knows indeed that study and diligence would be necessary to enable him to exercise any of the liberal arts with reputation and success ; but it would seem, as if Surgery were a mere intuitive business, that might be acquired without the fatigue of thinking. The progress of Scientifick Surgery is not to be compared with the improvements that have been made in the operative part. A successful cultivation of Anatomy hath drawn aside the veil from nature in so many instances, that the performance of almost any operation in Surgery is become so safe and easy, as to give some reason to fear lest a fondness for operating degenerate into excess. This however is certain, that he who reduces the province of a Surgeon to the performance of operations, and consequently directs his attention in a transient and careless manner to the less splendid parts of his profession, may learn the art of mutilating his fellow creatures with ease and dexterity, but will never deserve to be treated as a good Surgeon. The Celebrity which an expert and successful operator

rator readily acquires among all ranks of people, has somewhat in it so brilliant and seducing, that young minds are too apt to fix their attention upon this part of his character alone; and they overlook qualifications more solid and substantial: hence it is, that they press with anxious solicitude to see a multiplicity of operations, and perhaps remain ignorant of the diseases for which they were performed, and the subsequent mode of treating the Wound. This is an error that hath at different times been lamented and censured by the most eminent men in the profession, but it is to be feared that the Evil will not be easily eradicated. "The study of Chirurgical diseases which may, and which ought to be cured without having recourse to operations, should at all times be considered as the principal subject of a Surgeon's attention. Painful methods are always the last remedies in the hands of a man that is truly able in his profession; and they are the first, or rather they are the only resources of him whose knowledge is confined to the art of operating. If a Surgeon wishes to obtain that knowledge which is capable of

a happy application to practice, he must pass through a *Novitiate* in Hospitals, and under able Masters, and learn from thence successfully to unite Theory with Practice. Surgery is not to be learnt by desultory fits of attention; it would demand the study of a whole life; and is only the fruit of intelligent observation, profound reflection, and learned experience. When a man is once properly instructed in the principles of his profession, the time that is requisite to learn the mode of operating is exceedingly short: there is something so obvious and gross in the route which the hand has to take, that we daily see the most ignorant and vulgar of mankind perform very delicate operations upon brute animals, without the trouble of purchasing dexterity by a course of study and experiments." *

The

* *Histoire de l'Acad. Royale de Chirurgie. Tom. iv. p. 27.*

"A competent knowledge of Anatomy, (says a sensible writer) a steady hand, and a calm temper, are qualifications which may enable any man even of no great experience to perform several

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This inattention to the Scientifick part of Surgery, of which we now complain, does not always originate from involuntary mistake, it may often proceed from indolence, or dissipation, and not uncommonly it arises from some lofty conceit of superior talents. As nothing is more flattering to youthful vanity, so nothing is more dangerous and inimical to his progress in knowledge, than for a young man to fancy himself to be a Genius. He will immediately claim emancipation from the laws of patient observation and careful in-

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ral of the more capital operations with success, and accordingly in almost every Hospital in Europe, we continually meet with expert operators; yet we do not find, (which is much to be lamented) Surgeons possessed of such knowledge in prognosticating the events of Surgical diseases as might be expected. The reason of this defect is evident : In the present mode of Education, the student bestows little attention on the subject, and suffers himself to be wholly occupied in the various Methods of operating, or in minute Anatomical and Physiological investigations, which are more curious than useful.

Monthly Review, Vol. LXXVII,

duction, which are imposed upon common-sized understandings ; and with a fastidious impetuosity will attempt to rend the veil from nature, by the mere powers of his own intellect. If she cannot thus be taken by storm, he will not condescend to interrogate her, for by the vastness of his mental powers, he finds it much easier to create a World, than to give a natural history of that which he inhabits. The Science of healing, like every other branch of natural knowledge, is not the production of a vigorous imagination, nor a lively invention, but it is the offspring of long and diligent experience ; and if a man attempts to learn it in any other way than by going from his Study to the bedside of his patient, and returning from thence to his Study again, he will find himself mistaken. The human mind may be dazzled by the boldness of her flights, or wounded by the keenness of her speculations ; but the subtilty of nature can only be penetrated by those who submit to become her patient and vigilant servants.

Sphynx (says the illustrious Verulam) was overcome by a man that was lame in his feet; for when men hasten with too much violence and rapidity to solve her Enigma's, instead of acquiring dominion over the works of nature, they wound and distract their own minds by the subtilty of their reasonings.*

Some people indeed have treated Theory and Principles in Medicine as useless or absurd, pretending, that good-sense and some experience are sufficient for every practical purpose. This kind of language has something imposing in it at first sight, and is well calculated to entrap the assent of the vulgar; but I would beg leave to ask those Gentlemen, what Good-sense and illiterate experience have been doing for two thousand years, that they have suffered the Art of healing to remain in so circumscribed and imperfect a state? There is no opinion, however absurd, that may not be defended by some person's experience; and the observations of our forefathers, like the oracles of old, speak so equivocally, that a man may very commonly interpret them according to his own

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* *De Sapientia Veterum.*

convenience. Experiments made by those who are not duly furnished with preliminary knowledge, may prove useful by accident, but can never be trusted till a mind properly qualified has verified them. A mere experimentalist is like a blind man, who feels his way by means of a staff; such an one indeed may stumble upon a truth which may afford illumination to a man whose senses are perfect; but it is an equal chance whether the discoverer himself reaps any advantage. These men despise reasoning, because they can neither combine ideas, nor deduce consequences: they condemn Theories because they cannot comprehend them.

Let us hear one of these Gentlemen speak in the name of his fraternity: "We are blind men, who have been long accustomed to travel in the same roads, and by dint of habit have acquired so perfect a knowledge of every path, that we are in much less danger of going astray, than your clear-sighted people, who have travelled the same roads less frequently than ourselves."—It is of little consequence indeed in fact, whether a man be actually blind, or whether he never opens the eyes
of

of his understanding, but gropes his way for twenty or thirty years in the same routine of experience as he is pleased to call it; for he is perhaps only so many years older in obstinacy and prejudice. Before we can derive advantage from what we see, it is necessary to learn the art of observation; the same images may be painted upon the Retina of a Philosopher and a Peasant; but the mental process that follows the impression is dissimilar in a degree which none but a Philosopher can comprehend. But while I would advise the Student to make himself acquainted with the Theory, and Principles of his Profession, let me not be suspected of recommending him to indulge in simple speculation, and Philosophical abstractions; the fancy can construct at will seducing schemes of structure and derangement, which no more represent the reality of nature, than the wild illusions of a delirium resemble the orderly operations of a sober mind. From a single history, or a solitary fact, men will sometimes rashly pretend to establish general principles; which being destitute of basis and support, are unable to withstand the severe scrutiny of

of a just interpreter of nature.* By Theory I mean, “an application of the Laws of Nature to the Solution of particular Phenomena.”—A Theory formed by learned experience and legitimate induction, must not only be fruitful but luminous; and it will serve as a lamp to guide the cautious Student through the dark and hidden labyrinth of nature. It is however to be lamented, that the Theory of Medicine is still in a limited and imperfect state. Even studious and thinking men, seem to bestow more pains to become rich in the knowledge of particular instances, than to generalize their facts, and reduce them to Scientifick principles. But indeed until we have “A true and active natural Philosophy upon which the Science of Medicine can be built,” † there is little solid ground

* Monsieur *Quesnay*'s observations upon this subject cannot be too highly commended. See *Mem. de L'Acad. Royale de Chirurgie. Essai Physique sur L'OEconomie Animale, Discours Preliminaire.*

† *Restet unicum, quod pluris est, quam illa omnia. Desideratur nimirum Philosophia naturalis vera et activa, cui medicinae scientia inaedificetur. Bacon, De Augmentis. Scientiarum.—Lib. iv. Cap. ii.*

ground to hope for a Theory that would deserve to outlive its inventor.

We are not to expect to see these deficiencies supplied, and the fabrick of true Chirurgical Science erected, by the particular labours of separate individuals, much less by the powers of a single arm; there must be a combination of learned men, who will act in concert under prescribed laws; and by the conjunction of their labours, it is probable that such discoveries and improvements might be effected, as we have scarcely yet learnt how to wish for.*

Before I close this Preface, it may not be improper to give some account of the book to which it is prefixed. The following Work is primarily designed as a text-book, for the use of the Gentlemen that honour the Author with their attendance on his Chirurgical Lectures. In conformity with this design, it is drawn up in a concise and Aphoristical form; the reader is

* It is not a little extraordinary, that England, amidst all her learned Societies, cannot boast of a Society established for the purpose of promoting Chirurgical knowledge.

is therefore requested to remember for whom it was written, and not hastily to reject the naked facts and unsupported conclusions he may meet with, as many parts of the work are little more than a sketch of what is delivered in the Lectures. Nor is the order in which the different morbid affections are treated, to be considered as an attempt at a Scientific arrangement. I am by no means satisfied with the manner in which Surgery is divided at present, but it will scarcely become me to criticise until I have a better plan to propose.

The Doctrine of Inflammation, and its modes of termination, of Gangrene, Erysipelas, and Cancer, constitute a considerable part of the out-lines of Scientific Surgery. In delivering the history of these diseases, I have neither servilely imitated, nor fastidiously rejected the labours of my predecessors ; while I have endeavoured to avail myself of their assistance, I have also assumed the liberty of thinking for myself. Where it hath appeared necessary to deviate from the opinions of others, I have generally assigned some reasons for my conduct ; if they be good ones, the candid will approve, and if they be sophistical

sophistical, I shall rejoice in seeing them subverted. I am very sensible that it is an easy matter to adduce plausible objections against almost any scheme of human invention ; it has been my wish therefore to avoid as much as possible that fondness for novelty, which delights in petty reformations ; to encourage such a taste is the indubitable character of a minute mind, which by endeavouring to appear the more learned, only becomes the more troublesome. If there be any particular part of the work for which an Apology is more immediately requisite, it is in those Chapters where I speak upon the effects of heat and cold on living Animals. This is a subject that hath not been greatly cultivated, and luminous facts are in so scanty a number, that if little be performed, but little was to be expected. Perhaps it may appear paradoxical to some, when they see it affirmed, that Heat by its proper effects stimulates and invigorates the body, while Cold on the contrary relaxes it ; this view of the subject is by no means novel, and if it be admitted with proper limitations, there will not be the least opposition between these assertions, and the seemingly

contrary effects which occur to the mind on a superficial survey of the subject. A proper use of the Cold-bath certainly braces and strengthens the System; the Warm-bath will generally produce relaxation and debility: These are useful facts, but they are utterly insufficient to form the basis of a Theory of the effects of heat and cold on living bodies. The proper qualities of natural substances are fixed and immutable, but their effects upon us are subjected to considerable variation; we are sure however that the same power cannot exert itself in opposite modes, so that if contrary phenomena present themselves, we are to seek for the cause in the state of the object, and not in the properties of the agent.

If the publication of this first part of the Principles of Surgery, shall excite a Spirit of Industry, and assist the Chirurgical student in acquiring a knowledge of his profession, I shall think my time and labour well bestowed; and it will probably encourage me to prosecute the plan to a greater extent.

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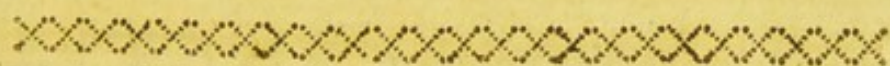
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PRINCIPLES

OF

SURGERY, &c.

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CHAP. I.

OF

INFLAMMATION

IN GENERAL.

SECT. I.

Of the Phenomena of Inflammation.

I. **T**HE term Inflammation when applied to disease, is figurative, and probably owes its origin, to an opinion which formerly prevailed, that there is a preternatural accumulation of fire in an inflamed part: with more

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propriety it may be considered as a technical name, not at all designed to express the cause, nor form, of the morbid affection.

II. In every Phlegmon, or true inflammation, there is a preternatural sensibility of the part affected; the action of the Arteries in that part is increased, both in velocity and strength; there is an unnatural sense of heat, and often a considerable augmentation of temperature: these Symptoms are attended with redness, itching and pain; a sensation of throbbing in the part, accompanied with tumefaction and tension; the functions of the part affected, are either abolished, or they are performed with difficulty and irregularity.

III. In every true Inflammation, there subsists either an absolute, or
relative

relative Plethora ; a plethorick state of the general System, will have considerable influence, upon the violence, extent, and termination of this disease ; but the effects of a partial plethora, will be very much regulated by the state of Arterial contraction.

IV. As an inflamed part seems to contain more blood, *cæteris paribus*, than during its healthy state ; and as the vessels which contain this fluid, propell their contents with an increased momentum and velocity ; more or less of obstruction to its transmission must be the consequence. But this obstruction does not necessarily arise from any change in the qualities of the blood ; it may be explained, by reasons founded upon the effects of lateral pressure. The increased quantity
of

4 OF INFLAMMATION.

of interstitial fluid, a necessary consequence of arterial irritation, must also contribute to augment the obstruction, and to give bulk to the diseased part.

V. It is very probable, that a true inflammation is principally seated in the blood vessels which are possessed of a Systole and Diastole, and that are more immediately affected by the heart's motion.

VI. When the immediate seat of Inflammation is assigned to the living solids, the humoral Pathology is not thereby meant to be rejected. Every considerable change in the properties and relative quantity of the fluids, produces an alteration in the motions, tension, and sensibility of the moving vital solids; and every great derangement of vascular action, has a proportionate influence
upon

upon the condition of the fluids. But to make such a practical application of these facts, as to be able in every particular instance of the disease, rightly to separate the cause from the effects, is a degree of knowledge highly to be desired, but not hastily to be arrogated.

VII. A legitimate inflammation is always accompanied with a painful sensibility in the Nerves, and an augmented velocity and strength of Contraction in the Arteries of the part affected.

VIII. These Phenomena are closely connected with the presence of Tone ; or such a state of the System, or of a particular part, as may be described by the term *Diathefis Phlogistica*. Heat and redness, although

6 OF INFLAMMATION.

though accompanied with more frequent contractions of the blood-vessels than are natural, by no means characterize a disease to be truly inflammatory.

IX. An Inflammation is called local, or topical, when it is confined to a particular part of the body ; when the whole System is affected, it is termed general, or universal inflammation. When the inflammatory Symptoms run high, and the disease hastens rapidly to a termination, it may be denominated an **Acute Inflammation**. But where the symptoms are less violent than ordinary, and the disease gradually increases in extent and intensity, it may be called a **Chronic Inflammation**.

X. The degree of tumor and distention, which attends upon a
Phlegmon

Phlegmon situated externally, will vary according to the structure of the affected part. Where the cellular membrane abounds, the effects, and mode of termination, will often deviate from those which are consequent on the inflammation of a tense membrane. But although a strict resemblance of appearances, may not always be exhibited by inflamed parts of different structure, yet the analogy is sufficiently complete to warrant the application of our proposition, by giving it as a general rule, that the Phenomena enumerated at (N^o 7) are never absent : when they are present, Inflammation is present, and *e contrario*.

XI. There is a considerable variety in the susceptibility of different parts, to assume the form of inflam-

8 OF INFLAMMATION.

inflammation ; nor does this disease always proceed with equal violence and activity : but it is not necessary to assign as causes of these deviations, distinct or opposite modes of action in the morbid parts ; for an attention to the previous state of the System, and to the seat of the disease, will generally enable us to account for this want of uniformity.

XII. In applying the preceding doctrine of Inflammation, to those diseases, that are more immediately the objects of Chirurgical treatment, we shall not make use of the common divisions. It is proposed, to consider an Inflammation, as an Homogeneous disease, possessing a determinate character ; and to reject all such distinctions, as tend to confound it with affections of a very different kind. When it is also
farther

farther considered, that the indications of cure, in every true inflammation, are nearly similar, the propriety of multiplying Species, will be rendered extremely doubtful.

XIII. It hath been already hinted (N^o 10, 11.) that there is some variety in the Phenomena exhibited by the Inflammation of different parts; *exempli gratia*, when the substance of the Brain, or of the Lungs, is inflamed, the pulse is much softer, than when the investing Membranes of these viscera labour under the same disease. A remarkable depression of strength very frequently attends an Inflammation of the intestines; whereas, when that disease is situated on the surface of the body, there is often a temporary augmentation of tone. The peculiar Symptoms which originate

ginate from the different organization and functions of the parts affected, require a close attention in studying the history of particular inflammations.

XIV. Inflammation ought to be carefully distinguished from Fever, Erysipelas—Erethismus, or Symptoms of Irritation—Scrofula---and from the specifick action of certain Poisons.

XV. As it would be esteemed absurd in Physicks to affirm, that an Atom could move in contrary directions at the same instant of time, so it would be equally unreasonable to suppose, that the human body, or any part of it, could exist in opposite conditions

ditions at the same period. To assert therefore the subsistence of an Inflammation in any particular part, while the same part labours under an affection which implies a state the reverse of inflammation, would be inaccurate and unphilosophical.

XVI. Although the general truth of the foregoing proposition seems tolerably obvious, yet such is the involution of diseases, that appearances seemingly inconsistent with its validity, very often present themselves. It may not be possible to give a perfectly satisfactory solution to every difficulty which can be proposed ; but without attempting so extensive a task, the following

considerations are offered, by way of elucidating the general principle, and rendering its practical application less difficult. There are many stimulating matters that possess the power of increasing the action of the System, without increasing its strength; as for example, a certain quantity of Wine, will produce a temporary state of tone and vigorous action of the blood vessels, in a very feeble body; but this high state of excitement is known to be artificial, and dependant upon the continued action of its cause. If therefore in Fever, Erethismus, Scrofula, &c. Symptoms resembling true Inflammation shall appear, in consequence of pain, irregular determination of the nervous energy, &c. it may not be improper to consider those diseases, as acting upon the

the general principle of Stimuli : We ought also to remember, that the actual strength of the System is not augmented by topical congestion taking place in Fever ; and that such Phenomena do not unequivocally prove the conversion of one disease into another.

XVII. The presence of Scrofula, generally implies the presence of a state of the System, very remote from a Tonic State ; and the supervention of an inflammatory disease, will generally produce a temporary suspension of its progress and appearance : if any appearances resembling Inflammation, shall therefore take place in a Scrofulous patient, it will be very improper to give them the name of SCROFULOUS Inflammation.

XVIII. In Lues Venerea, the Acrimony of the Poison sometimes
excites

excites very severe Inflammation in the contaminated parts; but such an affection ought not to be denominated VENEREAL Inflammation: it is of importance carefully to discriminate between an accidental occurrence, and the proper and peculiar effects of the Venereal Poison.

S E C T. II.

Of the REMOTE CAUSE of INFLAMMATION.

XIX. In assigning to any known action the prerogative of a Cause, nothing more is intended to be implied than this, that the application of certain substances, &c. is generally followed by, and connected with, determinate, and similar Phenomena,

XX.

XX. Whatever hath a power of greatly accelerating the motion of the heart, and increafing the force of contraction in the Arteries, may in certain affignable circumftances, prove a REMOTE caufe of Inflammation.

XXI. Among other REMOTE caufes, the following may be properly enumerated,

I. The application of Chymical Stimuli, as

- a. High degrees of actual heat.
- b. Caustick fubftances.
- c. Alcohol.
- d. The partial application of cold.
- e. Certain poifons, introduced artificially, or generated within the body.
- f. Acrid vapours.

II. The application of Mechanical Stimuli.

- a. External

a. External Violence, as dividing, bruising, or suddenly distending any part of the body.

b. Extraneous matters, lodged in any part of the body, whether introduced from without, or generated by disease; as, Calculous matters, Bones, Bullets, Splinters, &c.

XXII. In the preceding enumeration of Remote Causes, the same effect has been ascribed to powerful agents, whose mode of action must be apparently very diverse from each other, as Heat, Cold, Poisons, &c.---But it may be observed, that when we call certain effects Specifick, the Epithet is perhaps more applicable to the limited state of our knowledge, than to the nature of the subject; for many Phenomena that have been occasionally thought
to

to be peculiar, have afterwards been resolved into a common Principle.

XXIII. The application of any of these REMOTE Causes, (particular poisons excepted) is not in all cases necessarily followed by a true inflammation; the power and certainty of their action will be influenced by several circumstances, amongst which it may be proper to enumerate the following.

1. The temperament of the Patient.

2. The previous state of the System.

3. The Age of the Patient.

4. The Climate.

5. The Season of the Year.

6. The general manner of Life.

XXIV. The powerful effects of Habit, in enabling a part to resist the Morbid action of the REMOTE

D

causes

causes of disease, are very remarkable : and on the contrary, the mildest substances will on certain occasions be attended with all the consequences of Acrid Stimuli ; for we know by experience, that the simple admission of Atmospherick Air, into cavities that are not naturally exposed to its influence, will be very often followed by severe Inflammation.

XXV. There is considerable variety in the susceptibility of different persons, to be affected by the application of noxious powers, and of the same Person at different periods ; so that the same agent may in one instance produce Phlegmon, in another Erysipelas, and in another, Erethismus, &c. The Laws by which these effects are regulated have not yet been ascertained.

S E C T.

S E C T. III.

Of the PROXIMATE CAUSE
of INFLAMMATION.

XXVI. In attempting to assign the PROXIMATE CAUSE of any morbid alteration in the human body, we ought carefully to distinguish between a true Physical Cause, and those which may be termed Metaphysical : A knowledge of the former constitutes real science, and conducts to useful practice ; to rest satisfied with the latter, is to be contented with empty figments, and barren speculation. If from a defective Natural History of Man in the states of health and disease, we are unable to assign an adequate Physical Cause to explain the Phenomena ; instead of terminating in-

quiry by feigned, or nominal solutions, it becomes us to prosecute the subject still farther, with patience and sagacity.

XXVII. After the foregoing observations, it will scarcely be expected that we should examine the merits of those causes, which are proposed to us under the different terms of Archeus, Anima, vis Medicatrix Naturæ, Constitution, Living Principle, Sympathy, &c. The nature and existence of MORBIFICK and CURING faculties, must be first explained and demonstrated, before any interpretations founded upon their agency can be admitted.

XXVIII. By PROXIMATE CAUSE, is to be understood a real Physical Cause, so inseparably connected with the disease, that the presence of one implies the agency of the other :

other : upon the existence and duration of the PROXIMATE CAUSE, depends the existence and duration of the disease, and if the former be changed, there is a correspondent change in the latter.

XXIX. The opinions of learned and ingenious Men upon this subject, have been extremely diverse ; but without entering into a particular enumeration, the principal causes that have been assigned may be reduced under the following heads, viz. that the PROXIMATE CAUSE of Inflammation is to be sought for either

1. In a Morbid change of quantity, or quality, in the fluids, or
2. In a spasmodick affection of the living Solids.

XXX. The sentiments that are included within these divisions, have
been

been severally supported by appeals to facts, experiments, and learned authorities ; and they have been successively opposed by the same sort of pretensions : Without presuming to decide with whom Truth and Science will be found, it is not improbable, that the different Systematick writers have been too hasty in forming their several conclusions. Their inferences cannot yet be supported by the premises we possess, and they have each assigned to a striking Phenomenon, the dignity of a Law of Nature.

XXXI. As the several Phenomena that constitute an Inflammation, are only learnt by the diligent study of nature, there can be very little room for debate upon such appearances as are the objects of sense : and when the Symptoms
that

that characterize a disease, are once duly ascertained and verified, we ought next to endeavour to detect the Laws by which they are regulated. But to exal any single Phenomenon to the rank of a PROXIMATE CAUSE, while it impedes farther inquiry, must prove a fertile source of fruitless contention. Let it be granted, that Bile, Acidity, Lentor, Plethora, or Spasm, is the PROXIMATE CAUSE of Inflammation, and then enquire how much true Science has gained by it. What is that general law of the System by which the connexion between the REMOTE and PROXIMATE CAUSE is regulated? Any of the causes above enumerated may exist in the body, without being necessarily accompanied by the presence of Phlegmon; which is a strong presumption that they are
 simple

simple Phenomena, and by no means characteristick of the form or essence of the disease. To expose however the fallacies by which different Systematick writers have been misguided, is no part of my present business; but I shall endeavour to avoid the censure of temerity, by declaring, that I am unable to assign in a satisfactory manner the PROXIMATE CAUSE of Inflammation.

S E C T. IV.

Of the Distinctions between
PHLOGOSIS, or GENERAL
INFLAMMATION, and
ERETHISMUS.

XXXII. I. PHLOGOSIS is attended with an Augmentation of vigour in the actions of the general System:

ERE-

ERETHISMUS is characterized by a depression of strength.

2. The presence of ERETHISMUS depends upon the continued application of the REMOTE cause: PHLOGOSIS will continue and be progressive, after the REMOTE cause has ceased to act.

3. In PHLOGOSIS the Pulse is often full, but always hard and frequent: ERETHISMUS is marked by a small, quick, and often an unequal pulse.

4. PHLOGOSIS may be an idiopathic disease, it is never stationary, but always tends to increase or resolution: ERETHISMUS is a symptomatick affection, where the motions in the System do not appear to be directed to any determinate end.

XXXIII. It is probable that the Symptomack Fever which often attends the infliction of large Wounds, &c. is not a fever, in the proper sense of the term ; but would have a more proper arrangement under the head of PHLOGOSIS, or ERETHISMUS.

S E C T. V.

Of the PROGRESS and TERMINATION of INFLAMMATION.

XXXIV. When a particular part of the body is in a state of high Inflammation, and the general condition of the System is favourable to the disease, there is reason to apprehend an extensive diffusion of the complaint, or even that it may become Universal.

XXXV.

XXXV. A Local Inflammation may be properly divided into three distinct periods ; the commencement, the acme, and the termination. The circumstances that tend to accelerate or retard its progress through these successive stages, and to determine its mode of termination, may be referred to the previous state of the System ; to the action of the REMOTE cause ; and to the organization, functions, &c. of the part affected.

XXXVI. The Progress of a PHLEGMON is marked by an increase, more or less rapid, of all the Symptoms enumerated at N^o 2.

XXXVII. A true Inflammation is never stationary, but when it is once properly formed is either in progression towards a natural cure ; or to the destruction of the part ;

or it proceeds to a termination in some other disease.

Of RESOLUTION as a termination of INFLAMMATION.

XXXVIII. The RESOLUTION of an Inflammation may take place in different ways ; the most simple mode is that in which the increased action of the blood vessels, &c. (N^o 7.) gradually diminishes ; the other Symptoms subside ; no evacuation takes place ; and the part assumes by degrees its natural state, without suffering any derangement of its organization or functions. This may in strict propriety be called a perfect cure of Inflammation.

XXXIX.

XXXIX. RESOLUTION may also take place by an effusion from the exhalant arteries, &c. into some cavity of the body, or into the cellular Membrane.

XL. A Spontaneous hemorrhage from the diseased part, or from some neighbouring blood-vessels may produce a RESOLUTION. And it is worthy of observation, that the quantity of blood which is evacuated in this way is sometimes so small, as to bear no apparent proportion to the beneficial effects that follow.

XLI. It may be doubted whether *Metastasis* ever takes place in true Inflammation.

XLII. The fluid that is poured out by the exhalant arteries, (39) always contains more or less of the coagulable matter of the Blood ;
in

in consequence of this, the cells of the connecting membrane, &c. are often obliterated to a considerable extent ; and the integuments become preternaturally firm, and lose much of their mobility. Where effusion takes place within a natural cavity that hath no external opening, another disease is consequently produced.

XLIII. If an Inflammation be excited in two surfaces that are naturally destitute of Cuticular covering ; and when the violence of the disease is subsiding, they are detained in contact for a certain length of time, an adhesion will be the consequence. There is an analogy between this process, and the union of Wounds by the first intention, &c.

XLIV.

XLIV. It does not appear on the strictest examination, that the essential Characters of that Inflammation which is followed by an adhesion of contiguous surfaces, are at all diverse from that which terminates in a very different manner. Hence it appears very improper to make an accidental mode of termination, the foundation for establishing a distinct species of the disease.

Of SUPPURATION, as a termination of INFLAMMATION.

XLV. When an Inflammation has subsisted in a very vascular and sensible part for a few days, it may be expected to terminate by SUPPURATION. The period assigned for the commencement of this process hath

hath been the fourth, or the sixth day ; but absolute precision upon this point is neither attainable, nor important ; for the formation of purulent matter will always be influenced by the general state of the Patient's health, the violence of the disease, and the structure of the part, &c.

XLVI. SUPPURATION is immediately preceded by an exacerbation of the inflammatory Symptoms ;— it is generally (not constantly) attended with rigors, shooting pains, and a sense of throbbing in the part ; as it proceeds, there is a gradual remission of pain and tension, the redness upon the surface is less vivid, there is a gentle subsidence of the tumefaction, and at length it is known to be completed, by the evident fluctuation of a fluid,
and

and a conical figure of the part affected. To the assemblage of these Phenomena, we give the name of
ABSCESS.

XLVII. An Abscess is a circumscribed cavity formed by disease, and containing Pus; its internal surface may be considered, as being somewhat similar to that of an ulcerated part.

XLVIII. The cellular membrane is most commonly the seat of Suppuration, and principally forms the *parietes* of an Abscess; in the natural and healthy state, Pus, or any other fluid would be readily diffused through its cells; but the previous Inflammation produces an union of its *laminæ* sufficient to render it impermeable.

XLIX. Purulent matter is generally first formed about the
F centre

centre of the Phlegmon ; and in proportion as the quantity increases, the cavity of the Abscess is enlarged, and becomes most prominent on that side where there is the weakest resistance. Hence, an Abscess sometimes bursts into a natural cavity ; or when the matter is confined by an Aponeurosis, or is seated very deeply among parts that resist its pressure, one or more sinusses may be formed of considerable extent, the aperture of which may be at a considerable distance from the original seat of the disease ; and if the matter exist in a very large quantity, the gravitating force of the fluid will give it a tendency to a depending part. From hence it may be understood, why an Abscess most commonly bursts upon the surface of the body. Med. Observ. Vol. 2.

L.

L. The nature of Pus, and the mode of its formation, hath given occasion to great diversity of sentiment: it is not our intention to examine all the opinions that have been proposed upon this subject, but only to hint at some of the principal ones.

LI. It hath been imagined,

1. That Pus consists of the Serum of the blood, deprived of its more watery part, and converted into a new substance by fermentation.

2. That Blood, or a mixture of Blood and solid parts in a state of dissolution, chiefly contribute to the formation of this fluid.

3. That the solid parts are often actually melted down into Pus.

4. That Pus is a secretion from an Ulcerated surface.

LII. It is very certain that Pus is

not the produce of the putrefactive fermentation ; its sensible qualities are very remote from those that are exhibited by a putrid fluid.

LIII. Nor is Blood, nor any of the solid parts ever converted into true Pus: when blood is once extravasated, the System has no power to produce a change in its properties ; it either coagulates, or degenerates into an offensive sanious matter.

LIV. As in the formation of an Abscess, there is necessarily more or less of dilaceration of Vessels and destruction of solid fibres, it is probable that the matter is not wholly free from these substances ; but the quantity of solid parts that is destroyed, bears no proportion to the quantity of Pus that is evacuated from an Ulcerated surface.

LV.

LV. Dead Animal matter certainly does not furnish the Pus *album leve et æquale*; for in cases of Sphacelus, purulent matter is not evacuated until a separation between the dead and the living parts has begun to take place.

LVI. Purulent matter does not exist formally in the Blood; it is furnished by living vessels, in consequence of previous Inflammation, and probably undergoes some change after it is poured upon an Ulcerated surface, or evacuated into the cavity of an Abscess. *Vide Fixes & M. Quesnay, Sur la Suppuration.*

LVII. It is probable that a discharge of true Pus always implies more or less of a destruction of the solid parts, or the existence of Ulceration.

LVIII.

LVIII. There is a kind of matter very much resembling Pus, that is discharged from the surfaces of inflamed membranes, and which may with some propriety be considered as a secreted fluid. No experiments that have been yet made publick, have proved sufficient to establish certain *criteria* for distinguishing Purulent matter, *at all times*, from what has been called inflammatory exudation. Med. Observ. Vol. 2. Pott's Works, Vol. 1.

LIX. The fluid that is excreted from a suppurating surface, does not always possess the properties of good healthy Pus; the varieties that are met with will depend either upon the previous state of the fluids from which the purulent matter is furnished; upon the action of the vessels by which it is formed;
or

or it will be influenced by the condition of the fluid and solid parts taken conjointly. This subject may be illustrated by applying the preceding observations to contagious matter ;---to the discharge from Scrofulous Ulcers ;---and to the matter of critical Abscesses, &c.

LX. The fluids that are evacuated from different Ulcerated surfaces may be arranged under the following heads, viz.

Ichor,

Sanies,

Sordes,

Malignant Matter. *Quesnay.*

Contagious Matter.

LXI. ICHOR, is a thin, watery, acrimonious discharge ; it is frequently attendant on Cutaneous diseases, superficial Ulcerations, and painful, ill-conditioned sores.

It

It ought to be distinguished from ferous effusions under the Cuticle ; from acrid fluids poured out by Mucous membranes ; from Lymphatick discharges, &c.

There is a species of Ichor which was called *Melicera* by the Greeks, that is discharged from sores which are seated on Ligaments, or about the Articulations. This ought to be distinguished from *Synovia*, and from the fluid that is contained in *Bursæ Mucosæ*.

LXII. SANIES, is a fetid Ichor mingled with some of the red globules of the blood. It is often discharged by varicous ulcers ; by extremely irritable sores ; and such as are disposed to form repeated sloughs, or to become Gangrenous. It must be distinguished from that discharge which follows a few hours after

after the infliction of large wounds, &c.

LXIII. *Sordes*, is a matter of denser consistence than *Sanies*; it is grey, or of a leaden colour, and sometimes resembles an imperfectly coagulated mass: When a subjacent bone is affected, it emits a very offensive odour of a peculiar kind. A silver probe imbued with this fluid, becomes of a dark colour.

LXIV. *Malignant Matter*, is a fluid that is often discharged from those imposthumes, which form in Pestilential diseases; the vapour ascending from this matter has a sudden and powerfully injurious effect upon the Nervous System, but does not communicate any specific disease.

LXV. *Contagious matter* being received into the body, is multiplied, and produces a disease according

according to its own Specifick nature.

Are there any sensible qualities by which contagious matter can be discriminated from that which is void of infection?

LXVI. The Puriform fluid that is evacuated by Mucous Membranes; from Scrofulous glands; and that which is also contained in various encysted tumours, shall be described when we treat upon those particular diseases.

LXVII. Chirurgical writers have divided Abscesses into the SIMPLE, where the matter is contained within one circumscribed cavity; the COMPOUND, when the Pus is dispersed into several Sinusses; and the COMPLICATED, in which a subjacent bone is carious, or the Abscess is connected with some particular virus, &c.

LXVIII.

LXVIII. An Abscess may be denominated IDIOPATHICK, when it does not appear to be connected with any preceding disease.

LXIX. If during the presence of a Local disease, an Abscess shall supervene in a distant part, without removing, or alleviating the original affection, it may be termed DEUTEROPATHICK: *exempli gratia*, A suppuration of the Liver sometimes occurs in cases of Inflammation and Suppuration of the Meninges, or substance of the Brain, &c.

LXX. If a connexion can be traced between an Abscess, and a preceding morbid appearance, so that the latter is evidently the cause of the former, it may with propriety be called a SYMPTOMATIC ABSCCESS: *exempli gratia*, The Wound of an

Aborbent vessel in the finger or toe, is sometimes succeeded by the Suppuration of an Aborbent gland in the groin, or in the Axilla.

LXXI. If an Ague, continued fever, &c. shall terminate and disappear immediately upon the Apof-temation of an external part, it may be termed a CRITICAL ABSCESS.

How far may such a Suppuration be esteemed the cause, the effect, or the sign of a Crisis?

LXXII. It is not necessary to consider a Critical Abscess as a cavity into which the *Materies Morbi* is deposited; for it may be doubted whether the Pus contained within it ought to be regarded as contagious matter. (N^o 65) If any Specifick virus be supposed to be present, it certainly exists in a diluted state,

LXXIII.

LXXIII. Those parts of the body that are naturally possessed of an inferior degree of sensibility, and are scantily supplied with vessels that carry red blood, as Tendons, fasciæ, ligaments, &c. do not exhibit the same Phenomena when diseased, which appear in fleshy and Muscular parts.

LXXIV. It hath been commonly observed, that the process of Suppuration is completed more speedily, when the Abscess is situated near the centre of the body, than when it is seated in an extreme part.

S E C T. VI.

Of the TREATMENT of INFLAMMATION.

LXXV. There are few diseases that fall within the province of the Surgeon, in which the well directed efforts

efforts of Art appear to greater advantage, and wherein a judicious practice meets with more distinguished success, than in the treatment of Inflammation: it is a common and highly interesting disease, but is happily very much within the power of remedies.

LXXVI. An Inflammation sometimes admits of a natural cure, and terminates in the manner described at (N^o 38.)

LXXVII. Before any artificial means are used to cure an Inflammation, it will be requisite to ascertain,

1. Whether the present affection seems to be the cure of another and more important disease.

2. Whether it be the consequence of extraneous matters lodged in some part of the body.

3. If the means to be employed will do more harm to the general System, than the disease will, if it be suffered to terminate spontaneously.

LXXVIII. In the first four or five days of the disease, we are to make attempts to obtain a resolution of the Inflammation.

This rule is a general one, but it nevertheless admits of some exceptions.

LXXIX. INDICATION the first.

To remove the REMOTE cause of the disease, if possible. It is proper however to be observed, that the removal of the REMOTE cause, is not necessarily attended with the cure of the disease; for an Inflammation may act as a REMOTE cause of its own continuance.

LXXX.

LXXX. The effects of external Stimuli may be obviated, as

1. Cold, By Air of a moderate temperature.

2. Motion, By a Supine posture.

3. Distention, By warm Vapours, warm Oil, Tepid Baths, mild Cataplasms, &c.

4. Acute Pain, By Opium.

The effects of Stimulating matters formed, or existing within the body, may be corrected,

1. By destroying the poison with Specifick remedies.

2. Diluting the Acrid matters.

3. Defending the parts affected from their influence.

4. Diminishing Sensibility partially, or generally.

The application of these principles will be more fully elucidated, when

when they are applied to the treatment of Particular Inflammations.

LXXXI. INDICATION the Second.

To take off that state of the blood-vessels, in which Inflammation consists. (N^o 7.)

1. This is to be attempted by diminishing the quantity of Blood that is contained in the Body, by bleeding from a large vein, or opening an Artery.

2. The Velocity and Momentum of the blood in the vessels of a particular part, may be lessened by the application of Cupping Glasss, by Scarification, Leeches, Arteriotomy.

LXXXII. The quantity of Blood that ought to be evacuated, is to be determined by the Temperament of the patient, the severity of the Inflammation, and the importance of the diseased part to the purposes of life.

LXXXIII. Twelve Ounces of Blood, taken away suddenly from a large orifice, will have a more powerful influence in diminishing Inflammation, than twenty-four Ounces extracted at three successive bleedings; especially, if several hours be suffered to elapse between each evacuation.

LXXXIV. It is probable, that those reasonings upon the effects of local and general blood-letting, which are merely founded upon the CIRCULATION of the blood; by discouraging topical evacuations, have proved detrimental to the practice of Surgery.

LXXXV. 3. To evacuate the System, and promote derivation, by Purgatives, especially such as operate with the least irritation, as

Manna,

Manna, Neutral Salts, large doses of Cream of Tartar, Enemata, &c.

LXXXVI. The good effects of Catharticks are more evidently marked in Topical, than in General Inflammation ; more especially in those cases, where there is an affection of the Brain, or its investing Membranes.

LXXXVII. To subdue an Inflammation by making large evacuations, is not a very Scientifical mode of curing the disease ; it were highly to be desired, that we were in possession of a method of treatment which would cure an Inflammation without debilitating the System, and thus laying the foundation of other diseases.

LXXXVIII. INDICATION the Third.

To diminish the increased action of the blood-vessels, by such remedies, as do not considerably weaken the actual force of the System, e. g. by SEDATIVES, as

1. The Vegetable and Fossil Alkali in proper doses.

2. Neutral Salts in large doses, but sufficiently diluted, so as to obviate their effects as direct Stimuli.

To which may be added,

3. Abstinence from all solid food.

4. The plentiful use of diluents, in a tepid state.

5. Where PAIN acts as a REMOTE cause of Inflammation, OPIUM must be given : but on such occasions, it ought to be exhibited in very large quantities : for if it be not administered in doses equivalent to produce the proposed effect, it will only augment the disease.

LXXXIX. The Remedies that may be employed externally, in cases of TOPICAL Inflammation, are

1. Cold Air, Cold Water, Ice, or Snow.

2. Preparations of Lead, Vitriol, Alum, Solutions of different Neutral Salts, as Sal Armoniac, &c.

3. Relaxants, as Warm Water. Warm Vapour. Oil. Mild Emollient Cataplasms, &c.

XC. In the use of Substances that are intensely cold, or highly repellent, great caution is required, as they have, when imprudently applied, been followed by Gangrene. There is also an important distinction between applications that are actually cold, and diminish the Action of a part, by reducing its heat considerably below the natural temperature ; and those substances, that

that are only potentially cold, and lessen the heat, by restraining the immoderate action of the blood-vessels.

XCI. Some writers have recommended the excitement of another Inflammation in the vicinity of the diseased part; but this is a mode of practice that ought very seldom to be adopted early, in cases purely inflammatory.

XCII. If a Resolution of the Inflammation does not follow, after properly using the remedies enumerated above, a SUPPURATION may be expected to take place.

XCIII. A RESOLUTION of every Phlegmon ought not to be attempted, for there are several circumstances which frequently render it proper to promote the Suppurative

purative process, from the beginning of the disease.

1. When experience has proved, that a dangerous disease, situated in a part that is contiguous to the Inflammation, will probably be alleviated, or cured by the formation of an Abscess: *exempli gratia*, Curvature of the Spine, &c.

2. Where we have reason to expect the evacuation of extraneous substances.

3. Where a previous disease has existed in some Viscus, and there is reason to hope for an Evacuation of Matter, &c. upon the surface of the body: e. g. Abscess of the Liver, &c.

4. When there is reason to suspect, that the Phlegmon is a CRITICAL Inflammation. N^o 71.

Resolu-

Resolution is not always to be avoided because the Inflammation is Critical ; but very often because the means that ought to be employed, are contraindicated by that state of the System, in which critical depositions most commonly take place.

5. When a SYMPTOMATICK PHLEGMON (N^o 70) appears, in consequence of the Wound of a Nerve, Absorbent Vessel, &c. Suppuration is generally to be promoted ; more especially if any poisonous matter were introduced into the Wound. This rule however, is not always applicable, when we possess a Specifick remedy, that is capable of destroying the Activity of the Morbid matter.

6. When the structure of the Inflamed part renders it probable, that
by

by undergoing a Suppuration, it will be sooner and more completely restored to its functions in the Animal Economy.

7. If the Inflammation has so considerably deranged the organization of the affected part, that its healthy functions can never be restored.

XCIV. There is a certain degree of motion requisite in the vessels of an Inflamed part, in order to the production of a good Suppuration ; it ought to be somewhat below Inflammatory action, but the precise point can only be ascertained by experience, and does not admit of the establishment of a general rule.

XCV. Suppuration is promoted,

1. By moderating the Inflammation, when it is extremely violent.

I

2. By

2. By diminishing the severity of Pain.

Large doses of Opium are of distinguished service, when Suppuration is disturbed by ERETHISMUS.

3. The vigour of the System is to be sustained by a proper use of Peruvian Bark, Opium, Wine, and other fermented liquors.

XCVI. To the part affected, warm and relaxing applications are generally proper ; as Fomentations, Poultices of Bread, Milk and Oil, Linseed, &c. They ought to be applied warm, and be frequently renewed.

XCVII. The general intentions of applying the remedies enumerated (N^o 96) are chiefly by way of lessening the effects of distention : to preserve an uniform and moderate heat in the part, and thus to alle-

alleviate pain, &c. Stimulating applications to a highly inflamed part are very seldom admissible, when we desire to promote the formation of Pus.

XCVIII. Where an ABSCESS is deeply seated in some important part of the body, so that it is of consequence to the Welfare of the Patient that it be conducted speedily to Maturation, and that the Pus be evacuated at an external opening; heating and stimulating applications may be used with propriety; as Substances containing Turpentine, Resins, the warm Gums, Cantharides, or acrid Vegetables.

XCIX. The complete Maturation of Indolent and Glandular Tumors, which originate from causes extremely remote from true PHLEG-

MONOUS ABSCESSSES, may be assisted, by

1. Dry Cupping, Violent Exercise, the applications mentioned at (N^o 98), strong Rubefacients, Electricity, repeated Blistering, a proper application of actual Heat.

2. The Internal remedies that were described at (N^o 95), to which may be added Mercury and Steel.

C. When the Abscess is completely formed, the cohesion of the integuments at the most prominent part is gradually weakened; erosion takes place in one or more points, and the contents are evacuated spontaneously.

CI. Very frequently the spontaneous rupture of an Abscess may be permitted; sometimes it must be insisted upon; but it will also in many cases be prudent, or even absolutely

solutely necessary, to discharge the matter contained in it by an Artificial opening.

CII. There are certain cases, in which it is neither safe nor expedient to wait for a natural erosion of the integument; as in deep-seated Abscesses, that are separated by a thin parietes from an important natural cavity:—*Paronychia*;—where matter is confined by an *Aponeurosis*, or the *Periosteum*, &c. and in general, where the parts in the vicinity of the disease admit of dissection with great difficulty.

CIII. It has been said, that
 “ Matter is always ripe, and, as
 “ matter merely ought to be discharged as soon as possible; but
 “ as matter seated at some depth
 “ in the body, and confined by
 “ inflamed flesh, it is proper that
 “ it

“ it should work its way gradually,
 “ and rise to the Surface before it
 “ be let out.” In this proposition,
 the beneficial effects of Pus upon
 the hardness of the surrounding
 parts ; the gradual restoration of
 the inflamed and obstructed Vessels
 to their natural actions ; and the
 favourable healing of the subse-
 quent Ulcer seem to be wholly
 overlooked. Besides, the attention
 of the Surgeon will be directed to
 the Maturity of the Abscess, and
 not to any supposed ripeness of the
 contained fluid.

CIV. As it is sometimes the duty
 of a Surgeon, to retard the prema-
 ture rupture of the Parietes of an
 Abscess : it is also proper, when
 the quantity of Pus is very confi-
 derable, and the patient is weak,
 to

to prevent the Matter from being too hastily evacuated.

CV. Three different methods of opening Abscesses are employed, viz. by

1. Simple Incision,
2. Erosion,
3. Seton.

Each of these modes possesses its peculiar advantage; but it is scarcely possible to lay down general rules in so precise a manner, that the practitioner will always be able to take a decided part.

CVI. It will be sufficient for our present purpose to observe: That, where Matter is deeply seated;---when it is in the vicinity of large blood vessels and nerves;---when the matter is so widely diffused that a large opening is necessary;---when the skin that retains the Pus is soft, thin,

thin, and little diseased;---or when it will not be desirable to keep the Ulcer open for any particular purpose, &c.---the knife will be preferable to Caustick.

CVII. The Application of Caustick is to be preferred before the knife;---When maturation has proceeded slowly, and the Suppuration is partial;---when the integuments are considerably vitiated:---When it will be necessary to keep the Ulcer open on account of some disease at the lower surface of the Abscess;---and generally in the Suppuration of Glandular parts, &c.

CVIII. The Seton may be advantageously employed where Maturation is complete, and the skin in a healthy state;---to preserve important parts that are included within an Abscess, from much injury;

jury ;---to avoid the deformity of a large cicatrix ;---or where it will be useful to support an irritation for some length of time, in the diseased part, &c.

CIX. If the spontaneous rupture of the Abscess be anticipated by art, and the Seton is not employed, it is generally proper, by a free incision, &c. to lay open the whole internal surface of the Abscess. The treatment of the Ulcerated cavity, and the doctrine of ULCERS in general, will be discussed in another place.

C H A P. II.

S E C T. I.

Of the FURUNCULUS or
B O I L.

CX. **T**HE BOIL is a hard circumscribed and exquisitely painful Phlegmonous tumor, seldom exceeding the magnitude of a Dove's egg ; the seat of this disease is in the skin, it seldom suppurates completely, and generally arises from an internal Cause.

CXI. This tumor generally appears under the figure of a Cone, the base of which is considerably below the surface, but its apex is
rarely

rarely much elevated above the level of the skin ; upon the most prominent point of the Boil, there is commonly a whitish or livid pustule, exquisitely sensible to the touch ; and immediately beneath this, is the seat of the Abscess : the matter is sometimes slow in forming, and is seldom found to exist in a considerable quantity.

CXII. This little abscess is most generally suffered to rupture spontaneously ; and the discharge consists of Purulent matter, mixed with a portion of the red Globules of the blood ; the cavity from which the matter was evacuated, contains a slough, which must be removed before the Ulcer can heal.

CXIII. There is no part of the body that abounds with cellular membrane, which is wholly exempt-

68. OF THE FURUNCULUS,

ed from becoming the seat of this disease. Sometimes the Furunculus is solitary ; at other times, they appear in considerable numbers, especially among children, or immediately after the termination of some Acute disease.

CXIV. The preceding history is descriptive of what may properly be termed the ACUTE BOIL ; there is also a CHRONICK FURUNCLE, which frequently occurs in subjects that have suffered severely from the Small Pox, Measles, Lues Venerea, Scrofula, and in constitutions that have been injured by the use of Mercury, &c.

CXV. The Chronick Boil, is commonly situated upon the extremities ; it is about the Magnitude of the Acute Boil, and has a hard circumscribed base ; its progress is
not

not attended with much pain ; there is no considerable discolouration of the skin, until Suppuration be a good deal advanced ; and maturation is seldom completed in less than three or four weeks. This, like the former, sometimes appears in a considerable number at a time.

CXVI. The matter that is evacuated from this Abscess, is an inodorous Sanies, and is always of a thinner consistence than good Pus ; when the Boil has been large, and unusually slow in suppurating, a considerable quantity of the *tela Cellulosa*, &c. will be cast off from time to time, in the form of floughs, so as to leave a very deep cavity, before the Ulcer assumes a healthy appearance.

CXVII. The FURUNCULUS is a disease which seldom occupies the
atten-

70 OF THE FURUNCULUS,

attention of the Surgeon, unless it be of an unusual magnitude, or accompanied with very distressing Symptoms. It may in general be regarded, rather as a troublesome complaint, than as a dangerous one.

CXVIII. The ACUTE and CHRONICK Furuncle, ought to be distinguished, from Phyma, Phygethlon, Epinyctis, Anthrax, &c.

S E C T. II.

The MODE of TREATMENT.

CXIX. It is seldom desirable to obtain the RESOLUTION of a Boil; and if it were attempted, the efforts would most commonly be ineffectual.

CXX. SUPPURATION must be promoted by the means enumerated
at

at N^o 96—98, &c. The Maturation of the CHRONICK Furuncle, will be powerfully assisted, by frequent and long continued exposure to the Vapour of hot water.

CXXI. The internal exhibition of Peruvian Bark will be sometimes advisable ; and also a liberal use of Opium.

CXXII. After the evacuation of the matter, a common mild digestive ointment, may be applied to the Ulcer ; but where the quantity of corrupted Cellular membrane is considerable, Red Precipitate may be employed with advantage.

CXXIII. The general state of the System must be corrected by remedies suited to its peculiar situation.

CXXIV. It were highly desirable to remove if possible, that disposition

tion of body, which is favourable to the production of Boils. We may sometimes succeed in this attempt, by the use of Peruvian Bark, Sea Bathing, Acids, Steel, &c.

In some Cases, those remedies that promote a flow of Urine, while they diminish vascular action, may be successfully employed; as Cream of Tartar, Nitre, Rochelle Salt, Vegetable or Mineral Alkali, in a diluted State.

C H A P. III.

S E C T. I.

Of the A B S C E S S of the
B R E A S T.

CXXV. **A**S the INFLAMMATION and SUPPURATION of the Breast, is a disease to which Puerperal Women, at certain periods, are peculiarly liable ; our attention will be chiefly directed to the History and Treatment of what is commonly termed the MILK ABSCESS.

CXXVI. The attack of this complaint is usually preceded by Rigors, which are soon succeeded by heat, thirst, restlessness, loss of appetite, and other Symptoms of a
L general

general affection of the System. The skin of the breast is sometimes universally red; at other times, the redness appears in different parts of the breast, in distinct and irregular patches. The Breast enlarges, becomes tense, heavy and painful: if the secretion of Milk continue, that fluid is more or less changed in its natural qualities, and it cannot be extracted without pain and difficulty.

CXXVII. The structure of the Breast being partly Glandular, and partly Cellular; the Inflammation may therefore be seated, either in the conglomerated Gland which occupies the centre of the Breast, or in the enveloping integuments. When it is confined to the skin and cellular membrane, the inflamed part is uniformly distended; when the glandular part is also affected,
the

the enlargement is irregular, and seems to consist of one or more large tumors, situated in the substance of the Breast, and the uneasiness is often communicated to the Glands in the Axilla. The secretion of the milk is not always suppressed, when the Inflammation is confined to the integuments ; and Suppuration takes place more speedily than in affections of the Glandular part.

CXXVIII. If the Inflammatory Symptoms regularly increase for four or five days, a Suppuration may be expected ; but where the progress of Inflammation has been slow, and its degree hath been very moderate, a RESOLUTION may frequently be obtained, at the distance of ten, or fourteen days, from the first appearance of the disease.

CXXIX. The period, about which a Woman is most commonly attacked with the MAMMARY ABSCESS, is within the first three months after Parturition; but it may intervene at any period from thence to the time of Ablactation.

CXXX. Of the REMOTE Causes that have been assigned for the appearance of this disease, we shall only enumerate the following, viz.

1. Sudden, or Violent perturbation of mind.
2. Repressing the Secretion of Milk at an early period.
3. Exposure to Cold.
4. Too free an use of the arms, when the Breasts are distended with Milk.

CXXXI. The MAMMARY Abscess frequently occurs, where no evident

evident cause can be assigned for its appearance.

CXXXII. In the SUPPURATION of the Breast, the Purulent matter is not always contained in one cavity ; but several distinct Abscesses form in different parts, and are perhaps matured at different periods. More commonly, the matter is evacuated from the orifice of an Abscess that is situated near the Nipple.

CXXXIII. The Glandular structure of the Breast is sometimes so considerably altered, that after a future parturition, it cannot secrete any Milk ; but the Prognosis of the Milk Abscess (as it is called) is almost always a favourable one, as there is nothing in its nature at all Analogous to Schirrhous or Cancer.

CXXXIV.

CXXXIV. Where a Scrofulous tumor has been present in the breast for many Months, or even several years, it will often disappear, soon after the termination of the Abscess of the Breast.

CXXXV. The Breasts of those Women, that have never been pregnant, may be attacked with true Inflammation, the progress and termination of which, do not materially differ from the MAMMARY ABSCESS. Nor are Men wholly exempted from a similar disease.

CXXXVI. The MAMMARY Abscesses ought to be distinguished from Scrofulous affections of this part, and from Schirrhus.

SECT.

S E C T. II.

Of the TREATMENT of the
MAMMARY ABSCESS.

CXXXVII. If the Surgeon be called at an early period to treat this complaint, it will generally be proper to attempt a RESOLUTION of the Inflammation.

CXXXVIII. To obtain this mode of termination, a very free use of general blood-letting hath been often recommended. This however is a practice, that can seldom be adopted with prudence in large cities, or where the Patient is of a delicate constitution. I do not intend to say, that General Blood-letting is always inadmissible ; but I never once saw it necessary, in Publick, nor in Private practice.

CXXXIX.

CXXXIX. 1. Topical blood-letting, properly conducted, is a remedy that cannot be too highly recommended.

2. Saline Laxatives administered at due intervals.

3. Moderate Abstinence.

4. A Suspension of the Inflamed Breast.

5. Moderate Bandage, by means of Adhesive Plaster, artfully applied.

6. Gentle friction of the breast with Warm Oil.

7. To obviate the effects of distention by Milk, by gently extracting it at proper intervals.

8. Saturnine applications.

9. Solutions of Neutral Salts, as Sal Armoniac, &c.

CXL. If the Inflammation tends to SUPPURATION, it may be promoted

moted by the means enumerated at N^o 94—95.

CXLI. The Abscess ought in general to be permitted to rupture spontaneously ; and the use of the Lancet or Knife ought by all means to be avoided, unless there be a plain and absolute necessity.

CXLII. The application of a mild Digestive, covered by a Poultice of Bread and Milk, is generally sufficient for the Cure of the Ulcer.

CXLIII. If an unpleasant hardness remains in the Breast, after the termination of this disease, it will commonly yeild to saponaceous Applications, --- Emeticks, --- Mercury, --- or Cicuta.

C H A P. IV.

S E C T. I.

OF THE
 PARONYCHIA---PANARIS---
 OR
 WHITLOW.

CXLIV. **T**HE PARONYCHIA is a Phlegmonous tumor occupying the end of the finger ; it is generally attended with excruciating pain. The most usual mode of its termination is by Suppuration, but not unfrequently, it is attended with a Mortification of the integuments and bone.

CXLV. As the nature and precise situation of this disease admits of some variety, and the same mode of
 treat-

treatment does not apply in every instance, it will be proper to divide it into different Species: I have adopted the following mode of division as a convenient one.

- | | |
|-------------------|---------------|
| 1. The Cutaneous, | } PARONYCHIA. |
| 2. The Benign, | |
| 3. The Malignant, | |
| 4. The Venereal, | |

CXLVI. The CUTANEOUS Paronychia is seated at the end of the finger, immediately below the Cuticle, and sometimes furrounds the finger, and root of the nail. The skin is very little discoloured; it speedily advances to Suppuration; and when this process is completed, the cuticle appears almost transparent. After the contents of this little Abscess are evacuated, the Ulcer seldom demands any particular attention.

CXLVII. The BENIGN Paronychia, is situated in the cellular membrane under the surface of the Cutis ; its attack and progress are attended with a more acute and throbbing pain than the cutaneous ; Suppuration proceeds more slowly, and matter is frequently formed under the nail. The whole hand is more or less affected with pain and tension, and uneasiness is often felt along the course of the Arm. The severity of the pain frequently prevents sleep, and the whole System is thrown into some disorder.

CXLVIII. The MAGNIGNANT Paronychia, is accompanied with a deeply-seated, and intense pain, at the end of the finger ; the tumefaction of the diseased part is not considerable, but the hand, and frequently the whole arm is swelled,
tense

tense and painful. The uneasiness most commonly extends in the course of the Absorbent vessels, along the internal condyle of the Humerus up to the Axilla. The Suppurative process advances very slowly, and is attended in its progress with Erethismus, Lipothymia, delirium, and other alarming Symptoms; and there have been instances where this species of PARONYCHIA has proved fatal. The matter which is small in quantity, is in contact with the bone, which generally is found in a carious state; and sometimes the superincumbent integuments suffer Sphacelation.

CXLIX. As the VENEREAL Paronychia, is a complaint that is not universally understood, I shall deliver its history and treatment upon the present occasion, although it
might

86 OF THE PARONYCHIA,
might be referred to another place. This disease generally appears in the form of a smooth, soft, unresisting tumor, of a dark red colour, and is situated in the cellular membrane about the root of the nail. It is attended with an inconsiderable degree of pain in the incipient state; but as Suppuration advances, the pain increases in severity: its progress toward maturation is generally slow, and is seldom completed.

CL. When the fordid Matter it contains is evacuated, the nail is generally found to be loose, and a very foul, but exquisitely sensible Ulcer is exposed; considerable sloughs of cellular membrane, &c. are frequently exfoliated, so that the cavity of the sore is often very deep.

CLI.

CLI. The discoloured and tumid state of the skin commonly extends along the finger, considerably beyond the margin of the Ulcer : in such cases, the integuments that envelope the finger become remarkably thickened, and the cellular membrane is so firmly condensed as not to permit the skin to glide over the subjacent parts. The bone is not usually found in a carious state.

CLII. This species of PARONYCHIA is more frequently seen among the lower class of people when they labour under Lues Venerea, than in the higher ranks of Life. It does not appear to be connected with any particular state of the disease, nor is it confined to one Sex more than to the other. In the Lock HOSPITAL, it occurs in the proportion

tion of about one Patient in five hundred.

CLIII. When I adopt the name of VENEREAL PARONYCHIA, it is not with the design of implying that this is a true VENEREAL Abscess, containing a fluid which is capable of communicating Syphilis to a sound person. Its progress and cure, seem to be unconnected with the increased or diminished action of the Venereal poison in the constitution, and to be also uninfluenced by the operation of Mercury. I consider the VENEREAL disease as a REMOTE cause, which gives occasion to the appearance of this, as well as of several other diseases, that are widely different from its own specifick nature.

CLIV. The REMOTE Causes of PARONYCHIA in general, have been
divided

divided into EXTERNAL and INTERNAL.

I. The external :

A Puncture :---A Bruise :---The application of acrid substances, &c.

The nature of the internal cause or causes, I do not pretend to explain.

CLV. PROGNOSIS.--The CUTANEOUS and BENIGN Paronychia, have a favourable termination ; the worst event to be expected, is the loss of a part, or the whole of a Nail ; but this will frequently grow again.

CLVI. The MALIGNANT Paronychia seldom terminates without the loss of some part of the Bone ; the last Phalanx of the finger is most commonly separated. It is also attended with considerable danger to the whole System.

CLVII. The VENEREAL Paronychia generally terminates favourably, unless it be exasperated by improper treatment.

S E C T. II.

The MODE of TREATMENT.

CLVIII. The Surgeon is seldom consulted about the Cutaneous Paronychia, until the Abscess be actually formed. The tumor in such a state must be opened by a Lancet, the separated cuticle be removed by a pair of Scissars, and the sore dressed with a mild Cerate.

CLIX. In the Benign and Malignant Paronychia, RESOLUTION must be first attempted,

1. By a free incision, carried through the integuments to the bottom of the diseased part. The
blood

blood may be suffered to flow for some time, and the opening may then be treated as a simple wound.

2. The use of Boiling Water, Ardent Spirits, and strong Astringents, is of doubtful efficacy.

CLX. If Pus be actually forming, we are not to wait until the Abscess be completely matured ; an opening sufficiently deep and extensive is to be immediately made, that the matter may be evacuated as soon as possible. When the bone is found to be in a carious state, it is seldom requisite to expedite its separation by artificial means.

CLXI. The Ulcer ought not to be dressed with greasy applications. Dry Lint, or Lint moistened with some native Balsam may be applied to the bottom of the Sore ; when it is in a healing state, Bates's Cam-

phorated Water is a very good application.

CLXII. Peruvian Bark to support the System, and Opium in sufficient doses to alleviate pain, are almost the only internal remedies that will be found necessary.

CLXIII. In the incipient state of the VENERAL Paronychia, when no severe Symptoms are present, it is not advisable to make use of any external applications; it will only require to be covered with a fine linen rag: By such gentle treatment, it will often disappear gradually without coming to SUPPURATION.

CLXIV. When Matter is formed, the Abscess may be permitted to rupture spontaneously. It is very common to see every species of dressing give great pain, and disagree

gree with the fore. An application composed of equal parts of Balsamum Copaiba, and Tinctura Thebaica, may sometimes be used with a good effect.

CLXV. The principal object to which our attention ought to be directed is, to keep the Patient as easy as possible by the internal use of Opium, until the sloughs be separated, and the Ulcer becomes clean ; it may then be treated as a common fore. It will generally be proper to administer the Peruvian Bark.

CLXVI. It is never advisable to Amputate the finger, when the integuments exhibit that diseased appearance described at N^o 151, for the stump will be in danger of assuming an aspect similar to that of the fore, for which the operation was performed.

C H A P.

C H A P. V.

S E C T. I.

OF THE
EMPYEMA PSOADICUM,

OR

PSOAS ABSCESS,---LUMBAR
ABSCESS.

CLXVII. **T**HE PSOAS ABSCESS, as it is termed, is seated in that portion of the cellular membrane, which is immediately connected with the PSOAS muscle, and *Iliacus Internus*.

CLXVIII. This disease may very often be considered as a Specimen of CHRONICK Inflammation. It is sometimes produced by a violent overstretching, or bruising of the Muscles about the Loins ; it has followed

followed an imprudent application of Cold and Moisture, as lying upon the damp ground ; any of the REMOTE causes of Inflammation that can be applied, may give origin to this affection ; and not uncommonly, it is connected with some vice in the general habit of body, as Scrofula, &c.

CLXIX. The first invasion of this complaint may be attended with Symptoms resembling a severe Lum-bago. There will be more or less of difficulty in standing with the body erect ; the seat of the pain is referred to a little below the region of the Kidney, and it often extends very low down the outside of the thigh : these Symptoms are accompanied, with a painful sense of contraction at the upper part of the thigh, as if the Limb were actually shortened

shortened. The Kidney and Ureter on the affected side, suffer more or less from the vicinity of the disease. As this first order of Symptoms abate, they are succeeded by others of a different kind, as Rigors, languor and loss of Appetite, Hectical complaints, wasting of the body, &c. The Inflammatory Symptoms being seldom severe, the suppurative process takes place slowly; and several Months will very commonly elapse, before the Abscess appears externally.

CLXX. The situation of the external Abscess, is not uniform; most commonly it is at some distance from the original seat of the disease; nor is the point at which it projects forward, to be considered as forming a portion of the Abscess. The fluctuation of the matter may therefore

fore be most palpable, about the Loins, or at the Hip, in the Groin, or near the Rectum, and sometimes it points toward the lower part of the thigh, in the direction of the large blood-vessels.

CLXXI. During the progress of Suppuration, as there is a remission of the more severe Symptoms, the Patient often imagines that he is recovering his health; some degree of pain, however, and an inability of duly performing the motion of the parts, always remain. He is sooner or later alarmed by the appearance of a soft tumor, which arises in one or more of the parts enumerated above. At the first, it is rarely accompanied with any discolouration of the integuments, or pain, unless it be compressed. When the person stands erect, the tumor

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be-

becomes more prominent ; but its contents recede, either in whole, or in part, when he assumes an horizontal posture.

CLXXII. Whether the Abscess be opened artificially, or it be permitted to open by a spontaneous rupture, a very large quantity of Purulent Matter, of the density of good Pus, but often inclining to a cineritious colour, is generally evacuated from its cavity. The daily discharge of Pus also, greatly exceeds the quantity that might be expected from a tumor of that apparent magnitude. The fore frequently puts on a scrofulous aspect ; all the Hectical Symptoms increase, and the Patient is gradually destroyed.

CLXXIII. As the Purulent matter is situated behind the Peritonæum

næum, and the erect position of the body is favourable to its progression downwards, we do not often meet with instances where it is effused into the cavity of the Abdomen. If such an event should take place, the most dangerous consequences are to be apprehended.

CLXXIV. If the contents of the Abscess be included in a firm cyst, the long-continued pressure of so large a body upon the LUMBAR VERTEBRÆ, will sometimes induce a Paralysis of the lower extremities.

CLXXV. Although the larger Arteries have been known to lie surrounded with Purulent matter, for a considerable length of time, without suffering any injury, yet this is not universally the case; there have occurred many instances, where erosion has taken place, and

the person has been suddenly destroyed by the Hæmorrhage. The bones also to which purulent Matter has had free access, are not unfrequently found in a cariated State.

CLXXVI. The EMPYEMA Psoadicum, ought to be distinguished from Nephritick complaints ;--- from Bulo---Hernia---Aneurysm--- Fistula in Ano---Hæmorrhoids--- Abscess in the thigh joint, &c. The discrimination of this disease is sometimes difficult ; and it ought also to be observed, that it may be conjoined with any of these complaints.

SECT.

S E C T. II.

The MODE of TREATMENT.

CLXXVII. This disease in the incipient state, may be considered as a LOCAL and CHRONICK Inflammation ; the treatment therefore in general, is similiar to that which is appropriated to a common Inflammation ; but the debilitating plan ought not to be carried to so great an extent.

CLXXVIII. First Indication :

To obtain an Early RESOLUTION if possible, by

1. Topical Blood-letting.
2. Alkalised Purgatives.
3. Abstinence from Animal food, and fermented Liquors.
4. Perfect quietness, and a Supine posture.

5. Blistering Plaisters applied near the part affected.

6. I have found immediate advantage from the application of a large Caustick near the LUMBAR VERTEBRÆ.

CLXXIX. Indication the Second :

When Suppuration has actually taken place, the Diet must be improved and rendered cordial and nourishing. The Peruvian Bark, Vitriol, or Steel, may be employed with advantage. To these Tonick remedies it will be proper to add, a Pure Air, Gentle exercise, and with certain restrictions, Sea Bathing.

CLXXX. There have been various opinions concerning the best mode of treating the Abscess when it points externally. Some of the Older Surgeons, as HILDANUS, WISEMAN, &c. and the French Sur-

Surgeons in general, advise a free opening to be made, or the introduction of a Seton.

It hath been thought more advisable by other practitioners, to permit the Abscess to burst spontaneously. Several of the Modern Surgeons recommend a very small aperture to be made, and the Ulcer to be treated in a very gentle manner. My own experience is in favour of the last mode of treatment, and I have been so happy as to see it followed by a perfect cure of the disease.

CLXXXI. Some of the older Writers forbid the use of Injections in the LUMBAR ABSCESS; but their reasons seem to be founded upon mistaken ideas of the true situation of the disease.

Solution

Solutions of Copper, Vitriol, or even tepid Sea Water may sometimes be employed in this way, with considerable advantage.

CLXXXII. The instances of those that perfectly recover from the EMPYEMA Psoadicum are so few in number, when compared with those to whom it proves fatal, that it will never be prudent to give a favourable Prognostick.

CHAP.

C H A P. VI.

S E C T. I.

O F

GANGRENE and SPHACELUS.

CLXXXIII. **I**T hath been usual among many of the later Writers, to enumerate GANGRENE as a third mode, in which an Inflammation frequently terminates; but although custom and authority may be sufficient to justify such an arrangement, yet there certainly is not a necessary connexion between the two diseases. GANGRENE does indeed sometimes supervene to Inflammation, but this order is not absolute and immutable,

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for

for it very often originates from causes, which imply a state of the System, that is the reverse of Inflammation.

CLXXXIV. As a GANGRENE most commonly terminates in Sphacelation, there is some propriety in treating both of them under one head ; yet the difference between a Gangrenous and mortified part is so very considerable, that the terms ought never to be employed as Synonymous ones. The distinctions proposed by some modern Physicians, which are founded merely upon the parts affected, or the profundity to which the disease has penetrated, seem inadequate and useless. The antient Practitioners, who attended more carefully to the actual state of the morbid parts, than to the quantity

tity of disease, have left us some excellent definitions.

CLXXXV. The human body is but a temporary fabrick which carries in its composition and structure, the principles of dissolution and decay. This is not only true of the entire machine, considered as an organized whole, but may be applied to the several constituent parts ; so that whatever once possessed a vital power and action may be deprived of that quality by a variety of causes ; and when any part has once lost its living powers, all relation between the dead portion and the animated machine is irrecoverably destroyed.

CLXXXVI. The Phenomena which attend the Death of different parts of the body, are by no means similar ; they will be considerably

influenced by the organization of the part; by the previous state of the System; and by the nature of the REMOTE Cause.

CLXXXVII. As a knowledge of the REMOTE Causes affords considerable assistance, in the forming a just DIAGNOSIS of GANGRENE, this will be the most proper time to enumerate them; the History and Treatment of the disease will be consequently delivered with less interruption.

CLXXXVIII. Among the REMOTE causes that have a powerful influence in producing GANGRENE, may be assigned,

I. The application of severe Stimuli, to a diseased, or debilitated part.

CLXXXIX. There is a certain degree of excitement, which the
Nervous

Nervous System can support, without inducing a state that is inconsistent with the welfare of the body; if the stimulating powers act beyond a determinate point, they destroy sensibility, and induce torpor, or death. It may also be remarked, that if a vital moving part be suddenly or durably excited to a velocity and force of action, greatly beyond what its natural and inherent powers are calculated to sustain, a loss of tone in the moving fibres, debility, or even destruction of its vitality, must be the consequence. These observations may be fully illustrated, by applying them to the effects of Lightning, to intense Inflammation, Erysipelas, the action of acrid substances, poisons, fractured bones, &c. Strong Stimulants applied to Dropical, or Paralytick Limbs,

Limbs, &c. in the production of
GANGRENE.

CXC. 2. Obstruction to the due transmission of blood, especially when there is an increased action in the blood-vessels. As, in Strangulated Herniæ, Tight bandage, compression of large blood-vessels by Tumors. To which, perhaps may be added,

3. A sudden diminution of sensibility, and repression of action in a diseased part, by the improper application of repellent remedies, as is sometimes seen in Erysipelas, &c.

CXCI. A Sphacelus may be induced, by

1. Whatever destroy the organization of a part, so that it becomes incapable of carrying on its natural functions; as in large wounds, where the most considerable blood-vessels

vessels of a part are divided ; violent Contusion, by which the contexture of a part is subverted, and the contents of the vessels are either effused, or rendered incapable of being circulated.

2. Total obstruction to the motion of the blood in a principal artery, as in some cases of Aneurysm, ossification of Arteries, compression from tumors, &c.

3. Certain changes induced upon the living solids and fluids,—by Cold,—Heat, actual and potential : And also from the use of unwholesome food.

4. Sphacelation sometimes appears suddenly, without any evident procatarctick cause.

CXCII. The previous state of the general System, has very extensive influence in determining the action
of

of the REMOTE cause, to the production of GANGRENE, or SPHACELUS : *exempli gratia*, Previous Fever, Dropsy, Paralysis, Languid action of the extreme Blood-vessels as in Old Age, &c.

S E C T. II.

T H E

SYMPTOMS of GANGRENE.

CXCIII. The Supervention of this disease is sometimes marked by the appearance of Symptoms in the following order,

1. An exquisite irritability in an inflamed part.
2. A sense of burning in the part.
3. A purple, bluish, or livid appearance of the skin.
4. Subsidence of an inflammatory tumor.
5. Flac-

5. Flaccidity of the part affected.

6. Phlyctenæ, with a livid circle round their base.

7. Where an Ulcer exists, the surface becomes dry, and discoloured.

CXCIV. The TERMINATION of GANGRENE in SPHACELATION is indicated by,

1. An effusion of the red Globules of the Blood under the Cuticle, resembling diffused Petechiæ.

2. OEedema : sometimes, Emphysema.

3. A total cessation of pain in the diseased part.

4. A sense of great weight in the limb.

5. The affected part becomes black.

6. Cadaverous smell, and appearances of Putrefaction.

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These Phenomena are not entirely applicable to the Dry Gangrene.

CXCV. A part of the Body that is affected with GANGRENE, does not immediately lose its sensibility; the fluids continue to circulate in their vessels; and within certain limits, the part is capable of being restored to its former offices in the animal Economy. “ A Gangrene, “ therefore, strictly speaking, is a “ mortification not actually formed, “ but approaching, being the in- “ termediate state betwixt the “ height of Inflammation and Spha- “ celus.” (*See Kirkland on Gangrene and Sphacelus. Also Chirurgia Francisci Peccettii, &c.*) Sphacelation implies, the total loss of life in the part; an absolute derangement of its structure; the abolition of all its functions; and an
utter

utter incapacity of its being restored to any service in the Animal Economy.

CXCVI. It is obvious, that the regular progression of an Inflammation into Gangrene and Sphacelus, can be distinctly marked in external diseases alone. But the approach of a Mortification in any part, is not necessarily preceded by the clear and evident Characters of Gangrene. A small portion of the body may suffer sudden death, as well as the whole System.

CXCVII. A sudden attack of severe pain in a part that is apparently sound, frequently indicates the approach, or accompanies the first invasion of Sphacelus. Sometimes there is a small black spot upon the part affected. The progress and extent of the disease in

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such

such cases, is often marked by an OEdema, or an Emphysematous inflation of the *tela cellulosa*.

CXCVIII. A Mortification may frequently be regarded as an affection entirely local, which depends upon an external cause for its appearance ; in such cases, the effects do not extend beyond the diseased parts.

CXCIX. More commonly, Sphacelus is accompanied with a general and dangerous affection of the whole System. This state is indicated, By a remarkable deviation of the Patient's countenance from its natural and healthy appearance ; there is often a peculiar wildness of aspect ; anxiety, vomiting, great depression of strength, a frequent, soft, and sometimes intermitting pulse, and more or less of delirium.
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When a severe Inflammation of a tense part has proceeded rapidly to Gangrene and Sphacelus, the brain is affected at an early period, and the delirium is often furious; but in a languid System, where Sphacelation has approached more gradually, the delirium may be moderate, interrupted, and perhaps does not appear, till near the conclusion of the disease; and sometimes the patient dies comatose.

CC. In old people, a Gangrene and Sphacelus will frequently succeed to the slightest accidents. Under these circumstances, the disease will sometimes seem to be almost stationary, and continue for several months without producing extensive mischief; on the other hand, so variable and uncertain will be the progress, that the termination shall

shall follow a few days after the attack of the disease.

CCI. Many valuable writers both Antient and Modern, have divided Gangrene into different Species, and their distinctions have been founded upon the various REMOTE Causes that produce this disease; and as the progress of Mortification will very much depend upon the perpetual operation of the REMOTE cause, many practical advantages may attend such a mode of division. It is probable however, that, let the REMOTE cause be what it may, the form of the disease is an uniform and general one; and if it be, the principles that we have delivered are capable of application to every Species of the disease.

CCII. As a Sphacelated part no longer possesses a vital union with
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the general System, it may be regarded as an extraneous substance, the removal of which is generally essential to the comfort and welfare of the living parts.

CCIII. If the Mortified mass be so situated that it will be exposed to the effects of warmth and moisture, putrefaction will take place, as in dead Animal matter separated from the body. Sometimes a Sphacelated Member becomes dry and incorruptible, as if it had been defended from putrefaction by Artificial means.---*La Gangrene Sèche.*

CCIV. The separation of the dead part from the living is a natural process, and is explicable upon known physical principles ; and it generally takes place in the following order :---
The living parts that surround the mortification first appear to be
lightly

lightly inflamed, and they sink below the level of the Sphacelated edge ; the process of Suppuration soon commences, a small quantity of matter issues from the line of separation, and as exfoliation proceeds, the matter is evacuated in greater quantity and assumes the form of good Pus : while this Process goes on, the distance between the living and the dead part becomes more evident, until they cease to cohere.

CCV. The Inflammation that immediately precedes the separation of the dead part, and which is essential to the completion of that process, seems principally to depend upon the presence of the Eschar ; this dead substance stimulates the surrounding living solids as an extraneous body, and thus produces
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a determination of blood to that part ; the contiguous surface consequently suppurates, and the matter that is found between the receding parts is principally furnished by the living Vessels.

CCVI. The period of exfoliation is considerably influenced by the situation and structure of the affected part, and by the general state of the Constitution.

CCVII. Bones are susceptible of Inflammation and Suppuration, as well as the softer parts of the body ; they may likewise be deprived of their vitality by disease. When a bone, or a portion of bone is in this state, it is said to be CARIOUS.

CCVIII. As there exists a considerable difference between the sensibility, structure, and functions of Bones, and those of the soft parts,

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to the Phenomena of their several diseases are not exactly similar: A general and gross analogy obtains, but it is not sufficiently precise to warrant an equal application of all the preceding observations. It is highly probable however, that the Desquamation of Bone is effected by a process, analogous to that of the exfoliation of the softer parts.

CCIX. Various explanations have been offered of the means by which the dead Animal Solid is separated from the living parts. It will be sufficient for the present purpose, to take notice of the three following, viz.

1. That the efficient cause is a Mechanical one, the force with which the new granulations of flesh germinate, being supposed sufficient to

to push off the Mortified Mass.
Platner. Tenon, &c.

2. A fermentation and dissolution of that part of the Eschar, or Carious bone, which forms the line of adhesion.

3. That the living solids at the line of Union, are removed by the mouths of Absorbent vessels.

CCX. The assignment of the first enumerated cause must have been the result of very gross observation; it is at once inadequate for the purpose, and the action assigned to the granulations is quite inconceivable. It may account for the extrusion of a loose Eschar, but we are not at all assisted by it in conceiving of the mode by which separation is effected in the middle of a solid fibre.

CCXI. There is considerable ingenuity displayed, in referring the process of exfoliation, to the Mor-dicant powers of Absorbent orifices; but this opinion is not wholly free from difficulties.

a. If the dead part be separated from the living by an Absorption of the line of union; as this line is always of equal diameter, and according to the supposition is studded with mouths of Absorbents, the time in which different portions of dead matter exfoliate, ought not to bear any proportion to the depth, extent, nor seat of the disease; but this is contrary to daily experience.

b. The dead bone acting as an extraneous substance, must stimulate the Absorbents that are at the point of contact to action; but if these vessels absorb the line of Union, then

then it will follow, that they Absorb themselves.

c. As there cannot be any given portion of a Bone, that may not become carious and exfoliate, so there cannot be any point assigned, that may not be absorbed; and if any given point may be absorbed, then every given point may be absorbed: But if the smallest assignable line, cannot be drawn through any part of a bone, which may not be absorbed, then it will follow, that no point can be given, however small, at which it may not be affirmed that the orifices of Absorbent vessels exist: But if these *orifices* exist in every possible point, where are their trunks? Where are the other constituent parts of the bone?

CCXII. It is probable, that in the separation of the dead portion
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of the Animal fibre from the living, the process that terminates in a solution of continuity first begins in the Eschar, or in the cariated portion of bone, for

1. Warmth and Moisture expedite the process of exfoliation ; and at the line of Union, these circumstances are generally present.

2. A fetid SANIES, or SORDES, is generally to be found about the line of separation.

3. When bones of a spongy texture become carious, there is not always a regular desquamation, but the dead part is evacuated in fragments along with the discharge, as if the bone had suffered comminution.

4. The presence of putrefaction is very evident, and the effects of that process in destroying the cohesion

sion of Animal fibres, is too generally known, to require insisting upon; and whatever operation any other power may be supposed to have in perfecting the separation,* this appears to be a very principal Agent.

CCXIII. Mortification should be distinguished from Ecchymosis, and large extravasations of Bloody fluids into the Cellular Membrane. But the DIAGNOSIS and PROGNOSIS will be more conveniently delivered, when we treat on particular diseases.

* The Suppuration of the living surface immediately in contact with the dead part, (N^o 205) may probably expedite the process of Exfoliation.

S E C T.

S E C T. II.

T H E

TREATMENT OF GANGRENE.

CCXIV. The Mode of treating a GANGRENE, may with propriety be divided into two distinct parts,

1. The internal Remedies, &c. which are indicated by the State of the General System.

2. The Local applications.

CCXV. Indication the First :

To diminish increased vascular action, by a moderate and judicious use of the Remedies recommended at N^o 80, 81, 85, 88.

It is here supposed, that intense Inflammation is the Cause, or the Antecedent of the Gangrenous symptoms. The evacuations however, must

must be made with great circumspection; for an erroneous idea of the nature of the disease, or the state of the general System, may be attended with fatal consequences to the patient.

Indication the Second :

To diminish pain and irritability, by a very liberal use of Opium.

Indication the third :

To prevent its progress into Sphacelus, by supporting the Tone and Vigour of the System, with

Peruvian Bark, Vitriol, Mineral Acids, Port Wine, Madeira, Porter or Ale, Brandy, Æther, &c.

S E C T. III.

The LOCAL TREATMENT.

CCXVI. Indication the First :

To remove the REMOTE Causes if possible, as Tumor, Ligature,

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Acrid-

Acrimonious Substances, &c. and to correct or destroy any particular virus by its proper remedy.

Indication the Second :

To promote the equable circulation in the part, and to obviate the effects of distention, by warm, soft, and lenient applications frequently repeated : As Cataplasms made with Bread and Milk :—Linefeed, Mixtures of Wheat Flour and Linefeed, or Fenugreek, or Camomile Flowers powdered, &c.

When Cold is the REMOTE cause of this disease, warm and emollient applications are to be avoided, and in their stead, substitute friction with Snow, immersion in Cold Water, &c.

SECT.

S E C T. IV.

T H E

TREATMENT of SPHACELUS.

CCXVII. When the Symptoms enumerated at N^o 199, begin to appear, no evacuations ought to be promoted, except such as are natural to the body in a state of health. The first Indication that presents itself is to check the progress of the disease, by large doses of Peruvian Bark joined with Opium, exhibited in as quick succession as the Stomach will bear. To which may be added, The strongest Wines and other fermented liquors, Brandy, Æther, &c.

Indication the Second :

To administer Opium when pain renders its use necessary.

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S E C T.

S E C T. V.

The LOCAL TREATMENT of
SPHACELUS.

CCXVIII. Where a Mortification arises from compression, or any other external REMOTE cause, and the general health seems to be wholly unaffected, the removal of the REMOTE cause will be generally succeeded by a termination of the disease. In such cases, the Mortified part requires no more attention than what is usually paid to an Eschar made by a Caustick. But a SPHACELUS is not necessarily local, because it originated from an external cause ; the judgement must here be determined by the consideration of several other circumstances.

CCXIX.

CCXIX. As the Sphacelated part is dead, no benefit can be derived to it from any external applications whatever; the living parts that surround it are the only proper objects of attention.

CCXX. The external remedies that have been principally recommended, are

- a. Scarifications of the Part.
- b. Applications, actually, or potentially warm.
- c. Antiseptick Cataplasms, &c.

CCXXI. The chief advantages to be derived from scarifying a Mortified part, seem to be, an evacuation of putrid Sanies, or confined Air, and the affording an opportunity of applying proper dressings to the living parts that are beneath the Eschar.

CCXXII.

CCXXII. The surrounding parts may be invigorated, by the application of Alcohol, Oil of Turpentine, Poultices made with Oatmeal and Stale Beer, to which may be added, Cataplasms of *Theriaca Londinensis*, &c. Lixivial applications are wholly improper, unless we mean to do no more than wash away the offensive matter from the diseased part. The actual Caution is very seldom used: And it may be doubted how far the vapour of hot water can be applied to a Sphacelated part, with perfect propriety.

CCXXIII. Antiseptick applications, as the Powder of Peruvian Bark made into a Cataplasm;—Mineral, or Vegetable Acids diluted:---Mephitick Gas:---Carrot Poultice:---the fermenting Cataplasm, &c. may be used with advantage, as they correct

rect the fetor, and do no injury to the living parts. I have seen the most pleasing effects to follow the use of the Fermenting Poultice, and also the application of Cicuta, to Gangrenous Ulcers.

CCXXIV. It is sometimes necessary to remove the mortified part by a Chirurgical Operation ; but excision ought not to be attempted, until the separation of the living part from the dead be in some forwardness. This rule may be admitted as being generally true, but it is not absolutely without exception. But this subject will be prosecuted with more propriety under the head of Amputation.

CCXXV. A Sphacelated Limb is sometimes separated from the body by a natural process, and the cure will be completed without any assistance from Art.

CHAP.

C H A P. VII.

S E C T. I.

O F T H E

ANTHRAX, or CARBUNCLE.

CCXXVI. **T**HE ANTHRAX is a deeply-seated, hard, immoveable, distinctly circumscribed tumor, attended with an intensely painful sense of burning in the part, and considerable discolouration of the skin.

CCXXVII. This disease is rarely IDIOPATHICK ; it is assigned by writers, as a very common appearance in Pestilential diseases :---and when there is no reason to suspect the plague

plague as a cause, that state of the System is commonly present which is characteristick of Putrid fever.

CCXXVIII. The CARBUNCLE is often sudden in its appearance, the tumor is very little elevated above the surface of the skin; about the centre it is of a dusky red colour, but is much paler, and often variegated toward the circumference. Small, prurient vesications or pustules appear upon its surface, which, when they are ruptured evacuate a dark coloured Sanies, and discover a sphacelated base. The commencement of the disease is sometimes accompanied with Symptoms resembling General Inflammation; but most commonly, it is attended with Rigors, sickness, great restlessness and depression of strength, faintings, delirium, &c. A Miliary Eruption

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tion, or even Petechiæ, are sometimes found dispersed in different parts of the body.

CCXXIX. It hath been usual to divide the ANTHRAX into two Species, the BENIGN and the MALIG-NANT: this distinction however, seems to be merely applicable to the violence and extent of the disease, and implies no real diversity in the Species.

CCXXX. The Cellular membrane is the principal seat of the CARBUNCLE; and as in Gangrene and Sphacelus, the extent of its ravages cannot always be known by the appearance of the superincumbent integuments. However large the surface may be that is occupied by this disease, it is generally destroyed and rendered totally unfit
for

for performing its natural offices in the Animal Economy.

CCXXXI. The ANTHRAX never evacuates Laudable Pus ; in general, the affected part suffers complete Sphacelation : but if the disease be less Malignant, nothing but an offensive Ichor or Sanies accompanies the exfoliation of the putrid sloughs.

CCXXXII. Sometimes a Carbuncle is solitary in its appearance, and is of a surprising magnitude ; but not unfrequently, like Furunculi, they appear in different parts of the body at the same time. When the Anthrax is a Symptom of the Plague, the pestilential Bubo frequently accompanies its appearance.

CCXXXIII. The Anthrax must be distinguished from Phygethon,

140 OF THE ANTHRAX,
Gangrenous Abscesses, and Phleg-
monous tumors in general.

CCXXXIV. The PROGNOSIS of
the Carbuncle, will be considerably
regulated by its Magnitude:---Situa-
tion:---or the numbers that invade
the body at the same time. The
state of the Patient's health will
greatly influence the Prognostick.

S E C T. II.

T H E

TREATMENT of ANTHRAX.

CCXXXV. From the preceding
history of CARBUNCLE, it is evi-
dently a disease so very analogous
to Gangrene and Sphacelus, that the
treatment which was appropriated
to these morbid affections, is per-
fectly applicable in the present in-
stance.

stance. The Extirpation of the Tumor, or the Application of Causteries and Caustick, are modes of practice justly exploded.*

CCXXXVI. It ought to be constantly remembered, that no external applications are to be depended upon alone. The vigorous and decided use of those remedies that operate upon the general System, is of the greatest importance.

CCXXXVII. Where considerable sinusses remain after the exfoliation of the Sphacelated part, Injections made with Solutions of Vitriol, Copper, Lunar Caustick, &c. will be sometimes serviceable, in promoting the separation of the dead portions of Cellular Membrane, &c.

* *M. Pouteau*, who is extremely fond of the actual Caustery, recommends its application in the ANTHRAX. *Oeuvres Posthumes.*

C H A P. VIII.

S E C T. I.

O F T H E

PERNIO, or CHILBLAIN.

CCXXXVIII. **T**HE PERNIO is a painful tumefaction, and sometimes Ulceration of an extreme part, in consequence of exposure to a great degree of cold.

CCXXXIX. This is a disease to which the inhabitants of Temperate Climates are more peculiarly liable; its production seems to depend rather upon the successive alternations of Warmth and Coldness, than to be

be the effect of the long-continued action of severe Cold : in the Frigid Zone, congelation, and the total death of the part, is almost always the consequence of incautious exposure to the Atmosphere, in the more inclement seasons.

CCXL. Although the Chilblain is a very common complaint, and is not generally the object of Chirurgical treatment, yet it ought not to be overlooked as a disease of no importance, for it sometimes proves destructive to the part that is affected ; it is always slow in its progress toward amendment ; and those that have once been sufferers, are subject to have a return of the disease in every succeeding Winter.

CCXLI. In our attempts to investigate the effects of the application of cold upon the human body, in
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the production of this, or any other Morbid alteration, we cannot reason from its known action upon inanimate substances, for the Phenomena are not applicable, except in some very gross instances. No particular alterations are produced in dead Matter by exposure to a cold Atmosphere, &c. until it be frozen ; but the congelation of a living part is usually attended with the loss of its vitality, and it then ceases to fall under our consideration as a proper subject of disease.

CCXLII. The effects of cold upon the living body are more sensible and intense, in proportion as the transition is more sudden, from a very high to a very low degree of temperature. But even in the coldest seasons of Northern climates, a sudden increase of its severity, especially

cially if there be much Wind, will occasion internal, or external Mortifications, and not unfrequently sudden Death. *See Boyle's History of Cold, &c.*

CCXLIII. The natural standard of heat generally found in the living body is about 98° of *Fahrenheit's* Thermometer, and this degree can be supported when the surrounding Atmosphere is in very different states of temperature, by the original and inherent powers of the System. The application of a cold atmosphere, &c. to the living body, has not an unrestrained power of reducing it to its own state of temperature ; for as long as the vital powers are vigorous and active, it can subtract little more than the excess of heat that may be present above the natural standard. But

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where

where the cold is excessive, and its application is long-continued, a morbid alteration will be induced in the sensibility and motion of the part, and consequently there must be an unnatural reduction of the state of Animal heat.

CCXLIV. Those parts of the body that are naturally possessed of little or no sensibility, and where there is a languid circulation of blood, or perhaps none at all, may be frozen, and undergo the same changes that take place in lifeless matter, while the System in general shall suffer little or no injury: *exempli gratia*, the cuticle, hair, and extremities of the nails.

CCXLV. The proper and direct effects of cold upon solid inanimate bodies, are dryness and contraction; but it is said, that fluids suffer expansion

panfion at the instant of Congelation. When it is confidered that the experiments which feem to prove this, were made with nearly incompressible fluids inclofed in a hollow vefsel, and that the fides of the vefsel would contract with great force upon an inelastick substance ; when it is alfo taken into confideration, that high degrees of cold evolve the air naturally combined with water, and thus augment its bulk, and diminish Specifick gravity ; when the different degrees of specifick gravity, of different masses of Ice, and of the same portion at different periods, the effects of the Air-pump, &c. are added to the account, and alfo the change that takes place in its figure by the act of congelation, perhaps our general position, that cold by

its proper effects, contracts all bodies, may be capable of application to fluids as well as to solids.

CCXLVI. The proper and direct effects of cold upon living bodies, are, a diminution of insensible perspiration, a dryness, corrugation, or fissured state of the cuticle, and sometimes of the skin: The sensibility is more or less impaired; there is a languid circulation of the blood especially in the smaller vessels; these are succeeded by a considerable diminution of heat upon the surface of the body; respiration is often painful or laborious; and there is a general diminution of the Tonick action of the moving fibres, accompanied with actual debility.

CCLXVII. As the human body is an organized whole, where the combined parts exert a perpetual
and

and reciprocal influence upon each other, a powerful application is never followed by a solitary effect. Animal heat depends greatly upon the state of the Brain, and the sensibility of the Nerves, and *vice versa*; both these conditions, are intimately connected with the due transmission of blood; and the tonick state of the moving fibres depends upon the joint operation of all these, and perhaps of other causes. See Observations on ANIMAL HEAT in the *London Medical Journal*, Vol. 7. p. 169.

CCXLVIII. When the sensibility, tone, &c. N^o 246, of any portion of the body is greatly impaired, if it were to be still longer exposed to the action of intense cold, a livor, rigidity, brittleness, and death of the part, would be the consequence.

CCXLIX.

CCXLIX. The firmness that is produced in a body by congelation, ought to be distinguished from that state of contraction in living Muscular fibres, that is called Tone: nor ought it to be assumed as certain, that cold, while it contracts bodies, also augments the attraction of cohesion between the particles of Matter. But whatever may be its effects upon dead substances, it was long ago observed by Lord BACON, that “Cold has a *relaxing* effect “upon the living body.”

CCL. In robust and athletick constitutions, where intense and long-continued refrigeration can be sustained without injury, from the influence of habit, or the effect of exercise, a cold atmosphere may be said to increase the general strength of the System. Upon the same
princi-

principle, tranſient changes of temperature, (as Cold-bathing, &c.) repeated within certain limits, will have a tendency to invigorate the feeble and debilitated; but theſe ſecondary effects of cold which are the conſequence of re-action, no more prove it to be Tonick in its own nature, than the debility that ſucceeds inebriation demonſtrates the primary properties of Alcohol to be relaxing.

CCLI. That degree of heat which is moſt grateful to the healthy ſtate of ſenſation, is about the Medium point, between the heat of human blood, and the Freezing point. But when a part is conſiderably refrigerated, if a degree of heat not greater than would be pleaſant to a healthy body be ſuddenly applied, the effect will be as fatal as abſolute
 conge-

congelation. It must be very obvious however, that the manner in which death is occasioned by these two opposite causes, is very diverse: in the latter instance, vitality is destroyed, by arresting all motion; in the former, by the violent incitation of the moving fibres of a part to a velocity and force of action, which their debility renders them unable to perform.

CCLII. The general principles, by which many of the effects of actual cold are produced by substances that are potentially cold, may perhaps receive some elucidation from an application of the preceding observations.

CCLIII. The first Symptoms of the PERNIO, are a paleness of the refrigerated part, which is quickly succeeded by more or less of redness,

ness, and a troublesome pruritus, or sometimes pain ; the skin gradually acquires a purple hue ; the cuticle separates, and this separation is often preceded by a serous effusion between that and the Cutis ; beneath the cuticle, there appears a painful ill-conditioned Ulcer, irregular in its figure, and difficult of cure.

CCLIV. The foregoing account may be considered as a very general description of the CHILBLAIN ; but as there is some variety in the appearance and progress of the disease, it may be proper to divide them into two Species :

The SIMPLE, and the ULCERATED
PERNIO.

CCLV. The SIMPLE PERNIO is characterized by redness of the part, accompanied with a pruritus and sense of tingling, especially on be-
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ing suddenly exposed to heat ; more or less of OEedema possesses the surrounding parts, and very frequently there is a livid appearance which extends to a considerable distance. This Species may remain in its simple state during the whole Winter, and gradually disappear as the Summer advances.

CCLVI. The ULCERATED PERNIO is frequently preceded by the simple species, to which, there supervenes a Vesication, or simple separation of the Cuticle : below this, there appears a painful, foul, irregular Ulcer, which by neglect will increase to a considerable magnitude : sometimes the Ulceration penetrates as low as the tendons, or even exposes the surface of the bone. In a severe Winter, there are generally several instances of a total Sphace-

Sphacelation of one, or both the extremities, from the application of cold. A sudden and imprudent application of heat to a benumbed limb, may prove equally destructive of the life of the part.

CCLVII. A long-continued and partial exposure to a cold not much below the freezing point, will sometimes produce the dry Gangrene; especially if there be a previous state of debility in the System.

CCLVIII. It is worthy of observation, that the Simple Chilblains do not so often appear during the continuance of a frost, as during the thaw that succeeds it; and it is a well known fact, that frequent alternations of heat and cold, within short intervals, have a very pernicious effect upon parts that are already debilitated.

CCLIX. The Ulcers that appear in consequence of the application of cold, very much resemble those that are seen on the lower extremities of Cachectick patients, and of those in general, where the Circulation of the blood in the extreme vessels is remarkably languid,

S E C T. IV.

The T R E A T M E N T of C H I L B L A I N S.

CCLX. As it is easier to prevent the accession of Chilblains, than to cure them, our attention ought first of all to be directed to the means of prevention.

The Methods proper to be employed for this purpose, are,

1. To defend the parts carefully from the action of extreme cold, by warm cloathing.

2. To

2. To avoid sudden and great transitions from cold to heat.

3. To give tone and action to the vessels by exercise or friction.

4. To harden the Cuticle, and promote the circulation of blood in the parts most exposed to the effects of cold, by gentle Stimulants, as Alcohol:---Spirit of Turpentine:---Warm Plasters, hot Sea Water, &c.

CCLXI. The Simple Pernio will generally disappear as soon as the weather becomes permanently mild; little more is requisite than to rub the part frequently with a warm Spirituous Embrocation, and to apply a plaster of Simple Diachylon. Exposure to a very strong heat has been recommended, and will prove successful; but it is too painful a mode to be generally adopted.

CCLXII.

CCLXII. The Ulcerated Chilblain may be treated as a common Ulcer, varying the applications according to the state of the affected part.

CCLXIII. The mode of treating a Gangrene that is the consequence of exposure to cold, ought to be different from that which was recommended, at N^o 215, — 216. We are advised, first to attempt a restoration of the part, by chafing it with Ice or Snow, or plunging it into Cold Water ; and cautiously to avoid introducing a sudden change in the temperature of the part. Cordial remedies are to be exhibited internally.

But when a Part is completely Sphacelated by Cold, the mode of treatment does not differ from that which was recommended in the Chapter on Gangrene and Sphacelus.

C H A P.

C H A P. IX.

S E C T. I.

A M B U S T I O N E S.

O F

B U R N S and S C A L D S.

CCLXIV. **A** BURN, is a solution of continuity from the application of fire.

CCLXV. In our attempts to investigate the operations of various active powers upon the human body, we are not to form an estimate of their proper and absolute effects, by means of analogical reasonings founded upon the changes they produce on inanimated matter; their

their action upon the living fibres, within certain limits, is relative, and is connected with the present, and immediately preceding state of the System ; for every application that does not immediately destroy the vitality of the part to which it is applied, scarcely extends its primary action beyond the organs of sensation. These observations are eminently true when applied to the operation of heat and cold, communicated within a certain degree to the living System.

CCLXVI. It is a well known fact that a living healthy animal is endowed with an inherent power of generating, and supporting a certain degree of heat, in a great measure independently of the state of Temperature of surrounding bodies. And when the body is placed within
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in the sphere of action of masses of matter, considerably heated beyond its ordinary standard, there will be an accession of heat exceeding the natural quantity ; but in proportion to the adventitious heat that is communicated, the inherent powers of the System will be less vigorously exercised in the generation of animal heat ; hence there ought to be a distinction constantly made, between innate, and supervenient heat.

CCLXVII. When heat is considered with relation to the senses of an Animal, it may be regarded as a very powerful Stimulant inciting the moving powers of the living fibres to action ; but when it is viewed with reference to its absolute effects on matter in general, it will appear to be a very active and potent

Chymical agent, capable of destroying the contexture, and separating the component parts of bodies. The effects therefore resulting from the application of heated substances to the human body, will be different, according as their action chiefly terminates on the organs of sensation, or as they destroy the vitality, and derange the organization of the Machine.

CCLXVIII. The effects produced by high degrees of actual heat, and by Caustick substances applied to the living body, are very analogous; and the sensations excited by actual and potential heat are so extremely similar, that it perhaps merits inquiry how far their effects depend upon a principle common to both.

CCLXIX.

CCLXIX. If a substance possessed of above 120° of heat be applied to the living body, it will accelerate the motions of the blood vessels of that part, increase the contractility of their parietes, produce redness, and augment sensibility. Increase this degree of heat to 213° , and there will follow a serous effusion under the Cuticle ; and a still greater accession of heat will coagulate the fluids, and solids, deprive the part of its vitality, and be attended with other consequences of Combustion, more or less extensive, according to the intensity of the heat, and the duration of its application.

CCLXX. As the quantity of heat which different substances are capable of receiving, and the readiness with which they transmit it, is very various ; so the effects that result

from the application of heated vapours, and ardent Metals are very dissimilar. If an intensely heated metallick substance, &c. be suddenly applied, the burning effects will be more extensively injurious, but the painful sensation not so severe, as that which immediately follows the application of boiling Water. And when heat is communicated in a gradual manner, very considerable medical effects may be produced; for the pain occasioned by a light substance in the state of actual combustion, is by no means insupportable.

CCLXXI. Heat produces more or less of an expansive motion in all dead matter; whereas, such a degree as is consistent with life and health, occasions a contraction and increase of tone in the living fibre.

But

But we are not to confound the expansion and condensation of inanimate substances, with the contraction and relaxation of the vessels, &c. of a living Animal: the former effects are in proportion to the degree of heat that is applied; the latter are not in the ratio of its actual temperature; for the Thermometer may demonstrate the Animal heat to be uniform in Winter, and in Summer, while the state of Tonick contraction shall be widely dissimilar.*

* A greater attention seems to have been paid to the *Temperature* of the Atmosphere in different Climates, than to the *Density* of the Air; but this last circumstance ought not to be overlooked, for daily experience demonstrates the great and important changes that are produced in the Tonick state of the System, by variations in the degree of Atmospherick pressure.

CCLXXII. If a living Animal be confined in a degree of heat a little below that which would produce coagulation, altho' the primary effect would be a contraction of the living fibre, yet by supporting a violent and unnatural degree of action in the moving parts, the powers of the System would be gradually exhausted. And it is no more extraordinary that the application of different degrees of heat should be attended with varying effects, than that the exhibition of different doses of the same medicine, should be followed by very unequable operations.

CCLXXIII. In judging of the Morbid effects and probable consequences of fire when applied to the living body, it is necessary to enquire into the degree of heat that
was

was brought into contact ; the duration of its application ; and the situation of the injured part : *exempli gratia*, a Burn upon the head is more dangerous than upon an extremity ; and even the application of a strong Caustick to the scalp demands circumspection.—A considerable portion of the integuments may be destroyed, so as to produce an Ulcer that will be cicatrized with difficulty.---The situation of the injury may be such, as to be followed by inconvenient adhesions, contractions, or great deformity.---The subject of the accident, may possess a habit of body in which Gangrene and Sphacelus readily supervene.---The Age of the patient is also a circumstance of moment, as extensive Burns in old people, and in

in Children, are extremely dangerous.

CCLXXIV. Burns may be divided into

The SUPERFICIAL,

The ULCERATED,

and the

CARBUNCULOUS.

In the SUPERFICIAL Burn, the connexion between the *Epidermis* and *Cutis* is generally destroyed, but there is no serous effusion, nor does the injured Cuticle separate until a new one is nearly formed beneath it. This is attended with moderate pain, and no danger, except the injury be very extensive.

The ULCERATED Burn is accompanied with effusion under the Cuticle, and very commonly the *Cutis* is considerably injured, so that a deep and foul Ulcer is formed. The heat

heat of Boiling Water may produce these effects.

In the CARBUNCULOUS Burn, the whole organization of the injured part is destroyed, and a perfect Eschar, or dead crust is formed, the profundity and diameter of which will depend upon the degree of heat that was applied, and the duration of its application. Ignited or melted metals, burning Coals, boiling Oil, &c. will produce these effects.

CCLXXV. The danger to be apprehended from a Burn or Scald, cannot always be estimated from its profundity, or Magnitude; for as superficial burns are now and then extremely painful, so a very slight injury from fire upon a lower extremity, sometimes terminates in Gangrene and death.

CCLXXVI. The state of a part that is slightly burnt, and in which the Ulceration is not profound, very often resembles that which is present in Erysipelas ; but an extensive burn, may be accompanied with all the Symptoms attendant on general Inflammation.

CCLXXVII. Heated vapour, or boiling water, more frequently produce Ulceration when they pass to the body through the cloathes, than when they are immediately applied to the naked surface.

S E C T. II.

The T R E A T M E N T of BURNS and SCALDS.

CCXXVIII. The first Indication :
To obviate the effects of Inflammation, by employing the remedies recommended in the first Chapter.

CCLXXIX.

CCLXXIX. Indication the Second :

In the SUPERFICIAL Burn, to prevent if possible a hasty separation of the Cuticle, by the application of Spirit of Wine, Vinegar, the heat of a moderate Fire, Cold Water, Preparations of Lead, &c.

CCLXXX. In the ULCERATED Burn, to apply Oil, Saponaceous Lotions:---Preparations of Lead:---Cataplasms of White Bread and Milk with Oil:---Lineseed Poultice, &c.

To dress the Ulcer, after the Inflammation is subdued with Mild digestives. When it heals with difficulty, the *Ungt. Basil. Nigr.* may often be used with advantage.

CCLXXXI. Indication the third :

The effects of Pain are to be obviated by the use of Opium ; and if a considerable portion of the integu-

ments be removed, to Support the strength, by Peruvian Bark, Wine, &c. and the Tonick remedies formerly recommended.

CCLXXXII. The Treatment of the CARBUNCULOUS Burn must be conducted according to the directions given in the Chapters on Grangrene and Anthrax.

CCLXXXIII. Indication the fourth :

To prevent as much as possible, contractions, unnatural adhesions, and great deformity, by Mechanical means properly adapted to the situation of the part affected.

CHAR.

C H A P. X.

S E C T. I.

O F T H E
E R Y S I P E L A S.

CCLXXXIV. **M**EDICAL and
 Chirurgical writers have generally classed ERYSIPE-
 LAS under the head of Inflammation,
 and the principal difference between
 this affection and pure Inflammation,
 has been supposed chiefly to consist
 in the seat of the disease. The ERY-
 SIPELAS is commonly seated on the
 Skin, which is an irritable surface;
 a PHLEGMON is situated more deeply,
 in the substance of the part; and
 this

this difference of situation hath been esteemed fully sufficient to account for the very dissimilar Phenomena that are exhibited by the two diseases.

CCLXXXV. I must acknowledge that a patient study of nature hath induced me to suspect, that the relation between Erysipelas and Inflammation is extremely remote. It appears to me proper and justifiable to consider Erysipelas as a GENUS, the Specifick characters of which, are as widely differing from Inflammation, as those of Inflammation are dissimilar from the Phenomena proper to Fever. This opinion will receive farther illustration, if we advert to the mode of Treatment that is appropriated to each ; the very different manner in which the two diseases terminate ; and also to
this

this remarkable fact, that the two diseases are not reciprocally convertible into each other. To propose trivial, or verbal innovations into Science, through an affectation of Novelty, or to attract the publick attention, is unworthy the Interpreter of Nature ; but it is hoped, that the present instance will not incur such a censure, from the candid and intelligent practitioner.

CCLXXXVI. As there is a considerable similarity in the Phenomena that constitute ERYSIPELAS wherever it is seated, the general history of the disease will be less interrupted if a description be first given of its appearance and progress in some one particular part; and afterwards we shall deliver such observations, as will be applicable to the various circum-

circumstances that may accompany the disease. We propose therefore first of all, to speak of Erysipelas in the face, when connected with general affection of the System.

CCLXXXVII. This complaint is very frequently sudden in its attack, but sometimes it is preceded by shiverings, nausea, and Symptoms that resemble the approach of an intermittent. The forehead, cheeks, nose or eye-lids are tumefied; the elevation is smooth and equal, but not distinctly circumscribed. The skin is of a bright scarlet colour, or it is tinged with yellow, or it approaches to a dusky redness; on pressing the part, this discolouration disappears, but it returns again, as soon as the finger is removed. These Symptoms are accompanied with an ardent heat, and an uneasy sense of
of

of tingling in the part, rather than with acute pain ; sometimes the patient complains of a distressing pruritus. The tumefaction generally presents a shining, and perhaps a semi-pellucid appearance, but is without tension, hardness, or a sensation of throbbing. The Eyelids are often so considerably tumefied as to obstruct vision, and the whole face is extremely disfigured. Small pustules, containing a transparent fluid, and very much resembling those that are produced by Boiling Water, occupy more or less of the surface affected with this disease ; and if they burst, the effused fluid will excoriate the neighbouring parts. There is frequently some degree of exulceration at the base of these Vesications, which very often hasten rapidly into

A a

Gan-

Gangrene or Sphacelus. When the disease terminates favourably, the Pustules dry, and a furfuraceous desquamation takes place in a period from about eight to twelve days.

CCLXXXVIII. The seat of the ERYSIPELAS is said to be in the *Rete Mucosum*; and without doubt this membrane is considerably affected; but it is not confined to this part, for the *tela Cellulosa* is always, and to a considerable degree, the subject of the disease; the situation of the complaint therefore, is not that which discriminates Erysipelas from Phlegmon. And on the other hand, it is equally certain, that internal irritable surfaces, (as they are called) are as frequently attacked with Inflammation as Erysipelas.

CCLXXXIX.

CCLXXXIX. But although the Cellular membrane is more or less interested in this complaint, the progress of the disease and its Mode of Termination, are widely different from the progress and general termination of a Phlegmon. A circumscribed cavity containing laudable Pus is never seen in a legitimate Erysipelas; and where a purulent effusion happens in any considerable degree, when the part is examined, it affords a sensation similar to that which is excited by a quagmire or morass. In that sort of suppuration which sometimes supervenes to Erysipelas, the Cellular Membrane suffers great injury, and not uncommonly the part is in a Gangrenous condition.

CCXC. It is not an easy task, distinctly to ascertain the REMOTE Causes that give origin to this dis-

A a 2 ease.

ease. From among many others we have selected the following :

1. Violent passions of the Mind, as Anger, &c.
2. Undue exposure to the Rays of the Sun, or to the action of Fire.
3. A blast of cold moist Air.
4. The application of Poisons, Vegetable, Mineral or Animal.
5. Wounds, Punctures, &c. of the Periosteum, Pericranium, and of a tendinous expansion, or a Nerve in Phlebotomy.
6. Fractured Bones.

It often appears, when we are unable determinately to assign any particular cause.

The ERYSIPELAS is sometimes a congenital disease.

The efficacious action of the causes enumerated above in the production

tion of this Specifick form of disease, will be greatly influenced by the previous state of the System.

CCXCI. The Erysipelas ought to be carefully distinguished from Phlegmon; and the following Criteria will assist towards forming a just DIAGNOSIS.

1. In the Erysipelas, the tumefaction is less prominent, and is never evidently circumscribed.

2. The skin often looks as if it were scorched or burnt.

3. The redness vanishes on pressure.

4. It is not commonly attended with the lancinating pains, and sense of throbbing, that attend the formation of a Phlegmon.

5. The part affected is almost wholly free from tension, and gives the sensation of an OEdeematous,
or

or of an Emphysematous state, except that there is no crepitation.

6. That hardness of the Pulse, which is a distinguishing character of Inflammation, is not present in Erysipelas.

7. The general state of the System verges rather to Debility, or depression of strength, than to increased strength and vigour.

Some of these Criteria will occasionally require qualification ; but never to such a degree as to invalidate the general conclusion.

CCXCII. From the foregoing narration of the Phenomena of Erysipelas, it seems warrantable to form the following proposition.

CCXCIII. In a part that is affected with an Erysipelas,
there

there is a morbid irritability of the Nerves ; arterial contraction is performed with an increased velocity, but with diminished vigour, and the parietes of the blood-vessels give less resistance than natural to the *vis a tergo*.

CCXCIV. The Erysipelas is not a disease that is Simple and Uniform in its appearance, nor does it always admit of a similar mode of treatment : it will be therefore proper to divide it into different Species, and to appropriate to each its method of Cure. The following division is adopted as a convenient one :

1. The ACUTE Erysipelas.
2. The OEDEMATOUS Erysipelas.

3. The MALIGNANT, or Gangrenous Erysipelas.

Each of these Species may be an IDIOPATHICK, or a SYMPTOMATICK disease.

The Erysipelas indeed is susceptible of *Metastasis*, but this property does not seem to be so sufficiently limited, as to justify the admission of it as a foundation for establishing a fourth Species.

CCXCV. The ACUTE Erysipelas is most commonly seen in those of a Sanguine and Cholerick temperament ; it is generally sudden in its attack, and usually affects the face. Symptoms resembling those of general inflammation, are often present immediately after the accession of the disease ; but they gradually diminish as the Erysipelas becomes more distinctly formed : there is

a considerable heat, and great uneasiness in the part affected; the skin is of a brighter scarlet colour than in the other species; if pustules appear they are distinct, but sometimes there are no vesications on the surface.

CCXCVI. There is very seldom any matter formed in this species of Erysipelas, and the violence of the disease commonly subsides in three or four days. The part then grows yellowish, and throws off furfuraceous scales: a tendernefs of the hairy Scalp will often continue for a considerable time after the disease has disappeared.

CCXCVII. In order to understand the reason of some of the Phenomena enumerated at N^o 295, it will be proper to consider Erysipelas in a twofold view; as a morbid affec-

tion of the System, and as a Stimulus, capable of acting as the REMOTE Cause of another disease. When it is situated in the face, an inflammation of the Brain may be produced by its determining a preternatural flow of blood to the head ; but such an accident no more proves the Erysipelas to be properly inflammatory in its own nature, than it proves that every effect is the copy and resemblance of its cause. When contagious matters are admitted into the System, a temporary train of Symptoms resembling general inflammation, commonly appear ; but it is nevertheless thought proper to distinguish exanthematous diseases, from simple inflammation.

CCXCVIII. The ACUTE Erysipelas may be an IDIOPATHICK affection,

tion, and the same person will often have one or more regular attacks at certain periods of the year, but more especially about the time of the Equinoxes. This disease is also a common Symptomatick attendant on Wounds of the Membranes that cover the bones, &c.

CCXCIX. The OEDEMATOUS Erysipelas, is not in general so sudden in its attack, nor so severe on its accession ; the disease increases gradually, is more diffused, and attended with less of ardent pain : if Symptoms resembling general Inflammation appear, they never run high, nor are they of long duration ; most commonly there is a depression of Strength, and a soft, frequent, or perhaps irregular pulse.

CCC. When the face is the seat of OEDEMATOUS Erysipelas, the

B b 2 whole

whole visage has a bloated appearance ; the red colour of the skin is mingled with yellow or brown ; it is accompanied with rigors, vomiting, and more or less disturbance to the functions of the *Sensorium commune*. The vesications are often small and numerous, and when they have been exposed for a few days to the Air, the countenance will be covered with a dark coloured crust, very much resembling the appearance of the confluent small-pox. Although the face appears to be much inflated, yet it gives a very gentle resistance to pressure, and excites the peculiar sensation we described before.

CCCI. This Species of Erysipelas is attended with considerable danger ; the patient often dies delirious, or in a comatose state, about
the

the seventh day ; the fatal termination is sometimes protracted a few days longer.

CCCII. When this species of Erysipelas appears, it is common to see many people afflicted with it about the same period ; and in Hospitals, I have seen several persons in the same Ward successively attacked with it : there is some reason to conclude that it is occasionally an Epidemick disease, but I am unable to decide how far it is, or is not contagious.

CCCIII. The OEDEMATOUS Erysipelas may attack persons of any age, or temperament ; but those are chiefly affected by this species whose constitutions are debilitated by age, or excess : we also frequently meet with it in Dropical patients, in children, and in new-born infants.

CCCIV.

CCCIV. When this complaint is SYMTOMATICK, it is not nearly so dangerous as when it is Idiopathick; but whenever the face is considerably affected by this species of Erysipelas, it is always to be regarded as a serious disease, whatever be the REMOTE cause. There is seldom much danger or inconvenience when it attacks an Extremity, except it be treated improperly. I have seen this Species of Erysipelas make its first appearance upon the face, and by a gradual and regular progression proceed downwards to the extremities, successively appearing upon an inferior portion of the body, as it disappeared from a superior part; each renewed accession of the complaint was less and less severe, as it receded to a greater distance

distance from the part that was primarily affected.

CCCV. The Erysipelas is a disease which is subject to sudden and dangerous translations from the external to the internal parts of the body. I have also seen it to affect each leg alternately, and be transferred suddenly from one to the other several times, during the continuance of the complaint. When a *Metastasis* takes place from an extremity to the Brain, it will immediately be followed by a delirium, and other alarming Symptoms. I never saw an instance of *Metastasis* in the acute Erysipelas.

CCCVI. The first appearance of the MALIGNANT or *Gangrenous* Erysipelas, is somewhat similar to that of the OEDEMATOUS Erysipelas, but it is much more rapid in its progress.

Phly-

Phlyctenæ with a livid base very quickly appear upon the surface of the skin, and Gangrenous Symptoms speedily supervene. A state of the System similar to that which is present in Putrid Fever, makes an early appearance in this complaint.

CCCVII. This species of the disease is most frequently seen upon the face, neck, breast, or shoulders; the degree of danger attending it must generally be estimated by the state of the System.

CCCVIII. The Gangrenous Erysipelas is often a fatal disease, but it is irregular in the period of its termination. When it terminates favourably, we often meet with little caverns, and intercurrent sinusses in the *tela cellulosa*, containing an ill-conditioned Pus, and in those cases, considerable sloughs formed by

by Cellular Membrane, &c. are evacuated from the Ulcer.

CCCIX. The Erysipelas is sometimes DEUTEROPATHICK, and not uncommonly it may be regarded as the Critical termination of another disease : *exempli gratia*, obstructed Menstruation, Quartan Ague, Spasmodick and Convulsive diseases. Indeed, Exanthemata in general, seem to have a remarkable efficacy in suspending, or carrying off convulsive diseases.

CCCX. After the favourable termination of Erysipelas, especially when the lower extremities have been affected, more or less of OEde-
ma will often remain about the ankles for a considerable time, and be very difficult to remove.

CCCXI. The ZOSTER, ZONA HERPETICA, HERPES MILIARIS, or SHINGLES, is a disease that was well known to the Antients: it has been considered by some Moderns as a Species of Erysipelas; but this arrangement would be extremely improper, for the two diseases are very diverse from each other.

CCCXII. That eruptive complaint to which we give the name of SHINGLES, appears in the form of small vesications, which are filled with an almost transparent fluid; when they are large and distinct, there is very little redness in the interstitial spaces between their base; but when confluent, there is a more considerable discolouration of the surface. The Eruption is usually
but

but not invariably preceded by slight rigors, sickness, and even vomiting; the pustules are more commonly situated about the Breast, Back, Abdomen, or Loins, and sometimes they form a portion of a circle; at other times, they are seen in distinct and distant clusters upon different parts of the body. The feverish Symptoms do not wholly disappear on the eruption of the Pustules, but they gradually subside as the contained fluid acquires a denser consistence; the surface of the Pustules then begins to dry; they fall off in the form of dark-coloured crusts; and the disease terminates in a period of, from eight to twelve days.

CCCXIII Although the SHINGLES owe their origin to an internal cause, and the eruption is generally connected

ned with a general affection of the System more or less severe, yet it is a disease very seldom dangerous in its consequences. A vulgar notion indeed prevails, that if the eruption forms a Circle round the body the termination will be certainly fatal. I never saw it encompass the body, but it is more than probable that this Prognosis is as well supported as the generality of vulgar opinions.

CCCXIV. This disease ought to be distinguished from Erysipelas :— from Ignis Sacer :---Varicella :--- Herpes :---and Effera. A History of the Nettle Rash is given in the second Volume of the Medical Transactions, by the very learned and respectable Dr. HEBERDEN.

SECTION II,

THE

MODE of TREATMENT.

CCCXV. As the same method of treatment is not applicable to each Species of the Erysipelas, it will be proper in the first place to speak of the General Remedies that are to be employed, in the order of our division, and afterwards we shall deliver the local treatment.

CCCXVI. Indication the first :

To diminish increased vascular action in the ACUTE Erysipelas, and to take off particular determination to the head, by,

I. GENERAL and TOPICAL Blood-letting.

GENE-

GENERAL bleeding is not recommended in this place as a cure for Erysipelas, in the same sense in which it may be said to remove an Inflammation ; it is advised, with the intention of obviating the effects produced in the System by so severe a stimulus, as Acute Erysipelas. A repetition of the operation, will very seldom be necessary or advisable.

2. Gentle aperients of the Saline, and acid Class. The exhibition of emeticks and severe purgatives, have sometimes been succeeded by very fatal consequences.

CCCXVII. Indication the second : To promote an equable determination of the blood to the surface of the body, and to support a gentle Diaphoresis, by

I. Nitre

1. Nitre and Antimony :---Sweet Spirit of Vitriol :---Decoction of Elm Bark :---Dovers Powder :---Wine Whey, &c.

CCCXVIII. Indication the third :
To allay irritation, and remove uneasiness, by Camphire and Opium.

The Person ought to abstain from Animal food, and to avoid exposure to a Cold Atmosphere.

S E C T. III.

The T R E A T M E N T of O E D E M A T O U S E r y s i p e l a s.

CCCXIX. Indication the first :
To obviate the effects of topical determination, when necessary, by local blood-letting.

When

When this species of Erysipelas is SYMPTOMATICK, e. g. the consequence of a Wound of the head ; the application of cupping-glasses between the shoulders so as to extract a few ounces of blood, will frequently be proper in an early stage of the disease ; but it will be very seldom advisable to repeat the evacuation. General Bleeding is inadmissible, almost without exception. The propriety of topical bleeding is chiefly applicable to those cases where there is danger of an affection of the Brain. But very great nicety is required in determining upon this evacuation, where there is the least disposition to a *Metastasis*. I have seen the most dangerous Symptoms immediately supervene to the loss of a very small quantity of Blood.

2. To

2. To keep the body soluble by the remedies advised at N^o 316. The same observation with respect to the use of Emeticks and Purgatives is applicable here.

CCCXX. Indication the Second:
To promote a Diaphoresis by the Medicines recommended N^o 317.

CCCXXI. Indication the third:
To excite irritation in a distant part, by Rubefacients, Vesications, &c.

These remedies are chiefly applicable in the transposed Erysipelas; or in cases where the brain is affected: they ought to be employed with caution upon other occasions.

CCCXXII. Indication the fourth:
To relieve Pain and Irritation by HOFFMAN'S Anodyne Liquor, Camphire, Opium, London Treacle.

D d

Opium

Opium is a very valuable and necessary remedy in the OEdeematous Erysipelas, and when given with a prudent freedom, it often produces the happiest effects.

CCCXXIII. Indication the fifth :

To support the vigour of the System, and prevent a termination of the disease in Gangrene and Sphacelus, by Tonick remedies : As Peruvian Bark : Wine : Brandy : *Confectio Cardiaca* : Volatile Alkali, &c.

CCCXXIV. The plan of treatment to be adopted in the Malignant Erysipelas, is the same with that which is recommended in the Chapter on Gangrene and Sphacelus.

S E C T.

S E C T. IV.

The LOCAL Applications to
be used in ERYSIPELAS.

CCCXXV. The Medicaments that have been recommended as suitable applications to a part affected with Erysipelas have been extremely various and dissimilar ; I will enumerate a few of the principal ones, and deliver some general remarks.

1. Repellent, and astringent applications, as cold Water, Vinegar, Lead, Vitriol, &c.

2 Unctuous Substances.

3. Rubefacients: Spirituous and Lixivial applications.

4. Farinaceous or Earthy Matters sprinkled upon the surface.

5. Warm emollient Cataplasms.

CCCXXVI. The indiscriminate use of the remedies mentioned at N^o 1. will certainly be often attended with great danger. There are cases of Acute Erysipelas in which they may sometimes be used with safety, but I do not recommend them.

2. Mere Unctuous substances ought never to be used.

3. Rubefacients may be employed with safety, but as they excite great pain, and sometimes exasperate the disease, I cannot speak in favour of their application.

4. The use of Farinaceous Substances, Earths, &c. counteracts one of our most principal Indications, which is, to promote a gentle perspiration in the part: their application is also attended with the farther inconvenience of forming hard irritating

irritating crusts upon the diseased part. I have seen very disagreeable and dangerous consequences to ensue from their use.

5. Mild, Warm Cataplasms, are the applications which a very extensive experience hath induced me to prefer. They may be composed of the Powders of Aniseed, Fennel, Camomile flowers, &c. mixed with a fourth part, or an equal quantity of Bread, and a proper quantity of Milk: Linseed powder may sometimes prove a convenient addition. And after the Erysipelas is cured, the OEdeema that remains may generally be removed by the use of hot Sea Water, and a flannel bandage.

CCCXXVII. The Erysipelas that arises from the puncture of a Membrane, or tendinous expansion, very often requires a free and extensive
divi-

division of the parts, before any application can be attended with advantage.

CCCXXVIII. The external applications necessary in the Malignant Erysipelas are enumerated in the Chapter on Gangrene and Sphacelus.

CCCXXIX. The Ulcers that are produced by this disease, do not require any peculiar mode of treatment.

S E C T. V.

The T R E A T M E N T of Z O N A H E R P E T I C A.

CCCXXX. The ZONA HERPETICA, very often admits of a natural Cure ; but when it requires Medicinal treatment, the Indications are,

I. To

1. To promote an equable determination of blood to the surface of the body, by

a. Living in a warm Atmosphere.

b. Gentle Diaphoreticks, and light Cordials. See N^o 317.

Indication the Second :

To exhibit a gentle purgative when the Pustules are drying.

Diuretick Medicines are also proper.

No particular external applications are necessary.

CHAP.

C H A P. XI.

S E C T. I.

O F T H E

SCHIRRHUS and CANCER.

CCCXXXI. **A** SCHIRRHUS is a hard circumscribed tumor, most commonly situated in a Glandular part; it is generally moveable, without redness, and possessed of a very low degree of Sensibility.

CCCXXXII. It is not certain, that any of the soft parts of the body are wholly exempted from this disease; but it chiefly occurs in the conglomerated Glands, and those surfaces that are covered with a secreting membrane.

CCCXXXIII.

CCCXXXIII. The REMOTE causes of Schirrhus have been rendered very numerous by different writers upon the subject ; we intend to take notice of those that are more generally insisted upon.

1. The Inflammation of a Glandular part.

2. The Repulsion, or the coagulation of Milk in the breast.

3. Contusion.

4. Pressure.---Attrition.

5. Obstructed, or suppressed Menstruation.

6. Depressing passions of the Mind, as Fear, Grief, Melancholy, &c.

7. An Hereditary contamination.

CCCXXXIV. It has often been doubted, whether an Inflammation ought ever to be regarded as the REMOTE cause of a Schirrhus ; and

E e indeed

indeed the propriety of admitting it cannot easily be demonstrated. Antient and Modern writers of great authority, have asserted that an inflammation of the Liver frequently terminates in Schirrhus; and it has been supposed, that a similar cause has often been productive of a Schirrhus in the Uterus. The nature of this work however does not admit of a full discussion of the propriety or impropriety with which the REMOTE causes are assigned: it will therefore be sufficient to observe in the general, that an Inflammation seated in an external part, is probably never a proper cause of Schirrhus.

CCCXXXV. The share which other REMOTE causes have in producing a Schirrhus, cannot always be clearly ascertained; for it is cer-
tain

tain that this disease will often appear without the evident operation of any cause whatever.

CCCXXXVI. Schirrhous tumors of the breast very frequently occur in Women that lead a sedentary life; in cases of obstructed Menstruation; and about the period when the Catamenia cease to appear. It hath also been observed, that the Uterus is frequently attacked with this disease, in those women that have been accustomed to Menstruate in a large quantity, when that evacuation ceases to flow.

CCCXXXVII. Schirrhous affections of one kind or other have been found in the Brain---OEso-phagus---Neck---Breast--Stomach, Intestines--Rectum--Liver---Spleen, Pancreas--Kidney--Bladder--Uterus Urethra---Testes, &c. The Symp-

toms and effects of this disease when situated in these different parts of the body will vary considerably ; and can only be well understood by studying the History of each particular complaint.

CCCXXVIII. It may be offered as a general observation, that the presence of a Schirrhous in any part of the body, will be accompanied with all the ill-consequences that can result from a derangement of its particular organization ; from an interruption to the due performance of its peculiar functions ; and from an undue compression made upon the neighbouring parts.

CCCXXIX. When a Schirrhous tumor is removed from the body and subjected to examination, it exhibits an almost uniform appearance, for all the constituent parts seem

seem to be so intimately blended together into one mass, that no distinct vessels, cells, &c. can be traced: About the centre of the tumor, a few drops of a yellowish, or dark-coloured fluid is sometimes to be found; on other occasions, this fluid is met with nearer the circumference. By long boiling a quantity of a coagulable fluid is obtained, which appears to have been contained in cells that now become rather visible; there are few, or no traces of blood-vessels to be seen, nor is there any distinct resemblance of the primitive structure of the part. The substance that remains after boiling is hard and Elastick, and not very unlike a portion of fish, boiled till it becomes firm.

CCCXL. Schirrhus tumors ought to be distinguished from Inflammation and Suppuration of the Breast : from tumors occasioned by Milk :--- Strumæ :---Hernia Humoralis :--- Encysted tumors, &c.—It is often difficult to distinguish this disease, when it is situated internally : A Schirrhus of the Mesentery, and also of the Ovarium, have been mistaken for an imposthumption, and laid open.

CCCXLI. The PROGNOSIS of Schirrhus. All Schirrhi have a tendency to terminate in Cancer. Some Tumors however, apparently of this class, have happily been discussed ; and more especially such as have been situated internally.

CCCXLII. The hardness that sometimes remains after the termination of an inflammation, and the callosities

fities that furround the edges of ill-conditioned Ulcers, Fiftulæ, &c. differ materially from a true Schirrhous affection.

The PROGRESS of a Schirrhous in the Breast.

CCCXLIII. The tumor that has remained for some space of time hard, insensible, and almost stationary, gradually increases in magnitude and sensibility ; a gentle pruritus is first perceived, which gradually changes to an obtuse throbbing sensation ; and the uneasiness continues to increase, until it rises to an acute, lancinating pain. The diseased part loses its mobility, and becomes irregular in its figure ; the cutaneous veins enlarge, and often become varicose ; and in one or more parts the skin becomes of a flavescent, purple, or livid hue ; beneath

neath these discoloured spots an acrid and malignant fluid is contained, that will speedily erode the integuments and produce Ulceration. The general health of the System is at this period, more or less affected. When the disease has arrived at this state, it assumes the name of

C A N C E R.

S E C T. II.

CCCXLIV. A CANCEROUS Ulcer is irregular in its figure, and commonly presents an unequal surface; it discharges a sordid, sanious, and often fetid matter; the edges of the sore are thick, indurated, and extremely painful: they often exhibit a serrated appearance, and are sometimes retorted, at other times inverted

inverted. The Ulcer sometimes spreads with great violence to a very considerable extent, and in the course of its progress produces frequent hæmorrhages, in consequence of the erosion of blood-vessels.

CCCXLV. The manner and comparative rapidity with which Cancerous Ulcers proceed, admits of considerable variety ; in some cases, the Breast is destroyed, and Life is terminated in the space of a few months. It sometimes happens that a Sphacelus supervenes, and the whole diseased part falls off, leaving a smooth and apparently healthy surface ; but the sore is always cancerous. And I have known a Cancer attended with hæmorrhage, to proceed slowly without exciting any pain or uneasiness, and gradually wear out the patient by the

F f Hectical

Hectical Symptoms that it supported. There are also many cases upon record, where Cancers have remained in a dormant state for many years attended with little uneasiness, and productive of no derangement in the general health of the System.

CCCXLVI. It hath been thought advantageous in treating on this disease, to arrange CANCERS under different Species ; but whatever be the reason, it does not appear that any division which hath yet been proposed, hath met with universal approbation.

CCCXLVII. As a Specimen of the divisions that have been proposed, I shall exhibit the following :

It hath been divided into,

1. The OCCULT Cancer.

2. The ULCERATED Cancer.

But

But whether by the former of these, we are to understand a cancerous affection of an internal part, or a Schirrhous tumor concealed by the integuments, is a point not yet fully agreed upon.*

If a part be suddenly attacked with the Symptoms of Cancer, it hath been denominated,

A PRIMITIVE Cancer.

When a Schirrhous tumor hath terminated in this disease, it hath been called

A SECONDARY Cancer.

They have also been divided into,

1. Cancers originating from an EXTERNAL Cause.

F f 2

2. Cancers

* See the Works of *Hildanus*, *Peccetti*, *Wiseman*, *Van Swieten*, *Pouteau*, *Le Cat*, &c. and the *Prix Memoires*, de l'*Academie royale de Chirurgie*, &c. &c.

2. Cancers originating from an INTERNAL Cause.

When the disease appeared to be unconnected with any evident constitutional affection, it hath been called

A SIMPLE Cancer.

If the Person were previously affected with Lues Venerea, Scurvy, &c. It was called

A COMPLICATED Cancer.

The situation, the figure, or the REMOTE cause, have also been severally adopted by various Systematick writers, to characterize what have been termed different Species of this disease.

CCCXLVIII. I shall not offer any observations upon the Merit, or Demerit of the several divisions enumerated above: but if the term SCHIRRHUS be employed, until the disease

disease assumes the appearances described at N^o 343, and if afterwards we apply the term CANCER, perhaps our Ideas will be sufficiently determinate for every practical purpose.

CCCXLIX. The breast is sometimes attacked so suddenly with Schirrhus, that an ACUTE pang in the part shall give the first notice of the presence of a small, hard, tumor. A retraction of the Nipple; an adhesion of the Gland to the subjacent parts; and a contraction of the skin into little folds, frequently precede, or accompany the appearance of this disease. Sometimes there will be an occasional evacuation of a bloody Serum from the Nipple, for several months before any other complaint appears; but in these cases the subsequent
disease

disease is usually very rapid in its progress.

CCCL. A Cyst containing a dark coloured liquor is very often met with in some part of the substance of a malignant Schirrhus. (N^o 343.) This fluid hath been found to be so extremely acrid, that a very transient application of it to a part covered with cuticle, left perpetual darting pains for several hours after it was washed off. When applied to a surface devoid of cuticular covering, it has produced Ulcers that exhibited the common appearances of Cancerous sores. An insupportable and fatal nausea has been the consequence of imprudently tasting it; and even the fetid effluvia arising from a cancerous Ulcer, will sometimes produce very disagreeable effects upon the attendants.

CCCLI.

CCCLI. In certain cases where Suppurating Plaisters, or Cataplasms had been used, an imposthume, containing a very large quantity of a bloody Serum, was found in that part of the breast which had been previously occupied by a Schirrhous tumor: and in all these instances the disease terminated fatally. *Monro.*

CCCLII. When a Cancer attacks the surface of the skin, it very frequently makes its first appearance in the form of a Wart, or small excrescence; very often it will give little disturbance until it be irritated by improper treatment: And under these circumstances, it will very quickly change its aspect, and assume all the appearances of a cancerous Ulcer. Of this sort are the ulcerations which have been termed, *Nomè, Noli me tangere, Lupus*

Lupus, *Ulcus depascens*, &c. they most frequently appear upon some part of the face, upon the skin that covers the *Tibia*, or upon the parts of Generation.

CCCLIII. When the Lip, *Alæ Nasi*, or the Eye-lids are affected with a Cancer, the disease most commonly contaminates the whole substance of the part in which it is seated; and it is not unusual to meet with diseased Absorbent Glands, and carious bone, in the vicinity of carcinomatous Ulcers.

CCCLIV. If a part of the body that is naturally covered by a secreting membrane, as the inside of the Nose, Mouth, Stomach, &c. becomes the subject of a Cancerous affection, the disease often appears in the form of Polypus excrescences; or of fungi, possessing different characters

raeters : And, indeed Fungi very commonly vegetate in Cancerous Ulcers, wherever they are situated. The fungus and Polypus substances that are occasionally seen in the Uterus, Intestines, Bladder of Urine, &c. do not always exhibit an appearance sufficiently uniform, to render their real nature capable of accurate discrimination.

CCCLV. A Cancer of the Uterus is generally preceded by Leucorrhœa, and sometimes by repeated hæmorrhages from that organ. Wandering pains are felt in different parts of the Pelvis, and about the Hypogastrick, and Umbilical regions : The natural functions of the Stomach and Intestinal canal, are more or less deranged ; and very commonly, a state of the System

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somewhat resembling Heſtick fever is present. The Patient will often complain of an unnatural sense of heat about the Uterus, and at certain times, she will have pains accompanied with involuntary expulsive efforts, as if the Uterus were descending thro' the Vagina. The disease may be seated either in the Cervix or in the Corpus Uteri. As the Uterus enlarges, it gradually loses its natural mobility, and becomes hard, inelastick, and more rotund, especially about the os uteri. As these morbid alterations proceed, the pungent sense of heat and pain increase in proportion; and these are attended with a considerable discharge of a flavescent or cineritious coloured matter, offensive to the smell, and very acrimonious. The
matter

matter is frequently mixed with blood, especially when there is a fungus, or an ulceration of the Uterus. On examining the state of the part affected, it excites such sensations as might be expected from an Ulcer possessing the characters described at N^o 344: in this dreadful disease, the Bladder and Rectum are sometimes eroded, so that their contents are evacuated through the Vagina.

CCCLVI. The Cancer of the Scrotum, to which Chimney-sweepers are peculiarly liable, was first described by Mr. *Pott*, to whose valuable writings I would refer the reader, not only for an account of this complaint, but also for the sake of many important observations on Cancerous diseases, which are

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interspersed in different parts of his works.

CCCLVII. The Cancer ought to be distinguished from

1. Venereal affections of the Organs of Generation.

2. From Venereal Ulcerations of the Lips, Alæ Nasi, Tongue, &c.

3. From Ulcerations of the tongue in consequence of the use of Mercury ;—from enlargement of the papillæ, and excrescences of a doubtful nature about the root of that organ.

4. From Ulcerations about the Gums, inside of the Cheeks, Fauces, &c. from various causes.

5. From a particular affection of the Uterus in consequence of Lues Venerea :

6. And from Phagadenick Ulcers in any part of the body.

CCCVIII.

CCCLVIII. The PROGNOSIS of Cancer. The natural tendency of a Cancer, is to terminate in the certain destruction of those Patients that are unhappily afflicted with it. The powers of the constitution can exert but a feeble and unavailing resistance against its ravages ; nor are we at present in possession of any remedy external or internal, that merits the name of an Antidote, against the dreadful effects of this fatal disease,

S E C T.

S E C T. III.

O F T H E

LOCALITY of a CANCER ;

A N D

Whether the presence of this disease in any particular part, implies a contamination of the GENERAL SYSTEM.

CCCLIX. By a LOCAL disease may be understood, a morbid alteration in a particular part of the body, the existence of which is not necessarily connected with a similar morbid alteration, nor a certain tendency to such a state, in the general constitution : *exempli gratia*, Simple Ulcer, Encysted Tumor.

CCCLX.

CCCLX. By a GENERAL or Universal disease may be understood, that state of the System in which a similar morbid condition occupies the whole, or the greater part of the living body ; or where there is a certain and invariable tendency to such a state : *exempli gratia*, Small-pox, Lues Venerea, &c.

CCCLXI. It is probable, that the Cancer cannot with strict propriety be included within either of these divisions ; for as on the one side, we cannot prove that the cancerous Virus is susceptible of an indefinite multiplication, and a consequent power of contaminating every part of the System ; so on the other side, there frequently appears so evident a disposition to the production of Cancer in different parts of the body about the same period,
that

that we are scarcely warranted to hazard a contrary decision.

CCCLXII. But whatever difficulties may arise when our speculations are highly refined, or our expressions become indeterminate ; they may be partly eluded, by attending to the *practical* question, which may be stated in the following manner :

In the treatment of a Cancer, are we to consider the disease as strictly confined to that part of the body which is the immediate object of our attention ? And are we not taught by experience that the disease is of so insidious a nature, as to preclude the possibility of always assigning its precise limits with certainty ?

CCCLXIII. This question does not admit of a simple and direct resolution in the affirmative, nor in the

the negative ; it demands an attention to several collateral circumstances, before the answer can be applied to a practical purpose in the Prognosis, &c. of the disease ; as

1. The general state of the Patient's health.

2. The REMOTE cause, and duration of the disease.

3. Its situation, magnitude, connexions, malignity, &c.

CCCLXIV. If we consult the records of Medicine it will appear, that many Cancers have been extirpated, and after the expiration of several years there has been no appearance of the disease, neither in the vicinity of the Cicatrix, nor in any other part of the body. But it is equally true, that in a great number of cases where the patient has lived many years after the operation,

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ration,

ration, that the disease has re-appeared in some part of the body; it is therefore extremely difficult to determine the success that will attend the extirpation of a Cancer; for even a knowledge of the REMOTE cause, will not afford us much assistance in our attempts to estimate the degrees of probability, for, or against a relapse. There is undoubtedly more reason to expect a favourable event from the excision of an incipient Schirrhous, than of an Ulcerated Cancer; but even here the prognosis will be subject to fallibility.

CCCLXV. As the extirpation of a Cancerous part does not confer an absolute security upon the subject of the operation, the reason of this uncertainty hath been anxiously sought after, but I fear with more diligence than success. Some practitioners

titioners have conjectured, that a certain fluid capable of communicating a cancerous affection, was always floating in the blood-vessels of those that laboured under the disease, and that it was from time to time deposited in parts of a Glandular structure. The existence of such a leaven or ferment, hath been confidently denied by the ingenious Monsieur *Le Cat*, M. *Pouteau*, and others ; and they have maintained, that the disease is propagated from a cancerous sore, &c. to distant parts of the body, by an irritation *Sui generis*, which is excited by the cancerous Matter acting as a peculiar Stimulus. * As there

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* Monsieur *Pouteau* is so extremely attached to explanations founded upon the stimulating powers of contagious matter,

is little probability in the former of these opinions, and the latter is scarcely intelligible, we shall not take any farther notice of them at present. *Vide Gaubius. Instit: Pathol: Medicinalis. De Potentiis, quae virus habent, § 500.*

CCCLXVI. From the facts that were mentioned at N^o 350, it appears probable, that the cancerous virus possesses a power when applied under circumstances favourable to its action, of producing a disease in a sound part, similar to its own specifick

to excite a peculiar irritation, similar to that which gave origin to the poison, that he applies the same mode of reasoning to Small-pox, Lues Venerea, &c, and strenuously contends, that the progress of these diseases is only from Local to General irritation.

Voyez, Les OEuvres Posthumes.

specifick nature. But every sore produced by this poison, will not be necessarily cancerous; as its primary action may be analogous to that of any other corrosive fluid.

CCCLXVII. In cancerous affections of the Breast, the Absorbent Glands in the Axilla, are very frequently contaminated with the disease; and Professor *Camper* has discovered some Absorbent vessels, passing from the Breast into Glands situated under the Sternum, which exhibited the same diseased appearances with those seated in the Axilla. Now, as the Absorbent Glands that lay on each side of the under part of the Sternum, communicate with each other by means of absorbent vessels, it will be easy to understand in what manner the disease may be propagated from one breast

breast to the other. As a Cancer may therefore be reproduced in a part apparently cured ; or propagated to a distant part, by means of diseased absorbent vessels ; and as these are exceedingly numerous, and often extensively affected, we may be assisted by considerations formed upon the preceding narration, to form an opinion, in what sense a Cancer may be regarded as a LOCAL, or CONSTITUTIONAL disease.

S E C T. IV.

D E S I D E R A T A.

CCCLXVIII. To know distinctly the characters of that Schirrhous tumor, which will remain in a mild
quies-

quiescent state, unless it be exasperated by improper treatment.*

CCCLXIX. To be able to ascertain the precise period when a Schirrhous assumes a malignant and cancerous nature.

CCCLXX. To be able to decide upon the cases in which the extirpation of the morbid part will be attended with success: and also to know whether in other cases there be any Criteria, and what they are, by which we may be certain that the operation performed at any period of the disease will be improper and hurtful.

S E C T.

* PECCETTI and WISEMAN have said, that if hair grows upon the skin covering a Schirrhous tumor, the disease will not terminate in Cancer.

S E C T. V.
O F T H E
T R E A T M E N T of SCHIRRHUS
and CANCER.

CCCLXXI. It hath already been delivered as a decided opinion, that there is no remedy yet made publick, which justly merits the name of an Antidote against the dreadful effects of the cancerous virus. If this opinion be true, it is of great importance to caution our Patients against placing their confidence in impotent or noxious Medicines, at a time when the diseased part is so situated, that it can be safely and perhaps completely removed. The delusions of hope may be sweet under such afflictive circumstances ;
but

but if they lead to experiment, or delay, they add malignity to the poison, and give swiftness and certainty to the fatal termination of the disease.

CCCLXXII. When a Schirrhus, or Cancer, is situated internally, medical assistance alone can be employed. Sometimes it seems to be employed with advantage, by diminishing the disease, or retarding its progress; but at all times remedies may be exhibited, that will alleviate the tortures of pain, and thus render the approaches of Death less insupportable. But we would protest against the man, who by trusting to, or trifling with any remedies, in an external Schirrhus, makes his patient lose an opportunity that can never be recalled.

CCCLXXIII. Indication the First:

To preserve a BENIGN Schirrhous from assuming a MALIGNANT form, by

1. Low and Vegetable Diet.
2. Saline Purgatives, at due intervals.
3. Avoiding all violent emotions of the mind.
4. Supporting, or defending the Part from injury and irritation, by means properly adapted to the situation of the disease.

Some respectable practitioners have recommended a course of Emeticks: The proper use of Electricity, &c.

As nothing is more to be apprehended than an increase of sensibility and action in a Schirrhous tumor, all Medicated applications to the part ought to be avoided.

CCCLXXIV. The term Schirrhus, is frequently applied to certain diseases of the Liver, Mesentery, Ovaria, &c. and in these cases, it is not always to be taken in the strict sense to which it is confined in the present Chapter. It is also proper to be observed, that the use of internal remedies is often followed by the happiest effects. The remedies that I have administered with the greatest advantage, in these morbid affections, have consisted of Mercury, in a simple, or a combined state, joined with Digitalis, Nicotiana, Cicuta, &c.—Vegetable and fossile Alkali:--Moderate friction:--Gentle, and frequent gestation:--When there is much pain, a Plaster composed of the Warm Gums with a large quantity of Opium, applied

to the Abdomen, will frequently give a temporary relief.

CCCLXXV. When the OEsophagus, Intestinum Rectum, or parts of a similar structure become Schirrhous, Mechanical means seem to be best adapted to the relief of the disease ; but the expediency and advantage of employing them in every case, is not yet sufficiently ascertained. It scarcely need to be observed, that if the diameter of a canal be diminished, in consequence of compression from an enlarged neighbouring Gland, Mechanical means will in general do more harm than good. It is not improbable, but that in some cases of obstructed deglutition, where the introduction of Mercury into the system, removed the disease ; the complaint has
origi-

originated from the compression of a Gland, &c.

CCCLXXVI. When we enter upon the mode of treating CANCER, there are three Indications which naturally present themselves:

1. To remove if possible the external disease.

2. To prevent a relapse or reproduction of the complaint.

3. If it be not thought advisable to attempt a removal of the disease by an operation, to palliate the Symptoms, and endeavour to retard their progress. We shall treat each of these heads in its order.

CCCLXXVII. As we are not possessed of any Medicines that will certainly cure a legitimate Cancer, the only resource of Art will consequently be to remove the diseased part by a Chirurgical operation.

There

There are two ways in which this end may be obtained,

1. By the application of a Caustick.

2. By the use of a Cutting Instrument.

CCCLXXVIII. If a Caustick be preferred for the removal of a Cancer, it ought to possess the power of suddenly destroying the whole diseased part; otherwise the malady will be exasperated, and perhaps the use of other means will be rendered less effectual. The difficulty of removing a breast by such an application must be obvious; and where this is accomplished, the method does not appear to possess any peculiar efficacy. When the whole breast Sphacelates and falls off from the body, although the granulating surface for a time will
look

look firm and healthy, yet the disease has never failed to renew its ravages. If it were necessary to reason against this mode of practice, we should urge the severe pain that is produced; the necessity there is of frequently repeating the application; the uncertainty of its removing the whole disease, &c.

CCCLXXIX. In a Cancer of the Lip, or when the disease occupies but a small extent of depth and surface in any convenient part, the application of a Caustick is not liable to the same objections: But it ought always to be so applied, as to produce the sudden and complete destruction of the morbid part.*

CCCLXXX.

* It may be worthy of observation, that the *quality* of the Caustick we employ, is by no means an indifferent circumstance:

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CCCLXXX. The Ulcers that are often termed Cancerous, but which are more properly classed under the head of Phagadenick, Depascent, &c. N^o 352. may frequently be cured, by the application of Arsenick:---Corrosive Sublimate, &c.--- And Cancerous Fungi have been successfully destroyed by the Actual Cautery.

CCCLXXXI. The excision of a Cancerous part with the knife, hath so many advantages over the use of a Caustick, that this mode is generally preferred by the best Surgeons. The general rules to be observed in the extirpation of this disease are these, viz.

I. To

The Acid and Arsenical Causticks; and on particular occasions, even the actual Cautery, will be found most proper in Cancerous diseases.

1. To remove the whole affected part, with every Gland, or fibre in its vicinity, that exhibits the least mark of disease : *exempli gratia*, When the breast is extirpated, the Glands in the Axilla are to be examined : If the Penis be amputated, the state of the inguinal Glands, or those situated on the Pubes, must be ascertained, &c.

2. To save as much of the sound skin as possible, that the surface of the fore may be rendered small, and its healing be expedited.

CCCLXXXII. In the extirpation of a Schirrhous, where the skin is not diseased, the operation may frequently be performed by means of a simple incision long enough to permit the tumor to be dissected out : As soon as this is effected, if the lips of the wound are kept in

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contact

contact by the means of futures, or adhesive plaster, the patient will be perfectly well in a few days. As the suppuration of the wound does not at all contribute to the security of the patient, it is proper to heal the wound by the first intention, wherever this is possible. See *Garengeot, Traité des opérations de Chirurgie. Ed. Seconde. Tome Second. Chap. vii. p. 390, & Suiv.*

CCCLXXXIII. If the situation and circumstances of the disease be such, that it cannot be completely extirpated, it will be by no means advisable to propose an operation. Or if from the presence of a cough, attended with difficult respiration, an expectoration of matter, and Hectick fever, there be reason to apprehend that the Lungs are in a diseased state, no particular advantage

tage is to be expected from the excision of the breast. But no kind of attachment of the breast to the subjacent parts, can ever constitute a valid objection against its extirpation, provided that the surface of attachment can be wholly removed.

CCCLXXXIV. When the Lip is the subject of a Cancerous affection, the mucous membrane is generally affected to some little distance beyond the circumference of the hardness, with a tinge of deeper red than natural ; *Monsieur Le Dran* has always observed, that this is a sure indication of the presence of disease ; and therefore advises that the incision be made in the sound part, beyond this discoloured surface, lest the operation shall prove unsuccessful. After the extirpation

of the cancerous part, the sides of the wound are to be brought into contact, and the same mode of treatment is to be followed as after the operation for the Hare-lip.

CCCLXXXV. Indication the Second :

The means that are to be employed in order to prevent a return of the disease, are of very doubtful efficacy : but as several eminent Surgeons have thought it proper to attempt something of this kind, it is necessary to hint, that among other means they have recommended,

1. The insertion of Issues, at a convenient distance from the Cicatrix.
2. An Abstemious Course of Diet.
3. Proper Evacuations, at due intervals.

CCCLXXXVI.

CCCLXXXVI. Indication the third :

The use of Internal, or External Remedies as PALLIATIVES, in this dreadful disease. Among these, we shall first enumerate some which have been supposed to possess powers capable of correcting the Cancerous virus, as Mercury ; Cicuta ; Belladonna ; Arsenick ; a Solution of Iron in a Mineral Acid ; a course of diet consisting of Water only : Monsieur *Pouteau*.---Pain is to be moderated by the use of Opium.

CCCLXXXVII. The exhibition of Mercury will sometimes exasperate the disease, but it is certainly no Antidote. I have administered Arsenick in considerable doses, for a very sufficient length of time to ascertain its powers ; and although no disagreeable effects attended its use,

254 OF THE SCHIRRHUS, &c.
use, I never saw it exhibited with
the least advantage.

CCCLXXXVIII. Among the external applications that have been recommended, we shall mention,

1. Preparations of Lead.
2. Arsenick.
3. Solutions of Iron.---Solutions of Mercury.
4. Carrot Poultice.---The fermenting Cataplasm.
5. Peruvian Balsam.
6. Oily Mucilages, or Pure Oil.
7. The Electric Aura.

C H A P.

C H A P. XII.

S E C T. I.

O F T H E

O Z A E N A.

CCCLXXXIX. **T**HE OZAENA is an Ulcer that is situated within the Cavity of the Nose, discharging a fetid purulent matter, and is some times accompanied with carious bone.

CCCXC. The term OZAENA, is used by some writers to express a carious Ulcer within the Nose: it hath been defined by others, “as a sordid carious Ulcer within the Maxillary Sinus:” but as the word
was

was used by the Greeks, before the nature of the Abscess within the Antrum Highmori was understood, we shall confine the name nearly to its original signification.

CCCXCI. At the first appearance of this disease, it is sometimes attended with many of the common Symptoms of a Catarrh ; there will be a trifling tumefaction and redness about the Ala Nasi, accompanied with a discharge of Mucus, partly in a fluid and partly in an inspissated state ; the air is transmitted through the affected nostril with difficulty, especially during sleep, and the orifice is often quite obstructed in the morning by a viscid Mucus.

CCCXCII. As the disease advances, the matter that is evacuated assumes more of a purulent appearance ;

ance ; it flows in the greatest quantity in a morning ; the discharge is sometimes accompanied with sneezing, and a slight hæmorrhage occasionally takes place. The Ulceration often proceeds until it appears externally, and then gradually spreads like an Herpetick Ulcer round the Angle of the Ala Nasi upon the Cheek ; but it very rarely destroys the Ala Nasi, or extends to any considerable distance from the Nose.

CCCXCIII. This disease is very often connected with Scrofula, and with Venereal complaints ; and in the latter case, one or more of the Ossa Spongiosa generally comes away in a carious state. Many Venereal Patients whose complaints have been treated very properly,

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will

will nevertheless sometimes complain of a discharge of fetid matter from the nostrils, and troublesome incrustations within their cavity, for a considerable length of time after the perfect cure of their disease.

These Symptoms generally indicate the presence of carious bone; and when that is exfoliated, the complaints will disappear. In a few cases where the quantity of carious bone was very considerable, I have seen the whole *Ala Nasi* totally destroyed.

CCCXCIV. When purulent matter is formed within the Frontal, Sphœnoidal, or Maxillary Sinus, the Symptoms will frequently bear a near resemblance to those which occur in the Ozaena: and indeed, the precise seat of the disease cannot
always

always be distinctly ascertained at an early period of the complaint. It is however necessary to be very careful that we do not mistake an Abscess within the Antrum Highmori, for an Ozaena.

CCCXCV. As Ulcers in those parts that are employed in the function of respiration, frequently contaminate the breath with an offensive odour ; when we attempt to ascertain the Cause of this inconvenience, it will be proper to examine the state of the Nasal Cavity, as well as the condition of the Mouth and Fauces.

S E C T. II.

Of the TREATMENT of the
OZAENA.

CCCXCVI. Before we undertake the Cure of an OZAENA, it will be absolutely necessary to enquire into the REMOTE cause of the disease; for if its presence depends upon the action of a Poison in the constitution, no plan of Chirurgical treatment can be of any utility, until the virus be corrected.

CCCXCVII. The Remedies to be employed internally, are

1. Preparations of Mercury :---
Preparations of Antimony.
2. Sarsaparilla :---Elm Bark :---
Peruvian Bark.

CCCXCVIII.

CCCXCVIII. The applications that will commonly succeed when used externally, are

1. Preparations of Copper :---
Zinc :---Arsenick :---Mercury :---
Pulvis Sternutatorius :---Mercurial
fumigations :---Diluted Spirits of
Vitriol, &c.

The Older Surgeons advise the use of the Actual Caution; but I never saw its application necessary,

C H A P. XIII.

S E C T. I.

OF THE

CANKER of the MOUTH,

S Y N O N I M A.

Aphthae Serpentes. Sennertus.

Labrofulcium, feu Cheilocace. Arnol-
dus Bootius.

Oris Cancrum. Muys. Stalpart van-
der Wiel.

Gangraena Oris. Van Swieten.

Gangrene Scorbutique des Gencives.
Auctores Gallici,

CCCXCIX. **T**HE CANKER of
the Mouth is a
deep, foul, irregular, fetid Ulcer,
with jagged edges, which appears
upon

upon the inside of the Lips and Cheeks ; and is attended with a copious flow of offensive Saliva.

CCCC. This disease is seldom seen in Adults, but it most commonly attacks Children from the age of eighteen months, to that of six or seven years. When the Ulceration begins at the inner part of the lip, it exhibits a deep narrow fulcated appearance, and quickly spreads along the inside of the cheek, which becomes hard, and tumefied externally. The Gums are very frequently interested in this complaint, and in such cases, the Teeth are generally found in a loose and diseased state ; Matter is often found in their sockets, and Abscesses sometimes burst externally thro' the Cheek, the Lip, or a little below

low the Maxilla inferior: And it is not uncommon to see an exfoliation of the Alveolar processes, or even of the greater part of the lower jaw. Among the Children of poor people, where this disease is neglected or mismanaged at the beginning, a dreadful Gangrene will sometimes supervene.

CCCCI. The REMOTE causes that give origin to this disease are not very obvious. I think it occurs most frequently among children that live in a marshy situation; that are sustained by unwholesome food; and where a due attention to cleanliness has been wanting. The Cancrum Oris has been described by some writers, as a complaint very common in England and Ireland, where it is sometimes Epidemical among Infants

phants. It however is commonly seen in other kingdoms, and prevails more especially in those houses where a great number of children are crouded together. I am not able to determine whether it is or is not contagious.

CCCCII. But Adults are not wholly exempted from this morbid affection, and it is not easy in all cases to distinguish the Cancrum Oris, from a Cancerous, or Venereal Ulcer in the Mouth, since the Uvula, Tonfils, and Fauces, may be the seat of each disease. I have seen Ulcerations on the Uvula and Tonfils, with all the marks of a Venereal sore, in Patients where the presence of such a virus could not be suspected; and by treating them as Cancrum of the Mouth, they have been speedily cured.

M m

CCCCIII.

CCCCIII. The Canker of the Mouth ought to be distinguished from Aphthæ :---The Epulis and Parulis :----Scurvy :-----Cancerous Ulcers :---Venereal Ulcers :---And Exulceration from the use of Mercury.

S E C T. II.

T H E M O D E of T R E A T M E N T.

CCCCIV. It will be proper,

1. To remove the diseased teeth, bone, &c. if possible.
2. To prescribe a Milk and vegetable diet, and to allow a prudent use of fermented liquors.
3. It will be advisable to exhibit such remedies, as,

Peruvian

Peruvian Bark :---Sarsaparilla :---
Elm Bark :---Mineral Acids.

CCCCIV. The external applications that I have generally found successful have consisted of such as the following ;

Preparations of Copper :---A diluted Mineral Acid :---Burnt Alum :---Decoction of Bark with white Vitriol :—Tincture of Myrrh, &c.

The End of the First Part.

ERRATA.

Page

- 14. *For Remote Cause, read Remote Causes.*
- 22. *Line 5. for Exal, r. Exalt*
- 26. *L. 10. for Termination, r. Terminations.*
- 100. *L. 9. for Bulo, r. Bubo.*
- 110. *§ 191. for destroy, r. destroys.*
- 128. *For Sect. II. r. Sect. III.*
- 129. *For Sect. III. r. Sect. IV.*
- 131. *For Sect. IV. r. Sect. V.*
- 132. *For Sect. V. r. Sect. VI.*
- 156. *For Sect. IV. r. Sect. II.*

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