PART I.

HOMEOPATHIC PRACTICE OF SURGERY.

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THE

HOMEOPATHIC PRACTICE

OF

SURGERY,

TOGETHER WITH

OPERATIVE SURGERY,

Illustrated by Two Hundred and Forty Engravings.

BY

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AND

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CLEVELAND, O.

J. B. COBB AND COMPANY.

1855.

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Entered according to Act of Congress, in the year 1855,

By B. L. HILL, M. D., & JAS. J. HUNT, M. D.,

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PREFACE.

To those who have been desiring the speedy publication of this work — the *first* on *Homeopathic Surgery* — some explanation of its tardy appearance is due.

The reasons may be summed up as follows: — The desire to make the work as perfect as possible, embracing both that knowledge already written and that evolved in the clinical experience of the Homeopathic profession; the difficulty and time consumed in obtaining and condensing communications from our physicians; the severe labor necessary to prepare the *first Homeopathic Surgery;* and the interruptions from sickness and professional life.

The want of a work giving the Homeopathic treatment of what are called surgical diseases and a description of the various surgical accidents and operations, with the specific treatment, has been long and severely felt by the Homeopathic profession. At the urgent solicitations of numerous Homeopathic physicians of Ohio, Dr. Hill (then Professor of Surgery in the Homeopathic College at Cleveland), was induced to undertake the preparation of such a work. But knowing, somewhat, the magnitude of the undertaking, he secured, as a co-laborer, Doctor Hunt, his former partner in professional practice, since elected to the chair of Surgery in the Western Homeopathic College at Cleveland. And in order to obtain that large amount of material necessary to the perfection of this work, which was contained in the private records of the clinical experience of our practitioners, the following circular was addressed in January, 1852, to all the most learned and experienced Homeopathic physicians of America and a large number in Europe:

WESTERN HOMEOPATHIC COLLEGE,

CLEVELAND, OHIO, January 30, 1852.

DEAR SIR: — I am engaged, with another Homeopathic Physician, in preparing for the Press a systematic work on the practice of SURGERY, adapted to the wants of the Homeopathic profession.

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The work is designed as a text book for students, and an aid to practitioners generally.

Inasmuch as practical experience in our Science dates back but a short time in this country, it can not be supposed that any *one* man would have sufficient experience in "Surgical diseases" (a considerable portion of which are of rare occurrence), to enable him *alone* to furnish the proper material for such a work.

We are well aware that in all our attempts at producing books on the Homeopathic practice, we must, at present, depend very much on the able European authors. It is, nevertheless, desirable to incorporate in any *new* work as much of *recent practical experience and new discovery as possible;* that every new book may be one step further towards that state of perfection which we firmly believe our noble science is destined to reach.

For the accomplishment of this purpose, we have determined to ask some favors of our most learned and experienced practitioners, which, we hope, for the sake of the cause, will be granted.

We are aware that it is asking much, but we hope, some time, to be able to render a suitable reward for the favor. We wish you to give us, in as full details as practicable, any *very successful* treatment you may have employed for the following affections:

Traumatic Erysipelas, Burns and Scalds, Frost-Bites, Irritable, Indolent and Varicose Ulcers, Necroses, Scrofulous Swellings and Ulcers, Chronic Rheumatism, Hip Disease (Scrofulous), Lumbar Abscess, White Swelling, Hydrops Articuli, Polypus of the Nose and Uterus, Cancer of the Womb, *Cancer in general*, Osteo-Sarcoma, Fungus Hæmatodes, Scald-Head of children, Fistula Lachrymalis, Fistula in Ano, Maxillary Abscess, Ophthalmia (Purulent, Scrofulous and Gonorrheal in particular), Amaurosis, Nebula and Leucoma, Ulcers of the Cornea and Lids, Cataract, Dropsy of the Eye, Enlarged Tonsils, Goitre, Mammary Abscess, Hernia, Hydrocele, Hæmatocele, Orchitis, Hemorrhoids, Prolapsus Ani, Stricture of the Rectum and Urethra, Spermatorrhea, Gonorrhea, Primary, Secondary and Tertiary Syphilis.

It would be asking too much to expect an article from your pen on each of these complaints, but if you can afford to comply with the request to any extent, please select such cases from your list as you think would be most useful in carrying out the object of the work, preparing what you write for the pages of the book, or furnishing us the material for preparation, as your convenience will allow.

We further ask that you will allow us the privilege of giving you credit *in the book* for what you contribute.

As we wish to incorporate the matter we receive from our friends with our own; as we proceed in our labors of preparing it for the press, it is desirable that we have it at as early a day as possible, and hope to hear from you soon, while we remain,

Very respectfully,

Your co-laborers in the good cause of Homeopathy,

B. L. HILL, M. D.,

PROF. SURGERY, WEST. HOM. COL.

Numerous commendatory letters were immediately received in reply,

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with the promise of the desired contributions; which from time to time were received. To those who thus responded we tender our sincere thanks, particularly to that veteran in Homeopathy, Doctor C. Neidhard, of Philadelphia, for the number and completeness of his communications. Had each old experienced practitioner done as well, we have no doubt that the profession would have had much valuable matter — now lost to them.

In the preparation of this work, in addition to the above clinical experience, we have freely availed ourselves of any matter contained in the Homeopathic works on practice, or the literature of the profession: where it could be well done, we have used the words of the author, but where the arrangement did not suit his ideas, either in his own language or ours, our aim has not been originality, but condensation of present medical knowledge upon the subjects treated. Some of the surgical treatment, however, either in whole, in part, or combination, is contained in no other works, and is original with the authors.

We have not hesitated to give that treatment which we knew, from a large and successful personal experience, to be the most efficient, even though it might be objected to by some as not agreeing strictly with their ideas of Homeopathy; and we trust the day is not far distant when the superiority of the Homeopathic treatment of surgical diseases and accidents over any other, will be as manifest, as it now is, in common and epidemic diseases. The major portion of Part II. (Operative Surgery), and a considerable part of the description proper of diseases in Part I., are copied from a work of which Doctor Hill is author, published several years ago, while he was Professor in another school (Lectures on American Eclectic Surgery, by Benjamin L. Hill, M. D.), and we cheerfully give credit to that work for the portions above referred to.

Among the physicians who have contributed materials from their experience, of which we have availed ourselves, we would mention, particularly, the names of Drs. C. Neidhard and Prof. Kitchen, of Philadelphia; Dr. Shipman, Chicago, Ills.; Dr. Prowell, Lexington, Ky.; Drs. Tifft and Beckwith, Norwalk; Dr. S. M. Cate, Augusta, Maine; Drs. Babcock and Foote, Galesburg, Ills.; Dr. Rogers, Farmington, Ills.; Dr. Sharpe, England; Dr. Rosa of Painesville, Ohio; Dr. A. Bauer, Dr. W. Owens, Dr. Parks, of Cincinnati.

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PART I.

CHAPTER I.

INFLAMMATION IN ITS GENERAL ASPECTS.

Inflammation — Inflammation not *a* disease, nor "*the* reparative principle" — Etymology — Heat and other vital manifestations — Excess of, vascular or nervous? — Simplistic questions and varied researches — Acceleration or Retardation? — Chemical and Microscopical results — Inflammation not indispensable to recovery from local injury — Its stages up to "mortification," and particularly of suppuration.

"INFLAMMATION," says the celebrated surgical philosopher of England, John Hunter, in his great work on the blood (page 205), "is the first principle of Surgery." As it is indeed of primary importance, and has been long customary to begin a book upon Surgery, with a dissertation upon it, we shall not in this respect depart from the old path.

Among the conditions of life is a certain range of temperature, above or below which it cannot be maintained. This range is much wider than might at first be supposed, owing to nature's wonderful provisions of adaptation. The result is, that the human body has the power of keeping up to about its hundred degrees, in all climates and under all ordinary circumstances. Heat, then, is one of the manifestations as well as conditions of vitality. It is one of the most striking manifestations. It is popularly and poetically expressive of life; its reverse of death. "Ere coldness wraps this mortal clay" is the poet's translation of *dying;* the chemist's version would only be verbally different. It would show that the "fire of life" is not a mere metaphor.

The word "inflammation" is derived from the most striking phenomenon of the states, — the unusual development of heat accompanying them. It means that the body is "burning up."

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Modern chemistry would accept the definition, with the addition of "too fast." Liebig has a complete "Theory of Disease," founded on and confirming this simple idea. The slow combination with oxygen throughout the body, as well as in the lungs, is made not only to explain the problem of animal heat, but of the common morbid increase of temperature. The degeneration of the diseased parts, and the subsequent decomposition, of the whole, are accounted for on similar principles.

Not only has it been speculatively doubted whether inflammation is not an altogether necessary and beneficial operation, or at least "effort" on the part of nature, of a beneficial tendency; but it often becomes practically requisite to consider it in some such light. We speak of it as a desirable condition, though more often as an evil to be removed or averted. In Carlisle's Notes of Sir Astley Cooper's Lectures we are taught, without qualification, that "Inflammation *is* the process by which local injuries are repaired, and may be considered as *the* restorative principle." Physiological authors often speak in a similar manner, though at other times the state in question is discriminated as "abnormal." It is *then* contrasted with *a* reparative process, one of "growth analogous to the natural one," attended with little or no irritation, or confusion and waste of material, and more complete and permanent in its result. "It is consequently," says one of the most esteemed of these writers, the very mode of repair "which the surgeon should aim to produce; and the means of accomplishing this aim consists *in keeping down the inflammatory process.*" In the other diseased or *more* "abnormal" mode, a new and distinct kind of tissue is formed, a merely provisional growth *not* analogous to the natural and permanent one. And the result of this "granulation structure," as it is called, "is not so perfect as that of the simple or non-inflammatory process."

It is, of course, in some sense true, that the "efforts of nature" must be all directed to good ends. We see, however, that no doubt with the best intentions, "Nature" errs from her presumed end, and works evil instead of good. This may not be a very respectful way of speaking, but it is inevitable when our individual ends and aims are attributed to "Nature" as a whole. In a wider sense, Nature can do no wrong; but this, like the cor-

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responding maxim, "Kings or sovereign bodies can do no wrong" is to common sense untrue, absurd, and practically mischievous. As the political doctrine alluded to, the divine right of kings, led to the servile corollary of "passive obedience," so the divine *infallibility* of nature points consistently to non-interference, and letting nature take her course in all cases. Strange as it may appear, this practical *reductio ad absurdum* has not daunted some reasoners. They have accepted it, and founded on it a system of practice, or no-practice. In fact the views in question cannot be maintained without arriving at the conclusion of such "Medical Reformers" as Dr. Jennings, of Oberlin, who really advocate a simple "faith in nature," discarding all our presumptuous attempts to interfere with her, since she always aims at the best possible results under the existing circumstances.

Besides the practical, common-sense objection, to considering inflammation as a sanatory process, or the reparative principle, recent researches give us additional reason for doubting it even in its most abstract and general sense. Microscopic observation shows us that in the mode of reparation "analogous to the natural growth," in the union of wounds "by the first intention," for instance, under the most favorable circumstances, there is no evidence of what we call inflammation, or any of the changes always accompanying that state. Nature gets through her extra work of repair, with the same ease, precision and uniformity, as her regular business of growth and preservation. And in those lower orders of animals, whose reparative powers are greater than ours, extending to the reproduction, for instance, of a lost limb, the process, as we are informed, always takes place without any appearance of inflammation.

The common, convenient distinction, between "healthy" and "unhealthy inflammation," would seem to imply that the process may, or may *not*, be one of *disease*. The expressions, however, may be better understood as characterizing those modifications whose tendencies are toward health, or toward still *greater* disorder: "healthy inflammation" thus means *health-ward*, and self-limiting, such as takes place, under favorable circumstances, in an *otherwise* healthy constitution. John Hunter, who was one of the first investigators of this subject in a philosophical spirit,

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and makes great use of this distinction, speaks also in perfect consistency of "too much health," or, "health above par." These expressions would be regarded by most as involving absurdity; and perhaps "healthy inflammation," though it is hardly possible to avoid its use, may come to be considered a contradiction in terms.

Increase of other vital properties, besides that of heat, is so obvious in inflammation, that the fact has for a long time been considered a sufficient definition and explanation. The state has been identified with over or undue excitement. The natural functions of any part stimulated too much, or too long, may, indeed, run into inflammation; but the latter state is clearly a new one, and will continue for a longer or shorter time, after the stimulus causing it has been withdrawn. Although a stimulus produces the diseased state in question, we may reasonably suppose that it never does so except by exhausting the natural and healthful excitability, and substituting morbid irritability, thus depressing, instead of exalting the vital powers of the part. After much controversy on this subject, this seems now to be the general opinion, or tendency of opinion.

Nevertheless, it once seemed to be the only question — to which agencies of the system to refer this increased activity. The blood-vessels appeared plainly most concerned in the business; but when the implication of the nerves became known, the priority of their action was generally recognized.

The ancient definition of its state was wholly independent of any idea as to its nature. The "four signs" it distinguished may still be remembered with advantage. When a part feels "hot and painful," and looks "red and swollen," it is very apt to be in a state of inflammation. These evidences, however, have to confirm or correct each other. One or two may concur, without proving the point; and serious inflammation *may* exist without either being very manifest, and often does run through its course without manifesting all these symptoms. "Redness," of course, can only be observed on the surface of the body, or at the extremities of mucous openings. The sensation of "throbbing" is considered by some as more generally characteristic of the state than "pain." Perhaps *soreness* (or tenderness to pressure and other irritants)

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would more frequently hold than "pain," if by that be meant spontaneous sense of suffering, without any external cause.

A change of action tending to, if not, also, resulting from a change of structure, may be regarded essential to our modern idea of inflammation. Placing this characteristic tendency first, as more important than the sensible appearances, Druitt suggests the following definition as an amendment of one given in a French Medical Dictionary: "A state in which there is a tendency to morbid secretion and change of structure, accompanied by increased vascularity and sensibility."

According to this, the blood-vessels and nerves must both be concerned in the result. Where there are no nerves of sensation, the organic nerves commonly become such, when the part is inflamed. In a paralyzed part, however, inflammation appears to go through its course independently of "increased sensibility." This, though an exceptional case, might be supposed to prove that the sensitive nervous system is not essentially concerned in the process. "Increased sensibility" to an intolerable degree, as in neuralgia, may exist, without necessarily being or becoming inflammation.

Irritation is often spoken of, especially by the French "physiological" or Broussaian school of theorists, as the first stage, or rather the invariable antecedent, and of course "cause" of inflammation. There is, however, no more necessity for looking to the nerves than the blood-vessels, as the primary source of the evil. *Known* causes or occasions of inflammation may act directly on the nervous or vascular system, or even on solid structures of the body, independently of either. Whatever destroys or depresses vitality to a certain extent, or what only *seems* to excite its ordinary manifestation beyond the regular limit, will equally induce the state in question.

As far, then, as this single question between the nervous and vascular systems is concerned, it is evident that they are both involved in the ordinary phenomena of inflammation, as the usual signs, "redness and pain," plainly indicate. It is clear, moreover, that they act and react on each other, and no question of necessary priority between them can be maintained, unless by affirming that every change in the action of a blood-vessel implies

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a prior, but almost synchronous change in its innervation, from the ganglionic system of nerves. An active determination of blood to the brain (for instance) may be for a while quite distinct from cerebritis, but is very apt to lead to some form of it. A cupping glass, producing all the external "signs" of inflammation, would actually *cause* that state, if not removed. Over-stimulation of a part by blood, even in its healthy state and flow, *is* itself *irritation*, the very state of the nerves in question; and stagnant arterial blood soon proves itself a source or occasion of a similar state. On the other hand, over stimulation from any cause, however unconnected, originally, with the circulation, has in general a tendency to bring about a preternatural determination of blood, according to the old empirical maxim, *ubi irritatio, ibi affluxus.*

The functions of the nerves and blood-vessels can as little be separated, or studied apart, without implying each other, as their course and structure can be distinctly investigated in anatomy, and demonstrations made of the one without touching or seeing the other.

Inquiring more closely into "the nature" of inflammation, some might, perhaps, be tempted to adopt the favorite philosophical "conclusion in which nothing is concluded," viz., that "we know nothing at all about it."

The obvious increase of some of the vital manifestations in an inflamed part, seems for a long time to have so impressed observers' minds, that they made little or no question that this first view was a full, correct, and sufficient one. Its apparent accordance, in the majority of cases, with successful practice, no doubt greatly strengthened this first impression. Heat, for instance, is an ordinary manifestation of vitality; in inflammation the calorific function is evidently too active; we reduce it, or remove its self-sustaining results, and the case improves. What plainer, therefore, than that heat* is one of the supporting influences of inflammation, as of life, and cold a remedy. The same may be said of other vital stimuli, — air, food, motion, &c. Hence, the once

* So influential was this one consideration, that it has, in connection with an exploded chemical theory of heat, given name to the routine of practical measures: "*anti-phlogistic*" still means "anti-inflammatory."

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fashionable, and still too prevalent, confidence in "starvation;" and at one period, not many generations back in the dark ages, patients, with certain fevers or inflammations, were absolutely refused *fresh air!* As to the great *internal* stimulus, the living fluid, or fluid life itself, it is unnecessary to point out to those who have witnessed the abuse of blood-letting, and wish to learn something better, — how destructive has been the consequence of a partial and superficial view of inflammation, as consisting merely in too much blood, or too much activity of the circulatory functions. This simple view has evidently been influential in the popular mind, as well as that of the mass of the profession. If inflammation *were* solely vascular excitement and excess of blood, there would be some excuse for invariably, and as a matter of course, removing the cause or means of the mischief. It is beginning, however, to be acknowledged by all, that venesection is, by no means, a panacea, even for pure inflammation. The lancet is found at last to be no more the best remedy for physical evils, than the sword for moral. Bloodshed is looked upon with somewhat of the same suspicion, when resorted to for the purpose of restoring health, as for "conquering a peace."

Speculative men, even when they did not question the prevalent opinion, had many hypotheses about the *proxima causa* and *causa efficiens.* Many of these guesses were, perhaps, not quite so unworthy of consideration as they have since been considered. Some have been ridiculed, since solidism became the prevalent fashion of thought, as belonging to the humoral pathology, and others as much despised by our exclusive vitalists, as too mechanical. At one time inflammation and all diseases were explained by the help of *strictum* and *laxum;* or relaxation on the one side, and tone or tension on the other. *Spasm* of the extreme vessels once played an important part in these imaginary explanations. When it was necessary to account for obstruction as well as acceleration of the circulation, and "stricture" did not seem sufficient, the less mechanical and more chemical-humoralistic speculation invented a "spissitude," or thickening of the blood. This was the doctrine of the celebrated Boerhaave, and led to a reliance on "attenuants."

Our more experimental or carefully inductive mode of philoso-

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phizing, is no doubt much safer than such hypothetical theorizing, yet it is in vain to protest against hypothesis and theory. All men theorize to the extent of their leisure and ability. The only question is between good theorizing and bad, reasoning with facts or without, or with few or many. It is speculation that stimulates observation and directs experiment. Hypothesis anticipates experience, and is only injurious when mistaken for it. Ideas are necessary to animate mere matter of fact knowledge. Thought is the soul of Fact.

Whether Inflammation really consists in an acceleration, rather than in a *retardation* of the local circulation, has been much discussed by more recent investigators; and the microscope as well as experiment has been brought to the aid of observation. But with all these advantages, this question was not so easily settled as might have been supposed. Many recorded experiments seem to contradict each other. As it cannot be supposed that inflammation excited in one frog's foot is different from that in another's, or from inflammation in any animal body from the same cause, it becomes necessary to discriminate as to the *period* of the process when the observation was made, and also the particular *part of* the supposed inflamed part, more especially noticed. With attention to these points the different statements of facts might not appear to contradict each other. The result would seem to be that, according to the means used to excite the inflammation, it may begin either in apparent acceleration or retardation of the local circulation; either, however, soon inducing the other to a greater or less extent. When obstruction is the first state, it becomes a cause of excitement, which again may change, and a future observation find only a feebler circulation. If everything go on most favorably, there is increased action in the absorbents, and "resolution" the result. If the diseased state continue long enough, there may even be impeded or entirely suppressed circulation at one point, and greatly increased activity or force of the vessels in another.

Restricting the enquiry to the purely physiological question, as first put, the answer must no doubt be that of Professor Burns, of Glasgow, in his work on the "Principles of Surgery,"—"That neither debility nor increased action sufficiently accounts for in-

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flammation." One satisfactory test of the one-sidedness of such views is suggested by this author — that of availability in practice. Could the morbid state in question be really accounted for on either hypothesis, or any other "simple idea which fancy might fix upon," such state, so easily understood, could be as easily treated. If the question could be settled or arranged as the old kindred one in nosology, between diseases of increased or decreased excitability, the surgeon might "defy nature to set up inflammation," with means almost as simple as the Brunonian physician — armed to encounter all diseases, with the lancet in one hand and the brandy bottle in the other. Unfortunately, the war with death cannot be carried on with such weapons. The watchwords of sthenic and asthenic have been of little avail in the day of battle; nor have pathologists, since they ceased to be nosologists, or mere classifiers of the names of diseases, found them of much use as mere descriptive words. So with the question under consideration, which, as once regarded, was little else than the old "sthenia or asthenia" in its local application.

It is by no means necessary, however, on account of the unsatisfactory nature of this limited question, to conclude with the author above quoted, that of "the peculiar nature of the action (Inflammation) we know but little, and I fear have in the present state of science no prospect of knowing more."

This tone of despondency in regard to truth is anything but philosophical. The history of science contains too many brilliant triumphs of "impossibilities" and "improbabilities," for any ill-omened predictions to have much longer any influence. Fortunately, a different spirit has animated, and always will animate, some minds. On the subject in question much light has been thrown from different, and in some instances unexpected, quarters.

When we find one route of research blocked up, it is only a reason for pursuing another, with the advantage of already knowing at least that the one abandoned was not the right or best. When Nature is cross-examined in our experiments, she often refuses to depose merely "yes or no;" and her answers are not the least significant and worthy of record when they seem to evade the question. They furnish hints for other questions, or the same in other forms, that she will be more disposed to answer directly.

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In the investigation as to the nature of inflammation, the advocate of both sides of "*the* question" have found it necessary to vary and modify their enquiry, and make many limitations and discriminations not before thought of.

The subject has not been allowed to remain as a merely curious and limited physiological or pathological question. Comparative Physiology and even Pathology have been brought to bear upon it. The enquiry has not been restricted to what we can see even under the microscope. Chemistry has carried us as much beyond Optics, as the latter beyond the ken of unassisted vision. It is now known that the old humoralists were not wrong in the directions their enquiries took, so much as in the conclusion in which they stopped and *rested*. The changes or *actions* going on in the blood itself, and other fluids, are at least as important as the resulting changes of structure or action in the solids. The contents of the vessels in inflammation, and the discharges from them, require to be studied, no less than their calibre and contraction.

In fully developed inflammation of any extent, the whole organism sympathizes with the affected part, not only sensibly or physiologically, but, so to speak, chemically: there is not only general uneasiness or irritation, and it may be symptomatic fever, but all the absorbent and secreting functions are modified, and consequently the constituents of the blood changed, both by what it receives and what it ceases to give off.

The change called the buffy coat has been long since empirically known, and it may be empirically acted on. The same *appearance* may be produced by circumstances so trifling as the shape of the vessel in which the blood is poured. A deeper stratum of the blood, or a greater slowness of coagulation, gives opportunity for the red globules to subside and leave the lighter colored film at the surface to form this buffy coat. Even the size of the orifice through which the blood runs may have an influence on the buffy appearance; and it has been well ascertained that the buffy coat may frequently be absent in cases of severe inflammation. Yet there are physicians who still bleed to get this evidence of "bad blood," and bleed again because they find it! — this buffy coat, so much talked about when bleeding was more in

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fashion, appears really to be the result, not perhaps of inflammatory blood, but of a modification of the blood accompanying inflammation. There is found, on actual analysis, to be nearly as much as one per cent, more fibrin in the circulating fluid in some cases of inflammation than in health, and less than the average proportion in certain typhoid or non-inflammatory diseases. Fibrin appears to be the material of nutrition and of the *reparative process*. Its corpuscles indeed exhibit the transition of organizable matter into living atoms, or germs ready to take their place in any part of the organism. The corpuscles differ from the proper blood globules, in being white or colorless.

According to the chemists "there is a direct connection between the quantity of oxygen introduced through the lungs and the amount of fibrin in the blood." The coagulation of blood, when out of the body, or precipitation of fibrin, seems analogous to its solidification or assimilation when *forming part* of the living organism: just as the brightening of venous into arterial blood may be effected by the presence of oxygen anywhere else as well as in the lungs. The red globules or blood discs, according to chemists, are the parts concerned in oxygenation, and have nothing to do with nutrition. The different degrees of oxydation of their iron (an element not found in the solid structure of any part) constitute the principal difference of venous and arterial blood, and principal source of animal temperature. Hence, perhaps, a reason for thinking redness and increased heat no necessary concomitants of the merely reparative process; and this view accords with the aim and result of treatment. The practical object always is to keep down the temperature of the inflamed part. Observation confirms this opinion: when divided parts unite most favorably "by the first intention," or when a breach of continuity is filled up with "healthy granulations," no preternatural heat is noticed.

At the *beginning* of the true inflammatory *process*, and afterward in the *middle* of the inflamed part, as a nucleus of disorder, there is a greater or less cessation of the ordinary vital functions. This much seems to be generally if not universally acknowledged. "The extraordinary tendency to the production of fibrin," previously noticed as the most important character of inflammation, is

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said by Carpenter to be "*always* conjoined with a *depressed vitality* of the tissues of some part of the body, which indisposes them to the performance of their regular nutritive operations; and this part may undergo a variety of changes, according to the degree in which it is affected." This "depressed vitality" is shown to involve a languor in the movement of the blood, with which the capillaries are distended. There is nevertheless a determination of blood toward the part, with a special attraction to it of the "white corpuscles," that is, of the fibrin, which is necessarily in excess from the check to the nutritive process throughout the system. The "effort of nature" in inflammation, or the final cause of the process with which it is connected, is evidently good. Some degree of, or tendency toward, this state is indispensable to the *reparation* of injuries, and still more plainly though less directly to *preservation*, by limiting the progress of disorganization.

Slight irritation in a part may pass off without much affecting its vascular functions; and engorgement of vessels, as after cupping, may be gradually removed, and the *eddy* carried on again into the general current of the circulation. In these cases, we do not say there has been any inflammation.

Even where the cause has operated long enough to develop all the recognized "signs" or symptoms of disease, the reaction of the "depressed vitality," or that of the surrounding parts, proves sufficient to overcome all obstruction. The disorder of the part "resolves itself" into the normal state; and this *resolution* of inflammation only differs perhaps from the disappearance of irritation or stagnation last mentioned, in having been preceded by more or less *transudation*, for the relief of the distended vessels. The fine gelatinous fluid long known as "coagulable lymph" is thrown out, first distending the parts, and then ministering to its repair. This "coagulable or organizable" fluid, may be familiarly defined as "white blood," or blood *minus* its red globules, with, at this time, an additional amount of colorless ones. These when naturally coagulated, or, so to speak, vitally precipitated and crystalized, become integral parts of the living *solid* body. According to common observation and language, the effused lymph (or fibrin) "becomes organized." According to the recent micro-

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scopic, or what may be called, from analogy to chemistry, *atomic* anatomy, the colorless corpuscle or molecule of fibrin, becomes a "primordial cell" or cytoblast. "Corpuscles" seems a correct name for these organic atoms, for they appear to have their own independent vitality, even anterior to being organized, or *assimilated* to already formed structures. The serous part of the blood or lymph is the first nutriment of these cell-germs, and hence called the "cytoblastema."

"The shooting out" of new *vessels*, or prolongations of branches, into the newly deposited fibrinous matter, has long been investigated, as an interesting process. We are now informed by microscopists that the cells arrange themselves in rows, the cavities of which connect into canals, by obliteration of the transverse surfaces of the cells themselves. Thus all animal, as well as vegetable structures, are originally cellular. In the proper fibrous formations (including muscles) the cells themselves undergo a change of form, become fusiform instead of spherical: the single cells become fibres or fibrillæ. Drawings of this transformation are shown expressly from "plastic exudations."

The red blood, or the proper coloring portion of it, seems to have nothing to do with the nutritive, nor consequently with the reparative process. The globules or discs containing iron and carbon, play a part only in the respiratory or calorific function, with its necessary consequence of transformation of tissues throughout the system. As far then as increased "heat and redness" are developed in inflammation, they may be regarded as injurious. The development of heat, so far from being proof of stronger vitality, may be the means of *destroying* life, and continue *after death*, as recent researches have shown. It is altogether too common and explicable a result of chemical change, to be regarded as otherwise than incidentally connected with life.

When there is besides or instead of a mere transudation of serum as lymph, holding the fibrin in solution, an effusion of complete blood, the process of reparation and restoration will be more complex and difficult. This is the case, not only in injuries which open or divide the blood vessels, but, whenever the obstruction and increased action in the vessels are so great as to cause their rupture. It is as much from this extravasation or ecchymosis as

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from structural injury to the solids, that "contused wounds" are so troublesome. In "lacerated wounds," the careful surgeon always removes clots of blood, and sponges out all he can that is yet fluid, as if still living, it must, in that situation, soon die and become a source of irritation.

When the direct injury causing the inflammation has been greater, when the "depression of vitality" amounted more nearly to extinction, or when the inflammatory process has proceeded unfavorably, so as to result in at least the death of the fluids, there must be SUPPURATION. Pus is dead blood, or fibrin. The globules still found in it are larger and apparently partially decomposed, certainly so far changed that they can take no farther part in the chemistry of life, or be of any possible use, except in some situations to act as a temporary cuticle and protect the surface of a wound from the air. Suppuration is spoken of as a "secretion" when it takes place from a mucous surface. It is usually accompanied with sensible relief to the distended vessels and neighboring parts, which then, if not before, throw out good coagulable lymph, by which the tissues of those parts are consolidated, so as to prevent the spreading of the pus. When from "too low a grade of inflammation," constitutional weakness, peculiarity of structure in the part, or any cause, this isolation of the suppurating part and product does not take place, we have the very serious result of "diffused inflammation." In this case the infiltrated matter not only acts as an irritant, which has long since been well enough understood, but the decomposition going on in the pus appears to be of the self-continuing or self-communicating kind, recently investigated with so much interest by the chemists. The deleterious agency of pus is rather active than passive, of a *ferment** rather than that of a foreign or "effete" substance. Hence, under the most favorable circumstances, ab-

* Notwithstanding the ridicule attached by modern purists to the use of such words, which they consider antiquated, we prefer to retain this word *ferment*, which is sanctioned by chemical science. See Cooper's Surgical Dictionary, Theory of Suppuration, Vol. II, page 313 — where, because the old ideas of the fermentation of *solids* into pus are shown not to be the whole truth of the case, the use of such terms as "acrid or corroding pus" is condemned unqualifiedly as unworthy of educated medical men.

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scesses, though limited by the *effused* and organizing fibrin, become *ulcers*, the pus "eating" its way out.

If the original injury or the subsequent *inflammation* itself be so great as to cause the disorganization of a sensible amount of the *solid* structures, we have what is called *sloughing*. The difference between this result and that of mere suppuration being that the solid matter is not so easily converted into pus as the devitalized fluids. In this case the local "depression of vitality" amounts to a *sup-pression* or destruction. Hence positive inflammation may seem more necessary than in simple division or excision of a part. The question remains, however, whether fibrin might not be effused for both reparation and protection, as in the case of mere suppuration, without sensible inflammation, — that is, without its phenomena. In actual *Mortification*, — which, in the view here taken, only differs in the *extent*, not the intensity of the evil, from the preceding degrees of injury, — there is death throughout a considerable part, both of the solids and fluids. Here the *sloughing* is on a large scale, and inflammation with suppuration, &c., can only take place in the connected parts, where the depression has not amounted to a suppression of vitality. This is one of the cases where the apparently beneficial effect of the inflammatory process is the most striking. Gangrene, or the *dying* process, like the simple suppuration, has a tendency to spread; and is limited by the effusion of fibrin, which also prevents hemorrhage from the partially destroyed vessels, and sets up the well marked "line of demarcation" between life and death, — on the one side of which all vital action has ceased, while on the other it is manifested to the inflammatory degree.

The tendency of inflammation to diffuse itself is particularly manifest in *ulceration*, which is hence sometimes called "*destructive* inflammation." In this case, a peculiar layer of cells have been noticed, "which appear to possess the power of drawing into themselves the materials of the solid tissues on which they lie, and thus causing their destruction; and this destructive action may take place to an unlimited degree, if no measures be taken to check it." The author quoted goes on to explain the efficacy of the "most successful mode of treatment in these

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cases," that of caustics, by the fact of their destroying these peculiar cells and the adjacent matter partially affected by them; and thus to draw another argument for the necessity for inflammation. He speaks of the inflammatory action beneath the surface killed by the caustic, as the only possible mode by which "fibrin can be effused and preparation made for filling up the breach of substance." The treatment he appeals to, is undoubtedly the best in many cases, to which it is not commonly applied. The burn is more manageable than a phagadenic ulcer. The sloughing process, limited by the contiguous inflammatory effusion, is less destructive than the parasitic cells of which he speaks. But, after all, does this amount to more than saying that one kind of inflammation is preferable to another, as the lesser of two evils? That the excitement of inflammatory effusion is, in all cases, the only way of arresting the destructive progress of such ulceration, is contrary to the experience of all who have used appropriate remedial means or *milder caustics*, such as the sesquicarbonate of potash, an intermediate between the common pearlash and saleratus. This article is often better than a substitute for escharotics, destroying morbid growth and arresting morbid action, without exciting inflammation or acting in any way *unfavorably* upon sound parts. In many cases it very evidently allays both irritability *and inflammation*.

According to the view here taken, Inflammation, — though perhaps to be regarded as originating in the healthful function of reparation, is still an excess of that necessary action, and, therefore, a disease, — a condition which, if carried to a certain degree, defeats the very object for which it is said to be constituted. If continued too long, it will more or less transform, or wholly destroy the part; and if extended too far, must certainly be fatal. That this morbid and dangerous state appears sometimes to be a relative advantage, like every other general provision of nature, is no reason for calling physical evil, good. If nature ever cures, or partially saves by means of inflammation, when she could not by any other means, this is only saying that nature, like other intelligent agents, sacrifices a lesser to a greater object, and like *other* practitioners of the healing art, sometimes inflicts transient pain and inconvenience for the sake of permanent benefit.

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The slight exaltation of vital action that seems necessary to the *recuperative process*, is but that process in operation, the performance of overwork and the making up of lost time, in the more active resumption of functions that have been impeded. When the amount of the injury, or the want of steady health-preservative power in the constitution, is such that this resumption of increased business on the part of nature cannot be got through without evident hurry and alarm, and more or less confusion and damage done to the agents and material concerned, there is, of course, *disorder*, *disease* and danger, — what we call from one of its obvious symptoms and dangers, the "burning state," or inflammation. If the danger is obviated, the obstructions removed, and the orderly performance of the functions of the part resumed, there is a resolution of the inflammation. In this case the depression of vitality was but temporary as well as local: the *part* was in a state of "suspended animation," occasioning the subsequent and surrounding "reaction" of excitement. When the original mechanical injury, or subsequent *chemical* or chemico-vital one of inflammation, excited in the *imperfect* effort to repair the former, has gone to the extent of so altering any of the living "atoms" of the organism, that *their* vitality must cease or become latent, they are *discharged* from further service, and thrown out as "dead matter." The "secretion" of pus, which has been the professional doctrine, since the rejection of early and superficial chemical views of putrefaction, is more properly an *excretion*. None will contend that it is the elaboration of anything *positively* useful, and therefore the main object of the process must be to get rid of something which is the reverse. Suppuration may be regarded as a slower and modified process of decomposition, if we must not say "fermentation," modified, "controlled" if you please, for wise ends, by the "vital *principle*."

If thus a mode of local or partial dissolution, it may still be the most favorable mode. It often prevents "mortification," or the quicker and more complete death of a larger amount of the living mass, already solidified. In suppuration nature expends, if possible, only her superfluous resources, to save what is more identified with the permanence of organism, just as nations, to preserve *their* vitality or independence, send against an invading

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foe the portion of society that can best be spared, to preserve the rest from destruction. Here, too, the analogy with inflammation holds strictly. The preservative process or means often turn out destructive to friends, more than to foes. The arming of society is often found an "inflammatory" and disorganizing business, — a *fatal* necessity.

CHAPTER II.

INFLAMMATION CONTINUED UNDER ITS MOST PRACTICAL ASPECTS.

"The four Signs" — Constitutional Symptoms — Changes of Function and Structure — Divisions — Common, Specific, "Healthy," &c., Acute and Chronic — "Terminations," Modifications from circumstances and in different tissues — Causes — Effects — Adhesion, Suppuration, Ulceration, Cicatrization, &c.

GOING more technically and practically into the subject of Inflammation, we will revert again to the so-called *signs*, pain, swelling, increased heat and redness.

The PAIN cannot be wholly attributed to distension and "stretching" of the nerves by the engorged blood-vessels, for it is not proportionate to the vascular distension, and may precede, being often the first symptom. The tenderness or soreness, which is often a diagnostic symptom between inflammatory and merely nervous affections, shows that the *sensibility* of the nerves is itself altered or heightened. This is further manifest from the *sensation* of heat, which is out of all proportion to the actual elevation of temperature. Bones, moreover, and other internal parts not naturally sensitive, become intensely so when inflamed.

The pain is always *lessened* by discharges from the engorged vessels; and while it lasts, more severe in structures that are hard and unyielding. Adhesions also lessen pain, or prevent it altogether. It is generally less in chronic than acute cases, and in what are called specific inflammations, as scrofulas, than in the ordinary forms.

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The pain may exist in or be referred to parts *distant* from the seat of the inflammation. In the hip disease the first complaint of the patient is often "pain in the *knee*."

The *character* of the pain, as well as the amount, differs in the different structures and tissues. Throbbing is the characteristic of proper phlegmon or circumscribed inflammation in the cellular structure: and a dull heavy sensation that of the substance of most of the internal organs. When the external covering of the body is affected, the pain is generally described as "stinging or smarting;" when the internal or mucous surface, as a sensation of "burning and soreness."

The SWELLING may be, in the beginning, from mere increased flow of blood to the part, though if the "increased vascularity" meant activity of the veins as well as arteries, the more rapid current would not account for the rise of the stream, much less the *overflow*, without an obstruction at some point. There is always, perhaps, more or less transudation, often effusion of the blood entire. When the "coagulable lymph" is thrown out, and its fibrin deposited, the thin serum permeates the neighboring cellular tissue. These are the chief causes of proper inflammatory tumefaction, which may be surprisingly great and rapid. It is to be distinguished, however, from the sudden swelling of a part from internal hemorrhage, as well as the gradual development of a tumor. If the vessels are not sufficiently relieved, fibrin of an inferior quality is thrown out, often mixed with blood from the rupture of the vessels. In a more advanced case, the accumulation of pus may be the principal cause of the swelling.

The swelling, in as far as it results from effusion, is a relief to the distended vessels, and appears to enable them to resume or continue their proper functions. As observed before, the less opportunity for swelling, the greater the pain. The swelling or effusion may, however, be the very cause of suffering; as beneath the periosteum, or between the cartilages. It may even become a source of danger, by pressure on vital parts. Next to loose, cellular textures, glands are the parts apt to swell most largely.

INCREASED HEAT, though so prominent a symptom, has been much questioned and debated. After the thermometer was resorted to, it was a matter of surprise that so little if any change

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of temperature was discoverable. Hunter *sometimes* failed, after exciting artificial inflammation in animals, to ascertain any definite increase of heat. It has been generally allowed, however, that in the lower extremities, and other parts distant from the center of circulation, the inflammatory state raised the temperature a few degrees, — up to that of the heart or lungs; and this slight change was attributed wholly to the increased quantity, and more rapid flow of the blood. "Heat," then, as a symptom, is referred rather to the morbid susceptibility of the nerves, than to an abnormal physical or chemical condition of the parts. A difference, however, of seven or eight degrees, which is allowed to be not unfrequent, is certainly considerable. That the part is cut off, as it were, from the general level of temperature, and has lost any power of regulating its own, is sufficiently important. The relief from abstracting heat, and *after* effusion and suppuration, the appearance of the pus globules, and other more manifest results of molecular action, all seem to favor the idea that "inflammation," after all, may be essentially nothing else than what the word imports, a "burning up" of the part, — in the chemical dialect, a too rapid combination with oxygen. In the theory of Liebig, before alluded to, it is a too rapid "transformation of the tissues," not only destructive of itself, but developing *other* destructive and superfluous "force," as well as that of heat. The fact that not only does an inflamed part rise six or seven degrees, but that some parts of the human body rise as many degrees more after life has ceased (or up to 113 degrees*) clearly shows that chemical considerations cannot be dispensed with, in the explanation of morbid phenomena.

The REDNESS is not only owing to more blood being in the part, but to that blood itself being richer in the coloring matter, or red corpuscles, in proportion as the serum with the fibrin or white corpuscles has been thrown out. There may be also transudation or effusion of the blood, red particles and all. Redness of surface proves the distension of the vessels, not as was once supposed by the red globules taking the place of the supposed smaller lymph-corpuscles, but by their being visible only in mass,

* An important fact long overlooked, and but very recently settled, by the experiments of Dr. Dowler, of New Orleans, and Davy, and others, in England.

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and not in "single file." As the inflammation advances new vessels may also be formed, thus adding to the *degree* of redness. This varies with the structure of the part, the kind of inflammation, its amount, stage, &c. It is greater, for instance, on mucous membranes than on the skin. There is said to be "uniform redness" in Erysipelas, "capilliform" when only *some* of the capillaries are rendered visible, as in conjunctivitis. There may be only red *points* or larger *spots* called maculæ, — the latter from sanguineous effusion. The effusion in most specific or asthenic inflammations becomes of a dusky or even coppery hue. In chronic cases generally the "redness" is but that of venous blood. The more acute and sthenic the action, the more it has of the bright scarlet hue, or that of the freshly oxygenated blood.

The CONSTITUTIONAL SYMPTOMS of inflammation ought not to be overlooked. When the disease is at all severe, or in an important part, the whole system is affected with what is hence called "sympathetic or symptomatic fever." This is usually of the active grade — distinguished as "inflammatory" even when not dependent on any known disease of a particular part. Its development is usually preceded by chilliness and weakness, with a diminution of the secretions. It may become a source of greater danger than the local affection itself, and greatly retard the favorable progress of the latter. The nervous system may sympathize, without the circulation reacting to the febrile extent, constituting general irritability; or be depressed, with a feeble excitement of the heart, and derangement of the secretions generally, thus changing from the inflammatory to the typhoid character. Lastly, from extensive ulceration or absorption of pus, *hectic* fever may set in, with exhausting efforts at reaction.

The ALTERATION of function and structure, in the part affected, is a more important consideration than mere external symptoms. The "increased sensibility," like the "increased vascularity," may be but temporary as well as partial, even in respect of the whole part seemingly affected. It is *around* the injured part that inflammation most displays itself. At the central point there is probably *less* irritability as well as less activity of the vessels. The change of structure, *consequent* on the diseased action, may again reduce both the nervous and vascular system

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below their average of functional power. The secretion proper to the part is always modified or checked at the commencement of inflammation, but subsequently it is often greatly increased and mingled with the products of diseased action. *Structural* change becomes chiefly manifest in chronic inflammation, the acute ending in complete destruction or more or less *incomplete* restoration. Increase of weight is often a marked symptom or sensation of the patient, as when a limb is the part affected. Most parts, however, are softer in the acute form or stage. Hardness is the characteristic of chronic inflammation, and may consist with increase or diminution of bulk and density.

After death redness and swelling may disappear, but often remain as *prima facie* evidence of recent inflammation. It requires, however, to be corroborated by the presence of pus or lymph, as well as serum, and *softening* of the part. After mere congestion, the larger *veins* will be found distended rather than the capillaries. Both serous and sanguineous infiltrations may occur in the corpse from many other causes than inflammation.

There are many DIVISIONS of inflammation, some of them not very concurrent or consistent with others. Some of the least satisfactory, in a philosophic point of view, are among the most practically convenient. Such is that into "healthy and unhealthy inflammation." The first division that requires attention may depend either on the exciting cause or modifying circumstances, giving rise to the distinction of

Common and *Specific* Inflammation. The *former* is such as arises from mechanical injury, or slight physiological derangement in an otherwise healthy constitution. Its most favorable form is seen in what is called "adhesive inflammation," the healing of a cut finger. It is always to be understood when the *specific* is not expressly in question. This term is almost synonymous with "unhealthy," though common inflammation may lose its natural tendency to recovery, and would then be called unhealthy rather than specific. The latter word implies some particular known cause for the inflammation being peculiar and generally unhealthy in its character. This cause may be a contagion, affecting the part directly, or the constitution. Gonorrhea is an example of the former, Syphilis of the latter. Or it may be the

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result of a dyscrasia, predisposing the individual to inflammation, or to an unfavorable modification of it, when produced from ordinary causes. Thus, scrofulous swellings or other inflammations in scrofulous patients, are easily excited, but difficult to reduce. Their progress is tedious; and a thin fluid, with curdy matter, takes the place of serum and healthy fibrin, or of consistent "healthy pus." After these explanations, it is hardly necessary to define, very formally,

"*Healthy and Unhealthy* Inflammation." The former is "Common Inflammation" in its best or least unfavorable form, and under favorable influences. Though a morbid action, it may be under the circumstances of the case inevitable, or even desirable, as where it limits a still worse form of inflammation or actual "mortification." Its tendency is self-limiting and restorative.

The simplest form of *unhealthy* Inflammation is that which tends to self-diffusion, from lack of good fibrinous deposits. Its products may be deficient or excessive in quantity, as compared with those of "healthy inflammation," and always differ in quality, if not in sensible appearance. It is, therefore, an essentially destructive and dangerous state, requiring the interference of art, in cases where healthy common inflammation would do well enough of itself. The differences between them will be noticed when speaking of particular instances, as well as the general subjects of abscesses and ulcers.

An important practical distinction is into

Acute and Chronic, which may be plainly translated the quick and slow, or "active and passive." The limits between the two cannot be defined by time alone, and the kind or degree of action is often a better criterion. Generally, however, the higher the inflammatory action and more obvious the symptoms, the speedier its termination, whether in restoration or destruction. Hence the necessity for some word to mark a certain degree of activity, and amount of immediate danger. That the distinction in question is not absolute, is shown by the necessity that often arises for such additional epithets as "sub-acute;" and still more clearly by the chronic forms being often a result or continuation of the acute. The effects of the two modes of action are, however,

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often sufficiently distinct. Hence the kind, as well as degree of danger, is different in the two cases.

Such expressions as "Adhesive Inflammation, Suppurative, Ulcerative or Gangrenous Inflammation," must be understood as descriptive, as denoting degrees, stages or accidental tendencies of the same action, rather than distinct kinds of diseased action.

All these peculiarities may depend on the state of the patient's constitution, the part affected, and a variety of other circumstances. They are, therefore, sometimes found enumerated among the, so-called

TERMINATIONS of Inflammation. Almost every result enumerated under this head by one author, is criticised and objected to by others. Generally speaking there are but two "terminations" of the disease in question, as of all others, — convalescence or death. These, regarded as local, are technically called *Resolution* and *Mortification*. The latter, however, as well as Transformation or permanent Degeneration of the part, may be classed as only a modification or result. It seems absurd to speak of inflammation *ending* in suppuration, and then of the suppurative process being still an inflammatory one. So of other "terminations." Still there is a tendency to one or other of the following results, and the sensible relief accompanying most of them, accounts for this expression continuing in use. These, then, are the results or effects of inflammatory action: —

Resolution, when the increased action of the larger vessels is supposed to overcome the obstruction or debility in the smaller, and perfect circulation through the part is restored; — increased or modified *Secretion*, from naturally secreting surfaces, as serum within the cavities and mucus in the outlets of the body; — *Effusion*, which may be of three kinds, merely serous, sanguineous or of "coagulable lymph," — serum containing plastic fibrin, and necessary to *Adhesion*; — the discharge of devitalized fluid in the characteristic form of "pus," the "secretion" or transformation being called *Suppuration*; — and finally *Gangrene* or rather *its* termination, local death or *mortification*.

Among the *circumstances* that will render one or other of these tendencies more probable, the most important is the state of the patient's constitution. Health might be measured by the

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vigor and freedom from aberration of "the restorative principle," *i. e.*, by recovery from local injury without, or with little, inflammation. It is a familiar observation, that "some people's flesh will not heal like others." Some are in danger of bleeding to death from the smallest wound, and are hence said to be of a hemorrhagic diathesis. Others, it might be also said, have a suppurative or gangrenous or at least inflammatory diathesis. "A full habit of body," however, is not to be mistaken for the best possible health. Plethoric persons are in danger from too high inflammatory action, as are debilitated and emaciated ones from too low. Habitual beer drinkers are obliged to submit to amputation, for injuries that could easily be cured in others, not saturated with such a blood-making beverage. Inflammation is of a higher grade, and more rapid in its course in the young than in the old, and in parts nearer the source of circulation than in the extremities.

The structure affected exerts a marked influence.

Inflammation in the *cellular tissue* is favorably situated for effusion, after which absorption and consequent resolution can often be effected. When it is not, suppuration follows, constituting an "abscess." When the disease is not properly circumscribed as the true "phlegmon," and the pus, then sure to be unhealthy, is infiltrated through the cellular structure, a form of inflammation more or less resembling erysipelas ensues. When near the surface, the healthy abscess is the common boil. This, though the very type of "healthy inflammation," may degenerate, some even believing it, in constitutions at the same time weak and irritable, to become the carbuncle. (For a different view, see Lecture on Carbuncle, &c.) Cellular inflammation, when it becomes chronic, may produce various tumors, and even schirrus, or the malignant induration that precedes cancer.

Inflamed Glands resemble the cellular structure in tendency to swell; but they are more apt to suppurate, and in chronic cases to harden.

In the *skin*, inflammation tends to spread, and by its effusion separates the cuticle, producing what is called vesication. The effusion is usually merely serous, but in some cases contains fibrin, occasioning a thickening. After removal of the cuticle, the ex-

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posed cutis is liable to suffer from cold air; from which, however, it is protected, if not artificially, by a thickening of the matter effused into what is called a scab. Small and distinct elevations of the cuticle are called "vesicles." If they contain pus instead of serum, they are distinguished as "pustules," and the process of their formation "pustulation." Pimples, rashes, &c., might perhaps be mentioned as peculiar results of cutaneous inflammation. The skin is more disposed to ulceration and gangrene than many other tissues.

The *mucous membranes* have a strong tendency, when inflamed, to relieve themselves by suppuration; this process appearing to be substituted for the ordinary secretion of mucus. When the inflammatory action is very violent, however, the "coagulable lymph," which is the common product in other parts, may be thrown out, as in croup, when it organizes into an additional or "false membrane." Were adhesive matter as frequent or as capable of organizing itself in the mucous outlets, as in other parts, the result would be frequently fatal. The suppurative "secretion" is often only partial, and the discharge spoken of as "muco-purulent." What is called passive hemorrhage is another not unfrequent result of mucous inflammation. As structural results, contraction, thickening, and softening, may be named.

In the SEROUS CAVITIES, where the danger is reversed, so is the relative order of suppuration and adhesion. The natural tendency is for the inflamed membrane to coalesce with its opposite fold. The consequence of this "termination" is often of no *appreciable* disadvantage. Chronic inflammation of these investing membranes, however, is liable to relieve itself, though unfortunately *not* as a termination of the diseased action, in serous effusion or exhalation, constituting dropsy of the part, as hydrocele, hydrothorax, &c. The effusion may be bloody, but is commonly of a whey-like color and consistency. The membrane itself may exhibit ecchymosed spots. Neither ulceration nor thickening, except by adhesion, as before mentioned, is frequent in these parts.

In the FIBROUS STRUCTURES, the characteristic effusion is gelatinous, within which bony matter may be afterward deposited. Independently of this, their substance is liable to be thick-

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ened and indurated. Their liability to ulceration and gangrene has been disputed.

Tendons and *Ligaments* are both described by Sir Astley Cooper as "not very susceptible of inflammation," at least in healthy persons. The pain, however, produced by injuries of the former, particularly punctures, is more than a set-off for this exemption, oftener producing tetanus than in any other part. The *synovial membranes* connected with the ligaments, are very liable to take on inflammation and advance to the suppurative stage. When they do not, the substance of the ligaments thickens, and the joint is greatly enlarged. When matter is formed *under* tendons, it burrows far and produces violent irritative fever. The same may be observed of fasciæ, inflammation *in* which has also a great tendency to become diffuse.

Within the substance of the *muscles*, inflammation is characterized by "twitchings," particularly noticeable after comminuted fractures.

The substance of the *vessels* or *nerves* may be itself the seat of the inflammation. Phlebitis is more common than inflammation of the arteries, both as a spontaneous disease, and after mechanical injuries. In the latter case the termination is often in adhesion. This takes place most frequently at the valves, "gluing the sides of the vein together and preventing further mischief." The affected vessel may be traced as a thick hard cord, and is very sensitive to pressure. When not thus limited, "phlebitis" is distinguished as "diffuse," and is then a very serious disease. The great danger is from discharge of pus into the current of the circulation, giving rise to extreme depression, restlessness, hectic fever, &c., with secondary inflammations in other parts. The arteries are seldom separately inflamed, except from wounds. Inflammation from the application of a ligature may extend to the heart itself. "This," says Cooper, "I have frequently observed in patients who have died from constitutional irritation, after an operation where a ligature has been made on an artery." Gangrene of the affected vessel is an occasional result. Inflammation in the nerves, "though very painful at first, is followed by little irritation."

Inflammation in *cartilage* tends to ulceration, and destruction

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of the joint or bone with which it is connected. All the usual phenomena of inflammation take place in the BONES; their gangrene and mortification, however, are usually spoken of under distinct names, as "*caries* and *necrosis*." The result of their suppuration is often diagnostic, "bone-pus" being so rarely healthy, that it is synonymous with ichor, generally fœtid, and often quite dark.

CAUSES. — Of the "proximate cause" of Inflammation enough was said, when speaking of its disputed "nature." "Exciting causes" have been divided, like the disease, into "common and specific," the former affecting more or less all persons, — as exposure to heat and cold; the latter requiring a peculiar susceptibility, as well as producing peculiar results, like the various contagions. An obvious division is into those which act *directly* on the part, producing structural injury in the first place, and only affecting the functions or exciting inflammation secondarily, — such as mechanical violence and chemical corrosion, — and those which induce visible structural change, if at all, only through the functional disorder (it may be the proper stimulus of the part or organ, as volition in the case of excessive exertion). Thus the structural effect is not only *indirect*, but often on a different part from that to which the cause was applied, as a current of cold air. Cold and heat, however, as well as other agencies, may belong to the direct or indirect class, according to their intensity.

ADHESION, — or "Adhesive Inflammation," as it is called, in consequence of generally occurring in connection with inflammation, — is properly the uniting of divided or contiguous parts, and may occur without any such degree of incited action as amounts to inflammation. This is the case, under the most favorable circumstances, in what is technically called "union by the first intention," when an incised wound or cut heals without new formation or leaving a cicatrix. More commonly, however, the term is applied to the process of union between divided and other surfaces already *inflamed*, and also to the coalescence of tissues by fibrinous matter, as around an abscess, and to new growths on the surface of membranes, as in croup. It limits cellular inflammation, and is often a result of the state in serous

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membranes, appearing to divert the excessive activity or "force" then generated. This is one reason why it is often spoken of as a termination. The *pain* attending this process is "thrilling," while in

SUPPURATION it is dull and throbbing, with a peculiar sensation of uneasiness in the part. When the suppurating tumor is near the surface, the formation of matter is preceded by flush on the skin above, and followed by the tumor rising and becoming softer at some point, where a *liquidity* or "fluctuation" will be felt on pressure. The abscess is then said to have "pointed." The extension of matter will be attended with constitutional irritation, rigors and subsequent febrile reaction. The time usually requisite for inflamed parts to relieve themselves, by this process, is from one to two weeks.

What is called "healthy" or "laudable" pus, is a thick bland homogeneous fluid, nearly white, and of the consistence of thin cream, with a peculiar smell while warm, and it is said a sickening taste. It differs from the natural secretion of mucous membranes, in containing swollen and decomposing globules, and in sinking in water, and being rendered gelatinous and ropy by the action of potash, while mucus swims and is readily dissolved by the alkali. Pus is considered unhealthy whenever mixed with blood, in which state, usually called sanious, it will often irritate the parts with which it comes in contact. The more common variation from the healthy standard, is by its being too thin and serous, when it is called ichor or ichorous. *Fœtor* is another symptom of unhealthy suppuration. Healthy pus answers many secondary purposes, besides relieving the system of dead or dying blood. It is nature's own "healing salve," protecting parts from the air, and promoting granulation. It is very slow in putrefying or undergoing further chemical transformation, perhaps from the very fact of having already undergone a certain degree of decomposition. When improperly constituted or elaborated, however, it may possess every variety of bad quality, from the slightly irritating to the specific poisoning properties of contagia. Even the healthiest pus seems to communicate the suppurative quality to any other parts than those discharging it, unless when they are protected from it, as by cuticle or epithelium. Its injurious effects when

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taken back into the blood, and thrown by it on internal parts, are well known.

Abscess, as a result of suppuration, has been before explained. The pus is confined by the inflammatory effusion itself. The abscesses produced by *acute* inflammation generally run their course, including the necessary ulceration for the discharge of matter, in less than three weeks. The situation of the matter has, however, much to do with the period, as well as the amount of danger, and will often of itself make the case necessarily chronic.

ULCERATAON has usually been described as an exaggeration or excess of the ordinary absorbent process, as adhesion or fibrinous formation is of the ordinary nutritive function. Mere pressure is well known to stimulate the absorbents. An unusual flow of blood has the same effect. In inflamed parts both these causes concur, the ulceration usually following the effusion or suppuration. When necessary for the discharge of matter, the ulcerative action tends toward the surface of the body, — a beneficial provision of nature, "explained," however, by the greater irritability conjoined with less tenacity of life, in the more superficial textures. For the same reason, newly-formed parts, the result of recent "adhesive" organization, and parts at the greatest distance from the center of circulation, are more liable to ulcerate than others. Textures, however, that have little vascularity, are proportionably indisposed to ulceration, and more liable to mortify, as the tendons. Though the swelling, &c., of ordinary inflammation may be considered a cause of ulcerative absorption, the latter may go on, when once instituted, where there is no longer effusion or tumefaction. Certain forms of the ulcerative process are found to depend on a peculiar order of cells, and to continue until these are destroyed. (See former chapters.)

The ulcerating part appears and *feels* worm-eaten, — "as if insects were about it," The constitutional symptoms are moderate, the fever rather hectic than inflammatory.

Particular parts in a state of ulceration, or "ulcers," will be more particularly considered hereafter in connection with their treatment.

GRANULATION is the name given to the process by which lost parts are reproduced, and to each little fleshy pimple or particle

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of the new structure. These are red in color, and generally protected by a covering of pus. They rise in successive layers, as the fibrin is thrown out, and the vessels from the parts beneath elongate and branch through them. After the cavity is completely filled up, and closed over with skin, "the granulative structure is absorbed and a contracted cicatrix is left." When divided parts, or the walls of emptied abscesses are not brought together, healing commonly takes place by means of the granulative structure. Granulations, however, readily unite with each other, and the requisite contact can be effected after the process of filling up has commenced. It is by the union or inosculation of granulations, spoken of, that new skin or

CICATRIZATION is effected, cuticular granulations proceeding, with their necessary vessels, from the surrounding sound skin, and uniting with each other as they advance toward the center, as well as with the granulations beneath. A fresh cicatrix is redder and more vascular than the original skin, but afterward becomes less so, the vessels contracting, and that part of the surface having ever after less vitality.

CHAPTER III.

TREATMENT OF INFLAMMATION.

Blood-letting — Objections to Venesection, theoretical and practical — Local Bleeding — Leeches and Scarifying — Dry Cupping.

THE first thing that occurs to the mind of old-school practitioners, if it is not actually put in practice in all serious cases, — the first measure directed in all their books, is

BLOOD-LETTING.

It is true there is a great difference in regard to this measure in the practice of different individuals, and generally speaking, much less blood is taken now than formerly. With some of the

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class of physicians in question, bleeding is now the exception in cases where it was once the rule. Its direction by the authors is accompanied with so many conditions and qualifications, that a cautious beginner can never be sure when he is warranted in resorting to this once never-failing expedient. Still it is *the* remedy of the books, and sufficiently relied on for other better means to be habitually neglected, even when that also is omitted. A living authority, who for more than a quarter of a century has been a teacher in one of the first schools in America, in attending to the uncertainty of the signs for omitting or *repeating* venesection, concludes that, "perhaps the most certain indication of the presence of inflammation is the continuance of *pain*," and further assures us that "so long as *this* remains severe, *we can scarcely go wrong in the detraction of blood.*"* The insidious relief of pain has long been the tempting motive for bleeding, and often the measure of the amount taken; if its existence were indeed made the criterion for the measure, — as seems to be the design of the celebrated professor alluded to, — what a sanguinary business would medicine become!

Local suffering, however, even in connection with other more decisive evidence of dangerous inflammation, cannot safely be made our only consideration, when we come to treat a case, or lay down general rules of treatment. General disorder is the necessary accompaniment of the local difficulty. The over distension and over action of the part are necessarily at the expense of the rest of the body. If there is "increased vascularity and sensibility" in and about the inflamed part, there is a decrease of *both* throughout the rest of the system. This inequilibrium of circulation and sensibility is generally obvious. A deficiency of blood in the extremities and throughout the general surface (unless the inflammation be located in the skin), is manifest in almost all cases. "Dryness of the skin and decreased secretion generally" are laid down among the diagnostic symptoms.

The correction of this inequilibrium is well known to be one of the surest means of relief, and signs of the local disease having ceased. If you can bring it effectually about, you have

* Gibson's Surgery, Vol. I, p. 28.

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secured "resolution;" if not, suppuration or sloughing must generally ensue.

Now blood-letting, by merely lessening the general amount of the circulating fluid, can certainly have no direct tendency to bring about this desirable result. The amount removed is drawn in at least equal proportion from all other parts, which then have an inadequate instead of a superabundant supply. The inequilibrium must therefore be increased instead of lessened. The whole system must be thus debilitated, and rendered less capable of resisting the morbid influence, or of sustaining the effort necessary to repair the damage already done. The heart is less capable of propelling the blood through the extreme vessels, and through the deranged part; and while that part is weakened in its recuperative resources, it is not proportionately relieved of oppression. It is not the more energetic flow of blood to the part, but its obstruction there, that *adds* to the disease and constitutes its danger. All experience proves that general vascular excitement is not necessarily of itself a dangerous condition. Still to lessen the force, or rather the *rapidity* of the circulation for a time, is very desirable when accomplished without weakening the system.

That the loss of blood is debilitating, no one pretends to deny. It is the most directly debilitating of all measures used in medicine, and its weakening effect is generally proportionate to the amount of blood taken. It is only in cases of "oppression," that is, of *apparent* weakness, that the pulse rises and the patient's vigor revives after a bleeding. The patient is nevertheless debilitated in reality from the loss of blood, though apparently stronger than when the vital powers were oppressed. The removal of the oppression may more certainly be accomplished by other means without any risk of debility.

Nor can it be urged that venesection has any tendency to reestablish the cutaneous function. When, indeed, it is carried so far that the debility approximates prostration, *ad deliquium animi*, as the books say, then there is perspiration enough, or rather *deliquium* enough of the blood as well as of the senses; for it is not a real perspiration from the proper stimulation of the secreting organ, but a mere exudation from its collapse, just as the fainting also results from a similar deficiency of stimulus on

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the brain. It is a cold, clammy death-sweat. In the natural action of this function, the whole surface of the body is in the active condition, warm and red, and the pulse full and soft.

Experience confirms physiology in showing that blood-letting cannot effect the object for which it is practiced. It is now, indeed, sometimes said that the bleeding is rather a preventive than a curative measure; that it is chiefly useful as a means of gaining time or facilitating the cure. In other words, it is found that this measure does not facilitate the cure of inflammation, without the aid of others, — which other measures, we contend, would have accomplished the object in a far better and safer manner. Even if the desired results *were* as unquestionably attained as might be supposed, from the long prevalence of the practice, still the risk of other results is sufficient to make it doubtful whether it ought in any case, or ever, to be resorted to. It could be easily shown, that no one can bleed in any given case without a violation of some or other of the rules laid down for the use, or rather the disuse of the measure.* The exceptions to bleeding

* "Of all the therapeutical appliances," candidly remarks Professor Flint, of Louisville, in a note to Druitt (where he seems to regard bleeding, at least in case of internal inflammation, rather as a *preventive* than *curative* means, — a distinction he tells us to be *always* borne in mind by the surgical practitioner, in order to determine the extent to which he may *safely* carry the means of depletion and depression; concluding that of all measures this of direct "depletion and depression," is the most dangerous and presumptuous: or in his own words, which I began to quote) — "Of all therapeutical appliances, there is none in which *art ventures* on such extreme *liberties with nature* as in this of blood-letting; and unfortunately there are few in regard to which the *principles* that are to regulate its *administration* are so *unsettled* and *contradictory*." Among the principles or rules "most approved" of by "the authorities," he refers us to the text (Modern Surgery, page 49 et seq.), where, among other things, we find the following: —

"As a general rule, the blood should be permitted to flow" ("as quickly as possible," "from a large orifice," &c.) "till paleness of the lips, lividity about the eyes, sighing, nausea, fluttering pulse, and relief of the pain indicate the *approach* of syncope." Diseases in which bleeding "is most *injurious* and worst borne are putrid fevers and *diseases of debility*." (Page 50.)

"But the junior practitioner must bear in mind that he may occasionally meet with some *thin bloodless* patients, whom it would be very injurious to bleed. but who nevertheless, from some peculiarity of constitution, do *not faint*, even though *bled to excess*." Yet we were told on the previous page that, "it is often *absolutely necessary* to bleed persons in acute disease, who are *extremely debilitated*."

Not only is the bleeding of certain *thin* persons doubly dangerous, as we have

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for inflammation are now so many, that they will no doubt become the rule, even among Allopaths. It is well known that Homeopathists have always proscribed blood-letting.

TOPICAL BLEEDING

is a very different measure from venesection, but this is liable to many of the same objections. The same quantity of blood, taken

just seen, from their systems not knowing when to give the fainting sign of "hold, enough!" but the *fat* and some of the *fleshy* are also expressly exempted — "it will be *borne worse* when the muscles are large and flabby, and the pulse habitually open, soft and full." "Fat people generally bear bleeding worse, and contain in fact less blood, proportionally to their bulk, than those of a spare lean habit and rigid fibre." "It will be borne *worst of all*, when the complexion is sickly and pale, — the pulse quick, small and feeble, — the lips, conjunctiva and tongue pale."

"If there should happen to be a state of passive dilatation and weakness of the heart, *syncope* would most likely be *instantly fatal;* and if there should be *any organic* disease which impedes the *formation of blood*, its loss is liable to be followed by *irrecoverable sinking* and *exhaustion.*" (Pages 50 and 51.)

Yet with all these dangers and exceptions, "the first and most important measure" in inflammation is still "general blood-letting; which, if *carried far enough*, induces a state of insensibility and suspended circulation, to which the name syncope or fainting is given." (Pages 48 and 49.)

It is true, we are afterwards told to stop short of this desirable state, and the "*approach* to syncope" is made "the general rule;" "because, *after* the depressing effects of *bleeding* there naturally ensues a degree of *reaction;* the *pulse rising* in frequency and the local *pain returning:* and this reaction will be the greater if the venesection has been carried to the extent of producing full syncope." *If* this reaction (with "rising pulse and returning pain!") exhibit "well-marked inflammatory symptoms, the *bleeding* must be *repeated* till the disease is vanquished *provided that the strength permit.*"

"The propriety of the second bleeding *must* in a great measure *be determined by the effect* which the first has had on the pulse; for if that be more frequent and quick, or more sharp and jerking, instead of slower and softer, it would seem that the bleeding had *diminished* the *strength more than* it had reduced the *disease.*"

Not only is the degree of this "*tolerance*" of bleeding, as it is technically called (varying, as it has been *experimentally* discovered, it does, with the different diseases as well as classes of patients for which it is nevertheless said to be indicated), made the criterion for a repetition of the measure, but for other measures also, and even an "aid to" or *test* of *diagnosis* itself! "If faintness occurs from the loss of a very small quantity of blood, it will be certain that it is *not* an *inflammatory* but nervous" disease, "or that if inflammatory, it *must be treated by other measures than blood-letting.*" So that even in inflammation, syncope, with all its confessed evil of aggravated reaction, *may* ensue on but slight loss of blood.

The danger is still greater of *not fainting* when the operation is not conducted exactly *secundum artem* (as well as sometimes when it is, "owing to some peculi-

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slowly and gradually from the small vessels of the part, will not produce the same immediately dangerous effects. There is no shock produced upon the general system, the vessels having time to contract so as to reduce their calibre to the amount of fluid contained. Still, if much blood be taken, even in this way, evil consequences must ensue.

But the great objection to local bleeding is, that the necessary applications cannot be made directly to the part affected; and any partial attempt near it is likely to draw the blood in that direction, and add to the congestion already existing. Unless the vessels of inflamed parts can be "entirely drained," and the sur-

arity of constitution"), "the bleeding may be continued almost to death, without the occurrence of syncope." (Page 49.)

"Tolerance" is generally represented as greater, and the necessity for bleeding more urgent, the more vitally important the organ affected. But this again depends on the time when it is resorted to, our author's American annotator assuring us that, "after violent reaction," in other words, when there is actual inflammation, "the utmost discretion is necessary, in the use of this potent means." With respect to the disease or injury, "bleeding is not well borne," continues Druitt, when there is *great depression* of the vitality, whether from the peculiar nature of the morbid cause, or the inflammation excited, "nor in the case of an injury requiring *great constitutional efforts* for its restoration, as a compound fracture; nor if the disease be advanced toward *suppuration* or gangrene."

To vary these quotations with one from a writer of a very different character, supported, however, too strongly, by less popular and more professional authority. After showing that the diseases of the poor in Europe arise in a majority of cases from defective food and impure air, creating a deficiency of blood; "yet," continues Dr. Dickson, "enter the crowded hospitals of England, and see how mercilessly the lancet, the leech and cupping-glass are employed, in the diseases of the poor. What a contrast to the eager pupils and attendants thronging around their beds, — those attendants with bandage and basin, ready at a moment's notice to take from the poor creatures whatever quantity of life-blood solemn pedantry may prescribe, as the infallible means of relieving their sufferings."

How well does this "rhetoric" agree with the confessed *results*. "*Patients* who have been apparently *cured* by large bleedings," which according to Dr. Rutherford, of Edinburg, "have conquered pain in the first instance, *remain* eventually longer *in the hospitals* than those who have not been so speedily relieved (other more efficient means not having been resorted to): moreover, you will find them *return* again, with dropsy and chronic affections."

"One objection to venesection," says one of Great Britain's most distinguished surgeons, "is that, after frequent and copious venous hemorrhage, the internal vessels become gorged with blood, and *a disposition to apoplexy is induced*." (Liston, page 26.

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rounding ones nearly exhausted also, it is confessed that little or no good can be done.

LEECHES are, in some countries, and by some practitioners in this country, the most approved means of local depletion. But of these agencies in surgery it may be said, as of blood-letting in general, that the cautions necessary to be observed in their use, nearly amount to a prohibition.* Besides, they must not be applied directly to the part inflamed; and their sucking off blood from any other part can have little influence, except as it lessens the general circulation, or acts as a "derivative or counter-irritant." In the latter case, their poisonous effects are often more to be dreaded than the original disease. Fatal hemorrhage frequently results from applying leeches to children, and adults do not always escape injury. It is impossible to know beforehand what bad effects will follow their use; and, inasmuch as all cases to which they are applied, can be cured by other means, we would never recommend a resort to them.

Scarifying is only less objectionable than leeching. Scarification of the inflamed part, in acute disease, aggravates the disease, and renders it more troublesome to heal. We do not mean to say that scarifying is never beneficial; but that the benefit in addition to that of the cupping used at the same time, is due to the additional local counter-irritation, and not to the amount of blood taken away. The revulsion and counter-irritation are, perhaps, more complete and permanent after the scarifying; but according to our observation, the amount of good done is never in direct proportion to the quantity of blood drawn, but rather in the inverse proportion.

* "LEECHES," we are told in a recent work, "should not be applied in *females* where the cicatrix would be unsightly. In *children* large superficial *veins* should be avoided. Nor should they be placed on the *eye-lids*, since in this situation they are apt to cause ædema and ecchymosis in the part; nor where *cutaneous nerves* abound, as erysipelas is apt to follow. They should *not* be applied directly to *the inflamed part*, for the reason that the stimulus of their bites adds to the existing inflammation; nor should they be applied near an acute *ulcer*, for their bites are apt to degenerate in this case into ulcers: if the ulcer be of a specific character, the bites become inoculated, and thus extend, instead of decreasing the ulcerated surface. Neither should they be placed where *bandages* are of paramount importance, as in fractures, for in such cases *the bites are apt to inflame and ulcerate*, and thus cause the removal of the apparatus at a critical period." (Hasting's Practice of Surgery, page 42.)

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Dismissing the subject of abstracting blood, together with cathartics, &c., as measures not only unnecessary, but highly injurious, since healthy organs are attacked in order to relieve diseased, the vital force is impaired, and the means employed have no special adaptation to the end proposed, — we will speak briefly of the

SPECIFIC OR HOMEOPATHIC TREATMENT.

Its simplicity, its harmlessness, is in as strong contrast to other modes, as it is superior in efficacy. It could never yield such wonderful results were it not in accordance with a divine law. The charge is sometimes made against Homeopaths, that they neglect the *causa occasionalis* of disease; but if we observe the difference between them and others, in the treatment of inflammation arising from different causes, it will be seen at once that the charge is not only false, as against us, but is true against those who make it. Instance a person who has received a severe injury upon the head, and inflammation of the brain is present, apart from attention to the wound, in what respect would the Allopath treat this case differently from one of cerebral inflammation from another cause, — venesection, or if not in favor of that, active cathartics, &c. Would the fact that the difficulty was the result of a mechanical injury determine, or have any influence in the selection of the medicaments to be given? not at all!

But with the Homeopath, that fact would be most significant, and direct his mind to a remedy, which he would not have thought of employing in inflammation of the brain from other causes. The great remedy with which the Homeopathic Surgeon has to combat inflammations, the result of external violence, is

Arnica Montana, the specific for diseases from mechanical injuries. Its timely administration, and local application, upon the occurrence of an accident, would, in a large majority of cases, prevent the rise of inflammation, which under different medication would be attended with great danger. *Calendula offic.*, *Rhus. Tox.* and *Ruta* are equally valuable in special cases, but clinical experience has not assigned to either of them so large a sphere of curative action. When the inflammation is very high, *Aconitum Napellus*, that general "anti-phlogistic" of the Homeopath, so

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superior to the *depleting* means usually employed, will be needed, and in some cases, *Belladonna, Bryonia, Cantharis, Merc,* &c., are useful. (For the particular indications for each remedy, see WOUNDS, ABSCESS, DISLOCATIONS and FRACTURES.)

The local applications will be spoken of in connection with the different classes of injuries, but we would state here the general rule for their use. Immediately upon the occurrence of an injury, and until considerable inflammation is present, and in chronic inflammations, cold or cool applications should be applied. Cloths kept constantly wet with cold water are usually employed; but by means of *arnicated water*, or *aqua calendulæ*, we not only obtain all the advantages derived from the cold water dressings, but, in addition, we have all the benefits that flow from the direct applications to the injured part, of a remedy that is specifically adapted to the prevention of inflammation: we would, therefore, recommend that the Tincture of Arnica, or the appropriate medicament, be added to the water, cold, cool or warm, as may be proper, in all cases of injury, and that where poultices are applied, they should be mixed with a dilution of the remedy; but in all high grades of inflammation, hot applications should be employed. Carpenter speaks in the highest terms of the efficacy of hot steam in removing local inflammation. Had not empirical experience long since proved their superiority, their homeopathicity would have suggested their use. (For Hæmastasis in subduing inflammations, see note to CONCUSSION AND COMPRESSION OF THE BRAIN.)

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CHAPTER V.

THE DIFFERENT KINDS OF WOUNDS, ERYSIPELAS, TETANUS, AND HYDROPHOBIA.

DEFINITIONS — Simple, &c. — Cuts, Bruises, &c. — their respective importance, pain, bleeding and danger — TREATMENT — Incised Wounds and Hemorrhage — Compression, Styptics and Ligatures — Punctured and Penetrating Wounds — Suppuration — Lacerated and Contused — Irritation, Gangrene, &c. — Gunshot Wounds — their varieties and peculiarities — Probing, &c. — Calendula — Poisoned Wounds — Wasps, Snakes, &c. — Remedies, general and topical — TETANUS — successful and "experimental treatment" — list of "hopeless measures" — ERYSIPELAS — HYDROPHOBIA, preventive and *curative* measures.

WHAT may be termed artificial maladies, — derangements, chiefly local, produced directly by external agents, — constitute the special and characteristic province of the surgeon. Men's more frequent indulgence, in former times, of their "organ of destructiveness" on each others' bodies, gave rise to a separate art of surgery. The German name for its practitioner is still "wound-doctor" — *wundartz*. The reaction, however, of the organism against injurious influences of all kinds, is of more importance than the peculiar nature of those influences, — the study of *cure*, than that of cause. Hence, Surgery has become a branch of medicine; and while there are general diseases called surgical, the local derangements that are external and make a breach in the bodily substance, have been spoken of by some surgical writers as *wounds*, though not *occasioned* directly by outward mechanical force. In this sense an ulcer will be a species of wound!

A WOUND is defined as a recent solution of the continuity of the animal structure, always *accompanied* with more or less violence done to the vitality of the parts.

Still the formal classification of wounds now to be considered, depends on the nature of their external causes.

The most general DIVISION is into simple and complicated.

A *simple wound* is a mere division of a particular part under the necessary conditions for healthy restoration. Any departure from this definition, either as to extent of injury or amount of vital reaction, constitutes a *complicated wound*.

Five or six *classes* of wounds require separate consideration:

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— the incised; the punctured and penetrating (distinguished by their depth); the contused and lacerated (often connected); those occasioned in any way by explosion of gun-powder, and called for convenience "gun-shot wounds;" and lastly, those that, besides the mechanical injury, are the means of introducing into the body some poisonous substance.

1. An *Incised* Wound is, in plainer English, "a cut," — more precisely defined as a "solution of continuity by a sharp-cutting instrument." "A *simple* incised wound" is further distinguished as made "by a *clean*, sharp-cutting instrument," and in a *healthy* individual. A scrofulous or syphilitic taint makes it *complicated*, no less than a bruising in addition to the cutting. A simple incised wound is always one that heals, or might heal, by the first intention: whatever prevents it, is a complication.

2. A *Punctured* or *Penetrating* Wound is one made by a sharp-pointed instrument, thrust to a greater or less extent below the surface. A needle "punctures," a bayonet "penetrates," — perhaps into the great cavities, on which circumstance the distinction is, by some, made to depend. These wounds are not apt to heal by the first intention; hence more or less suppuration.

3. A *contused* wound is inflicted by some *blunt* instrument, that injures the parts underneath, without any breach of the surface.

4. A *Lacerated* Wound, on the other hand, is generally occasioned by a rough as well as blunt instrument, *tearing* the integuments.

5. *Gun-shot* Wounds require no definition, except to repeat that they are made to include all injuries occasioned by the explosive *force* of gun-powder. Scorching by powder belongs, of course, to the subject of "burns." Stones and other substances thrown by explosion, often strike with the force of balls; and balls often kill when it is very difficult to know whether they have struck or not. The cases called by the old surgeons "wind-contusions," are no longer spoken of, under that name; and most modern writers seem disposed to question the whole subject of "windage," — without, however, bringing forward any hypothesis more tenable. There is not any sufficient reason, for doubting that the violent concussion of the atmosphere, by the passage of

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a ball, may inflict severe injury. The stratum of air impelled before the ball, or contained between the ball and the skin, is doubtless sufficiently condensed to impart a decided impulse to the surface that is grazed.

The subject of *cannon* balls will be found more curious than practically important, except to surgeons in the navy or army.

The *rifle* or *pistol* balls, with which the surgeon is more likely to be concerned, generally make at once a punctured and a lacerated wound; and require particular attentions, which we shall point out when speaking of treatment.

6. *Poisoned* Wounds are inflicted by some instrument that inserts a virus into the wound it makes. The bite of a rabid dog, some kinds of serpents or other reptiles, and the stings of various insects are familiar examples. Commonly the wound itself is trifling: the poisoning of it makes all its importance.

The first striking circumstance attending most wounds is the *flow* of BLOOD. This, when not externally visible, is called simply "extravasation;" and is then often more dangerous than "the bleeding," so alarming to patient and friends. The amount of hemorrhage is no criterion of the importance of the wound, unless it is so great as to endanger life by its mere loss. It depends not only on the size and situation of the wound, but on its nature or mode of infliction, and sometimes on the constitution of the patient. A liability to profuse bleeding on slight injuries, constitutes the "hemorrhagic diathesis."* Gun-shot wounds often bleed but little; and the severest *contusions*, if merely such, none at all.

The PAIN is another circumstance that frequently deceives. It bears, in many cases, no relation to the danger, unless that of *inverse* proportion. It is only in the extreme degree, threatening tetanus, that it becomes itself a consideration of vital importance. Nature generally ceases her *alarm* of pain, where the injury is already irretrievable. The general rule is, that parts well supplied with nerves, are the most susceptible to painful irritation. The skin is a vast net-work of nerves, while many vital parts are nearly insensible in their normal condition. In amputation, it is

* See remarkable case under Ligating Carotid Artery, Part II.

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the superficial cutting that hurts most. The back is much less sensitive than the front of the body, the feet than the hands. Wounds in the knee occasion little suffering in proportion to their danger.

The DANGER of wounds depends on many circumstances, besides the obvious ones of depth, direction, &c.; among which, those of the patient's constitution and habits are especially important. With the same kind of wound, in the same part, you must be careful not to give, as a matter of course, the same prognosis. Some persons have an irritable temperament, and their slightest injuries require great caution and attention.

AGE, also, makes a difference. *Young* persons suffer more, when wounded, from the first shock and reaction, than the *old;* but their danger is much less, and they recover more quickly.

TREATMENT OF WOUNDS.

It is especially in connection with the first class of wounds, *the incised*, that the subject of *hemorrhage* requires our consideration. The first thing that arrests the surgeon's attention, and excites the alarm of the patient and spectators, is *the bleeding*. This should be stopped as soon as possible. We effect this object by the application of cold, — tourniquet, — compression, styptics, and the ligature. *Arnica*, *Diadema* and *Phosphorus*, internally and externally, have been strongly recommended.

If no large arteries or veins have been cut, a lint compress and bandage will be sufficient. If not, the *continued* application of cold *arnicated* water, or exposure to cold air, will arrest the hemorrhage, except when large arteries are injured. Should these means fail, styptics may be used, such as pulverized galls, lint steeped in the tincture of the same article, or in a solution of alum, or strong decoction of white oak bark, or (what is better than either of these articles) we would recommend to scrape off and use the fleshy side of a piece of spongy, oak-tanned sole-leather. This presents a very soft, unirritating surface, while it is strongly astringent, and may be strengthened in that respect, by wetting in any styptic liquid. It may be pressed firmly into the wound, so as to give the additional advantage of compression. If these means fail, or are not considered sufficient, recourse

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must be had to the ligature. Its use should, however, if possible, be avoided.

When an artery has to be tied, it should be done at the wound, if it can be reached by the forceps. When the end of the vessel has too far contracted, the arterial needle may be used, and a portion of the surrounding parts included in the ligature. If this measure does not answer the purpose, the wound will have to be dilated, or an incision must be made at some other point. Dilatation should, if possible, be avoided. It is frequently attended with serious consequences; and is altogether unnecessary in a simple incised wound. If a large artery is even *wounded*, it must be tied, otherwise there is danger of aneurism, and the surgeon must be careful not to mistake a wounded artery for a vein, and thus not employ the ligature.*

Dangerous hemorrhage from any large arteries must be first guarded against by the tourniquet, or some other mode of applying pressure. If the bleeding is from the lower extremity, compress the femoral artery, just below Poupart's ligament; if from the upper, restrain the brachial artery in like manner, somewhere above the middle of the arm, if the wound be below this point.

* It would seem entirely superfluous to give this caution against the commission of *so gross a mistake*, but an important case that fell into our hands, while practicing together in Cincinnati, would show it is not.

A boy, aged about 14, son of Mr. J. D——, Flour Merchant, while cutting a stick with a long-bladed knife, wounded the inside of the thigh, puncturing the femoral artery. The blood was of a *bright red color*, and came from the wound *in spirts*, and not in a *continuous stream* (*generally* regarded as pretty sure indications of an artery being wounded), and yet two prominent Allopathic physicians of the city (one of whom made considerable pretensions as a *surgeon*, and the other has since been made a *professor* in one of the colleges), *diagnosed* a wounded vein, bound it up, and notwithstanding it afterwards bled, upon three different occasions, the last one being five days after the accident, they persisted in the simple bandage. The result was an *aneurismal* tumor. This they endeavored to cure by compression, assisted in council by the most distinguished surgeon in the west; — result, for the *surgeons*, a most glorious exhibition of ignorance; for the boy, "a dozen deaths"—mortification of the foot, and "amputation at the thigh, with one chance out of ten, or death inevitable." We were called, and the boy is now (without amputation), attending the college at Delaware, Ohio. Had a ligature been applied at the time of the injury, the boy would have been saved over a *year* of severe suffering, and had an uninjured limb.

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There is some *choice in ligatures.* The best is made of animal membrane. Whatever substance is used, it should not be so thin as to cut through the coats of the arteries, on being tightened. If silk or linen is used, one end should be left hanging out of the wound, the other cut off close to the knot. Learn to tie the "surgeon's knot" — one that won't slip. When ligatures of animal fibre are used, both ends may be cut off close, and the wound allowed to heal by the first intention; the ligature being absorbed after having done its office.

In *taking up arteries*, great care must be observed, never to tie up a *nerve* with them. Important nerves frequently accompany arteries, and are attached to the same sheath. In such cases they must be carefully separated. Neuritis, neuralgia or fatal tetanus, may be the consequence of neglecting this precaution.

After having suppressed hemorrhage, bring the parietes of the wound *together*, and secure them as nearly as possible in their original position, by adhesive strips, collodion,* or sutures. The edges of the wound, and the neighboring surface, should be made perfectly dry, or the adhesive plaster or collodion will not adhere. An excellent mode, when you wish to effect exact apposition, is that recommended by Mr. Skey: — "two narrow strips of adhesive plaster should be cut, and warmed, if necessary; each should be applied by one-half of its length to the opposite surfaces of the wound: when thoroughly adherent, the other ends of each strip should be drawn simultaneously but slowly across the fissure, and as soon as the edges are brought into perfect contact, and *even drawn closely and pressed together*, the plaster should be fixed on the skin beyond." Avoid sutures if possible. When they must be used, have very few, — two or three may often suffice in the largest wounds — relying on the other means in the intermediate spaces; though in some cases a larger number will be required.

After these things have been attended to, nothing more locally is necessary than simple dressings, such as will shield the wound from the action of the atmosphere. Cloths kept *constantly* wet with cold weak *arnicated* water (one teaspoonful of the Tincture

* See *Arnicated Collodion*, Appendix.

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to a pint of water), are excellent. A dose of *Arnica*, 3*d*, should be given internally, and repeated once in five or six hours, if there are any indications of sympathetic fever. Should this rise high, *Aconite* should be alternated with the *Arnica* once in two or three hours.

If the patient has lost much blood, *China* should be alternated with the *Arnica* from the first.

If severe syncope, with deadly paleness of the face, is present, or the countenance assumes a livid appearance, and there is subsultus tendinum, *China* is indispensable. If the patient does not speedily rally, use a stimulant until reanimation takes place. The *China* should be continued until the patient has recovered from the effects consequent upon the hemorrhage.

Staphysagria has been recommended as a remedy for severe incised wounds.

Momordica Balsamina will, we think, be found valuable in incised as well as lacerated wounds.

Calendula Offic. is recommended by Dr. Thorer, of Gorblitz, as preferable to *Arnica*, in incised wounds. (See his remarks, after gun-shot wounds.) We have succeeded so well with *Arnica* in this class of wounds, that we have found it unnecessary to resort to any other agent.

Direct an unstimulating nourishing diet; food highly spiced or seasoned to be, of course, avoided under all circumstances.

PUNCTURED WOUNDS, when slight, do not commonly give the patient much inconvenience. This depends very much, however, on their situation and the constitution of the patient. The prick of a needle may bring on tetanus. Any puncture through tendons, nerves or fasciæ may produce excessive pain and distress. Matter may infiltrate into the cellular tissue, and occasion extensive inflammation. Swelling of the lymphatics is a frequent consequence of punctured wounds. When the injury is in the foot, for instance, we may have buboes; or swelling of the sub-maxillary glands, from a punctured finger. In such cases a red line may nearly always be traced from the point of injury along the course of the lymphatics to the glands.

A variety of punctured wounds has been distinguished, as the *penetrating*, the generic term being restricted to shallow punctures.

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PENETRATING WOUNDS, then, are such as enter the great cavities, Their diagnosis and prognosis are very doubtful (as will be seen when we come to treat of particular wounds). A large instrument may pierce the cavities of the vital organs, and the patient recover: a very slight entrance in another direction may cause death. The result depends not only on the extent and position of the wound, but on the constitution and habits of the individual.

In treating these wounds, as all others, the bleeding, if any, must be first attended to. Next, the extraction of any foreign matter that may have been thrust and left in. When any is suspected, you must ascertain by probing. The finger is the best instrument, when the wound is large enough, and not too deep. If there be any poisonous substance introduced by the instrument or otherwise, such fluids should be injected as will, if possible, neutralize it, and cleanse out the wound. If you can apply pressure, so that the sides of the wound can be brought in apposition throughout its entire length, do so, and dress with *Calendula*. But if you cannot be certain of doing this, the *lips* of these wounds should be kept *apart*, as there is always a liability to their uniting, while suppuration is going on actively within. If the matter is not allowed a free exit, it will spread and aggravate the injury. There is always considerable danger of inflammation from this source. Hence a tent should be kept in the external orifice, and often removed; and the wound should be kept covered with cloths *constantly* wet with cool *Aqua Calendulæ*. If, however, much inflammation should rise, an emollient poultice, made of the *ulmus fulva* flour, wet with the *Aqua Calendulæ*, will be the best dressing for the wound.

As the *pus* that accumulates should be allowed to escape as quickly as possible, it is proper to renew your dressings two or three times a day, pressing gently on the part, but not so as to give pain. Never allow the outside to heal before the interior. Internally, give *Calendula* once in from three to six hours. We prefer drop doses. (For an interesting case of *penetrating* wounds treated with *Calendula*, see WOUNDS OF THE ABDOMEN.)

When the abdomen is penetrated, give *Aconite* immediately.

For punctured wounds caused by splinters, *Aconite*, *Cicuta*, *Nitric Acid*, *Silicea* or *Hepar* are recommended.

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From credibly reported cures of punctured wounds by the first intention, with the application of the freshly-bruised root of the common table beet, we should suspect that beets possessed some specific virtues in the treatment of this class of wounds, and that they were worthy of experimentation.

LACERATED WOUNDS differ from incised, in being generally unaccompanied with hemorrhage. Large arteries may be ruptured without bleeding. The only danger in this respect is that of "secondary hemorrhage."

The *constitutional effects* are often very great. Chills, spasms, and tetanus frequently occur. There is great liability, also, to erysipelatous inflammation.

Diagnosis is not difficult, the condition of the injury being generally very apparent.

Prognosis is more questionable, depending much on the habits and constitution of the patient. On this account the practitioner should be guarded in his opinion.

There is often great injury done to parts not directly involved in the laceration, and much foreign matter adhering to the wound. If the parts are so lacerated as to produce any insensibility, or a partial loss of vitality, it may be necessary to use stimulants, such as brandy and warm water, for a short time.

Supposing, then, that there is no hemorrhage, the first thing to be attended to, is the removal of all foreign substances. But be very careful about too much handling. After *clearing* and *cleansing*, bring the torn parts as nearly together as possible, and *fix* them, either by adhesive straps or bandages, that the wound may heal by the first intention. As these wounds, under the ordinary treatment, heal by granulation, the surgeon is frequently careless about bringing the torn parts into entire apposition. Bransby Cooper says of contused and lacerated wounds: "they are not to be treated in the same manner as incised ones, for there are no hopes of union by adhesion, until the injured parts have been removed, either by slough or disintegration." We would, therefore, caution the Homeopath particularly on this point, as many badly lacerated wounds would heal by the first intention, even under the cold water dressings, if the parts were brought and confined in complete juxta-position, and kept at rest;

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much more when dressed with *Aqua Calendulæ.* The dressing of these wounds, as well as all others, should be done as *expeditiously* as will admit of being *thorough.* They should be frequently changed, and this should be done with great *carefulness*, lest you tear the imperfect adhesion that may have formed, and prevent healing by the first intention. The violent manner in which some surgeons remove "dressings," would indicate either a want of sympathy for the feelings and disregard for the speedy recovery of the patient, or ignorance of the injury that such violence may do, and cannot be too strongly reprobated. Sometimes sutures are needed. It is better, however, to let the wound gape considerably, than to cause much irritation by them.

After arranging the wound, one of the best local applications for this class of wounds, in all cases where the surgeon is called immediately upon the occurrence of the accident, is cloths or lint kept constantly wet with *aqua Calendulæ.** If there is, however, a great deal of *irritability* present, before it is dressed, apply an emollient poultice of the flour of the *ulmus ful.* and *Aqua Calendulæ.*

In treating lacerated wounds, it is certainly more desirable to heal them by the first intention, if possible; if not, to so control the morbid action, that healthy granulations shall form, and cicatrization take place, with but slight suppuration. No one will question the importance of accomplishing these results; although those only who have witnessed the frightful sloughs, excessive exhaustion, and almost entire extinction of the vital powers, that sometimes result, under the ordinary treatment, from these and contused wounds, even in healthy subjects, can fully realize it, or the blessing that would be conferred upon mankind by those who should give the surgeon the knowledge of a remedy exerting a

* The preparation of *Calendula* we have used is prepared differently from that of Dr. Thorer; about one-third alcohol, two-thirds rain water, poured over the flowers, and permitted to stand till medicated; diluted with water, when used, in an inverse proportion to the extent of the injury. This dilution we have called *aqua calendulæ;* whether it is equal to the *aqua calendulæ.* of Dr. Thorer, as a dressing to wounds, we leave others to determine. Internally, we have generally given drop doses of the above preparation, or put a few drops in water, and given in teaspoonful doses.

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specific action in their accomplishment. No school but our own propose any such remedial agent — the language of a distinguished Allopathic surgeon has been already quoted — the Eclectic Surgery says, "these wounds must heal by granulation."

Calendula Offic., both by its provings and clinical use, is clearly shown to exert a preventative and controlling influence over the suppurative process, and should consequently be given *internally*, as well as applied locally, in all lacerated wounds. Dr. Thorer employed it only locally. (For cases, see his remarks, after gunshot wounds.)

The *Momordica Balsamina*, Balsam Apple, employed as a dilute tincture, for lacerated wounds, may yet rival the *Calendula*. Mr. J. J——, bricklayer, had one of his fingers crushed, and the nail torn entirely off; he immediately replaced it, and bound it up with Balsam of Fir. It soon became painful, with signs of incipient suppuration; he removed the dressings, applied a bandage, and kept it wet constantly with a diluted tincture of the *Momordica Bal.* Inflammation left, and the nail firmly united, without suppuration.

Should there be much contusion with the laceration, *Arnica Mon.* should be alternated with the *Calendula*, and if considerable irritative fever should arise, an occasional dose of *Aconite* should be exhibited.

When tendons or ligaments are injured, *Rhus. Tox.* should be alternated with *Calendula*, except where the tarsal or carpal joints are involved, when *Ruta* should be preferred. (For those cases where there is copious suppuration or gangrene, see CONTUSED WOUNDS. For tetanic symptoms, see TETANUS.)

Lacerated wounds, occurring in compound fractures or compound dislocations, are very frequently connected with *incised* ones, by our Allopathic friends. Their ignorance of specific means to control the disastrous inflammation, so likely to arise, if at all excusable, is an excuse for their too frequent resort to amputation. As Homeopaths are better informed (at least upon this point), we hope they will have a higher opinion of the integrity of the human form — a firmer reliance on the curative resources of nature, especially when aided by specific medication, and be chary of the use of the knife. We are heartily glad to

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hear one of the latest Allopathic writers on the other side of the great water, teach upon this point a course so opposed to the bloody path of some of his distinguished brethren out our way. We hope his teachings may soon reach their ears, and himself not only trust more to nature, but aid it by *specific* medication.

After reducing the dislocation, or adjusting the fracture, and applying the splints and bandages, so that the wound may be dressed, treat as in other lacerated wounds. Those occurring in compound dislocation require especially *Rhus. Tox.*, as the ligaments are ruptured, and it has a specific relation to their injury.

Amputation is only indispensable in lacerated wounds upon healthy subjects, when, after attending to the limb, its temperature continues to become lower, and the sensibility to lessen, showing that circulation and innervation are both cut off, and that there is no hope of restoration. (See AMPUTATION.)

If, however, the patient's arm or leg is of no consequence, amputation may be resorted to in other cases. An incised wound heals more quickly, and the treatment requires less skill than a lacerated one. (For an interesting case, see FRACTURE OF THE HUMERUS.)

A VERY IMPORTANT POINT, not to be lost sight of in the treatment of lacerated, as also contused wounds, is the necessity of guarding against *secondary hemorrhage.* Although the wound may be at considerable distance from any large arteries, and there may have been very little bleeding in the first instance, yet we never know to what extent the injury may have gone. Deep-seated arteries may inflame, sloughs take place, and dangerous hemorrhage set in, weeks after the original injury.

CONTUSED WOUNDS. — These wounds are more tedious than any other. In many cases there is great suffering, though but little injury. There may, on the other hand, be no pain at all when the case is serious: in fact, the more extensive and severe the contusion, the less the pain; when the vitality of the part is completely destroyed it must slough.

If there be extensive *extravasation* of blood, forming a tumor, it may be let out by *puncture.* This, however, if done at all, should either be done early, or after the subsidence of inflammation. If neglected till severe inflammation has set in, your new

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punctured wound will do more harm than the blood. It will occasion the occurrence of gangrene; or it may itself be the cause of tetanus.

The danger is of extensive inflammation, with mortification, sloughing, hectic fever, &c.

The great aim in treatment is to prevent these results. The usual means, in the old school, in milder cases, are to apply cold, to prevent inflammation, but in all severe ones, warmth, as emollient poultices, to facilitate suppuration or sloughing. In some cases local depletion is recommended, and, if need be, the usual antiphlogistics.

While we can realize all, and even more advantage from local treatment, we are not under the necessity of endeavoring to remove the effects of contusion by indirect means: deranging still more the action of organs already impaired by the shock to the nervous system. We have remedies, *Arnica Montana* in particular, that we can apply locally as well as give internally, that act directly in removing the effects of the shock, prevent, in a great measure, the sympathy of the general system with the local irritation: restore tone to the injured tissues and vessels, capacitating them for the discharge of their former duties: excite the absorbents to the removal of any extravasated fluid, thus preventing inflammation, suppuration, and all the injurious consequences of contusions. We do not claim that they will reanimate parts where vitality is destroyed, or prevent the injurious effects that follow contusions in persons of cachectic habits; but that they have a *specific* effect in removing and preventing the consequences resulting from contusions, as is shown by the provings upon their healthy and extensive clinical use, and that they will yield superior results, in all cases, to the usual or any other remedial means, prescribed upon a different principle. In all cases of contused wounds, therefore, as soon as possible give *Arnica Montana* internally, and repeat, according to circumstances, in from three to six hours, until all danger is obviated. *Locally*, apply cloths, or rather a moderately tight bandage, and keep it *constantly* wet with *Arnicated water*;* the temperature of this is to be determined by

* When there is much extravasation of blood, except in persons of an irritable habit, or who have very irritable skins, and are liable to be affected with erysipe-

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the severity of the injury; if not very severe, it should be cool, but if the vitality of the part is much impaired, it should be tepid.

The difference between *Arnica Mon.* and *Calendulæ* is that the former is adapted to wounds *without* laceration — the latter to open wounds.

Hypericum perforatum (St. John's Wort) has been used (though not yet thoroughly proven), by some eminent practitioners as a substitute for *Arnica*, with excellent effect.

Cynoglossum Officinale (Hound's Tongue, not regularly proven) appears to resemble Arnica in its efficacy in removing the effects of contusions.

Rhus. Tox. is particularly beneficial when the joints, synovial membranes, or tendons are injured by contusion.

Silicea, given daily, or at intervals of four to eight days, in susceptible habits, is a most important and eminently successful remedy, when, from contusion, any of the *bursæ mucosæ* is inflamed, causing swelling, with considerable pain, and inflexibility of the joint (as in house-maid's knee, bunion, &c).

Ruta is serviceable when the periosteum or tarsal and carpal joints are injured.

Arnica is the best remedy for recent contusions of glandular organs, but when induration has taken place, Conium is more efficacious.

Aconite is required, should much symptomatic fever be present or arise, as also in wounds of the eye, for which it is the specific. We prefer to alternate it with the Arnica.

When we are called too late, or are unable to prevent suppuration, and an abscess is about to form, our aim should be to cause it to point as soon as possible. (See SUPPURATION, p. 29.) Warm emollient poultices should then be applied, as they assist in forwarding the suppurative process; we prefer one made of the fine flour of the Ulmus Fulva, with a small portion of ground flaxseed. This forms a complete soothing shield from the action of the atmosphere, and retains its warmth and moisture for some

las, more of the *Arnica Tr.* should be put in the water. *Arnicated* water should be discontinued whenever it causes a decided aggravation of the pains, redness, and inflammation in the injured part, and a lotion of another medicament be employed, such as *Hypericum, Cynoglossum, Heleanthus, &c.*

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considerable time. Bread and milk, frequently recommended, soon dries, and crumbles, and the crumbs become an irritant to any inflamed surface, especially to an open wound. As a good poultice is a very important thing, when needed, we will give directions for making what we think a good one: Take of the Ulmus Fulva flour three-fourths, of ground flaxseed one-fourth, knead into a moderately stiff poultice, with hot milk and water; let the vessel in which it is mixed stand in hot water for half an hour — this will prevent any lumps — spread this upon a cloth, about half an inch thick; then keep adding a small portion of water at a time, to the face of the poultice, and working it in, until the surface is quite soft. (A little sweet, or *Arnica* oil may, at pleasure, be spread over the face of the poultice.) This furnishes a soft, soothing application, in contact with the inflamed surface, while the outer portion, being firm, prevents the poultice from slipping down to the most dependent part, as it will do, if it is all made thin, often leaving the most important part exposed, or else so thinly covered that it soon becomes dry. It also remains of a more uniform thickness, and thus we have a more even temperature and moisture and a complete shield from the action of the air — important considerations.

Some might object, that it would be too heavy. A proper position and support to the affected part will obviate any difficulty upon that point. We prefer to apply them *directly* to the inflamed surface, except we have a fine piece of open lace to spread over them. No difficulty need be apprehended about getting them off, if they are not left on too long. The gentlest way to remove poultices or adhesive plasters, is to loosen one edge, then evert it, and draw carefully backwards, instead of raising it perpendicularly. These are small matters, but the patient will *feel* their importance. When it is not necessary to remove these poultices, on account of suppuration, they may be kept fresh for some time, by occasionally pouring a little fluid under one edge, so that it can permeate between them and the inflamed surface.

We do not, however, depend upon the local means, to forward the suppurative process. Again, the *specific* method comes to our aid with remedial agents; having a direct influence in hastening

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the formation and expulsion of healthy pus. As soon as it is evident that an abscess is about to form, after employing *Aconite*, *Chamomile*, *Belladonna*, *Bryonia*, or *Ledum*, if necessary, for the removal of severe constitutional disturbance, give, to facilitate the *pointing of the abscess*, *Hepar. Sul.*, in repeated doses, in alternation with *Silicea;* when, however, a considerable portion of the skin has been much distended, by the large accumulation of pus, and is of deep red or bluish appearance, *Lachesis* is to be preferred; when there is induration, *Mercurius*, *Carbo. Ac.*, or *Baryta*, is useful — *Baryta*, when there is considerable surrounding swelling, as well as induration, even after the opening of the abscess. If there are violent *burning pains*, or chills, fever, clammy sweats, *restlessness*, and *great prostration*, *Arsenicum* is the proper remedy; it will often so ameliorate the symptoms, and sustain the patient, as to render severe cases comparatively mild.

After the opening of the abscess, if the matter is unhealthy and offensive, *Arsenicum* will generally remove these symptoms, even when gangrene is strongly threatened.

Asafœtida is indicated, when the matter is *thin* and *discolored*, and the parts affected *highly irritable.*

Belladonna, when the pains are burning, pressing, and tearing, with a discharge of *curdled*, *flaky* matter.

Calcarea, when the pain and swelling have much diminished, and the pus becomes thicker and whiter than at first.

Calendula, when the suppuration has a tendency to become too profuse, and the granulations are slow in forming.

China, for the *exhaustion* consequent upon a copious discharge of pus; this may be advantageously alternated with *Calendula* or *Arsenicum.*

Mezereum, in cases affecting fibrous and tendinous structures, or in those laboring under mercurial poison, and when there are stinging and throbbing pains in the ulcer and its border.

Pulsatilla, when the abscess *bleeds easily*, or with severe *itching* and stinging pains, particularly when the *veins are varicose.*

Rhus. Tox. is most useful in suppuration of the glands, particularly the axillary and *parotid*, with a discharge of *ichorous matter.* (See also ULCERS, TUMORS, SCROFULA, HIP DISEASE, PSOAS ABSCESS.)

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Generally, after the opening of an abscess, if a few doses of *Mercurius* be given, and followed by *Hepar. Sul.* and *Silicea*, or *Calc.* and *Phosphorus*, or *Calendula*, healthy granulations will form, and the abscess heal.

An important point, especially in the treatment of acute abscesses, is to prevent the air from entering their cavities. Therefore, shield them with the Elm poultice; and if healthy granulations are slow in forming, syringe them out once or twice a day, with *aqua Calendulæ*, or a dilution of such other remedy, as the totality of the symptoms may indicate, as a constitutional remedy.

As to the *opening of acute abscesses*, Homeopathic writers have recommended to abstain *entirely* from the use of the lancet, and to rely upon the evacuation of the matter by appropriate medicines, "except when the pus, by its extensive diffusion or pressure (especially when seated under ligamentous or tendinous expansions), is liable to injure important parts: or when, from its situation, there is reason to apprehend its discharge into any of the cavities of the body." The reason assigned is, that "the subsequent treatment is generally more easily conducted, and the healing of the cavity more speedily effected, when the matter has been evacuated by the aid of appropriate medicine, instead of the lancet." This we regard as an assertion only partially true; while the direction is incomplete, and fallacious, and liable to do injury. It is an extreme, begotten by the formerly too prevalent practice of plunging a lancet into everything which simulated the appearance of an abscess.

There is a period when the suppurative process is being set up — a period when that is fully completed, and then follows the ulcerative (not the suppurative) stage, when the cellular tissue is being destroyed, for the evacuation of the pus. That any advantage can be derived from the presence of pus, a moment after the completion of the suppurative process, we cannot imagine, and that this process is never complete until the completion of the ulcerative stage, we think none will contend. Once set up, suppuration continues, and when the opening is effected slowly, more or less pus is absorbed, and this tends to produce constitutional irritation. It also, by its pressure upon the surrounding parts,

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as well as the cutaneous surface, tends to cause absorption of the granulations, and thus to cause the abscess to degenerate into an ulcer. Its evil effects are more evident upon the cachectic or debilitated.

That our remedies exert a most salutary influence in maturing the suppurative process, and completing the absorption necessary for the exit of the pus at about the same time, as well as warding off constitutional irritation, we are happy to admit; but not that they consummate the two at the same moment. We would therefore recommend, as soon as it is *evident* the suppurative process is matured, *i. e.*, the abscess has pointed, or there is the least symptom of constitutional disturbance from the absorption of pus (especially in the debilitated), that the abscess should be opened with the lancet, so as to allow a free exit to the pus. In the case of the healthy, where no unpleasant symptoms have made their appearance, we can if we choose, with safety, permit the abscess to open of itself. After opening, apply, as before directed, the Ulmus poultice, to prevent the entrance of air and to absorb the pus as fast as it is discharged. If the aperture seems disposed to close, keep a small tent in it to prevent this from taking place. The incision should, if possible, be made at the most dependent portion of the abscess.

The diet should be regulated by the degree of inflammation present, and the constitutional vigor of the patient. In inflammation from plethora, it should be abstemious and antiphlogistic; but in the inflammation of debility, as also during the suppurative stage, it should be nutritious.

We cannot, however, in lacerated or contused wounds, always have so favorable a termination even as suppuration.

Mortification will sometimes occur, notwithstanding the efforts of the best surgeons. Sometimes the vitality of the part is entirely destroyed by the extent of the injury; at other times, in consequence of constitutional debility, the inflammation cannot be controlled. Whatever the remote cause of mortification may be, the immediate one is interruption of the circulation. Thus, in the aged, we frequently have *gangræna senilis* (dry gangrene), from an abnormal deposition of the phosphate of lime in the coats of the larger arteries. *Gangrene*, as has been before stated,

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is the *dying*, or state of the part preceding the actual death, *mortification*. The latter condition is also designated by the term *sphacelus*.

If symptoms of gangrene arise, and we cannot remove them, mortification is the result, of which the only favorable termination is *limitation;* which is known by the formation of what is called the *line of demarcation*. This is a white line, constituting the structures between the dead and the living portions; on the outside of it, coagulable lymph is thrown out by the parts in a state of vitality, and granulations are being formed; while on the inside there is naught but death and desolation; the parts have lost their natural temperature and sensibility, serum transudes, and the blood is extravasated. It is in an intermediate state, between life and death, and, within its limits, all the tissues ulcerate, except the bones and blood-vessels; the latter usually fill with coagulated blood, as high up as where the first branch is given off; this excites an inflammatory action, coagulable lymph is thrown out, the vessel closed, and hemorrhage is prevented. Should the artery be not thus closed, hemorrhage will occur on its division.

This is always an unfavorable indication. The character of the granulations will materially aid us in forming our prognosis, by interpreting the constitutional symptoms.

Formerly it was thought expedient to amputate before this line of demarcation was formed; but as the stump generally became gangrenous, in those patients whose constitutional powers were unable to limit the gangrene, the best surgeons now recommend to *always* wait until it is formed. What necessity is there, then, of amputation? Might not the additional shock and irritation to the nervous system, consequent on amputation, or the depressing influence of the anæsthetic agents, if they are used, and the loss of blood, so impair the vital powers as to cause, in some instances, the stump to become gangrenous and the case to terminate fatally, that would have recovered if nature's restorative process had been aided, and not interfered with?

The approach of *gangrene* is indicated by an increase of the sensibility and pain in the inflamed part; the latter is sometimes of a pungent, burning character; the inflammatory tint becomes of a darker color. (If it is a suppurating wound, the pus changes

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to a sanious or ichorous character, and the granulations begin to look darker, and finally to ulcerate.) The skin is dry, with thirst, but inability to take large draughts of water; pulse quick and irregular; small vesicles filled with serum and red particles of blood, make their appearance, frequently at some distance from the wound. Soon, however, the blood ceases to circulate and coagulates; the color of the inflamed part consequently becomes of deep purple or livid hue; the temperature and sensibility, which was before augmented, rapidly diminishes; the pain is no longer located in the affected part, but in the surrounding tissues — the parts are in a state of *gangrene.*

If not arrested at this stage the result is mortification or sphacelus. The affected part becomes of a dirty brown or black color, sometimes grey or greenish; the vesicles become larger and more numerous; the portion begins to decompose, and we have that peculiarly offensive, cadaverous odor, pathognomic of mortification. If not *limited*, the pulse becomes more feeble, and finally sinks; the skin, at first hot and dry, is frequently cold, and covered with a clammy sweat; the tongue and teeth become coated with sordes; the breath frequently fetid; the countenance cadaverous; the feces sometimes involuntary. Hiccough, low delirium, coma, and death, close the scene.

Cinchona should be given, as soon as any symptoms of gangrene are noticed in wounded parts, before the skin has begun to turn black; but if not followed by a speedy improvement, it should be alternated with *Arsenicum.* If these have the desired effect in arresting the gangrene, the circulation will become more active around the circumference of the diseased part; the coagulated blood gradually separates and passes into the circulation; the effused fluids are removed, more or less rapidly, by absorption, and the natural temperature and sensibility are restored. But if not, and the skin begins to assume a dark, livid appearance, *Lachesis* should be alternated with *Arsenicum*, once in two or four hours, which will generally cause a favorable termination. Should these fail, resort may be had to *Carbo. Veg.*, *Crotalus*, *Ophiotox*, *Secale Cor.*, *Viper. Redi.*, or *Vipera Torva.* We would recommend, also, *Sulphureted Hydrogen.* It is well known that the bites of some serpents are peculiarly liable to become gangrenous, and also,

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that the *Sulphureted Hydrogen* evolved in the decomposition of a slough seems to be absorbed, enter into the circulation, and frequently, in itself, to produce *gangrene*. *Secale Cor.* is particularly beneficial in dry gangrene (*Gangræna Senilis*), and will, we well know, cause it.

Besides the administrations of the appropriate medicines, it is very important to sustain the constitutional powers; to keep the limb of a uniform, natural temperature until the line of demarcation has formed. Then, to facilitate the separation of the slough, correct the fetor, and prevent the absorption of the putrid fluids.

The diet should, therefore, in the incipient as well as the advanced stages, be *nutritious* (not stimulating); roast beef, egg-nog, &c. When the digestive organs have been disposed to receive but little solid food, we have derived great benefit from the white of eggs beat up until they are light, but not frothy, mixed with cold water, and sweetened with loaf sugar, to suit the taste of the patient. This may be used as a common drink, is universally acceptable, and will not soon cloy the appetite.

The natural temperature, also, may be best maintained, by wrapping the entire limb in "carded wool," as soon as any symptoms of gangrene are noticed. This casing should be continued until the gangrenous symptoms have been removed, or a well-defined line of demarcation is formed. In contused wounds, no other application may be necessary to the injured part; though sometimes benefit may be derived from a poultice made of the green root of the *Altheæ Officinalis*, bruised, and boiled in milk, which has acquired considerable reputation as a preventative of gangrene.

In suppurating wounds, lint, saturated with a dilute preparation of the appropriate medicament, should be applied to the wound, or such as are mildly stimulating in their character. The pus should be carefully removed. (See ULCERS.)

When, however, mortification has taken place, and the line of demarcation has formed, the local applications should be such as to facilitate the separation of the slough, and correct the fetor. The putrid fluids of mortified parts should be carefully removed, as fast as formed, otherwise, their absorption will produce very deleterious effects. Poultices of the Ulmus Fulva, frequently

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changed, will best accomplish the latter object, particularly where there is much fluid. Pulverized Carbo. may sometimes be incorporated with them, and will at least, absorb a large portion of the Sulphureted Hydrogen that is evolved.

Where *Arsenicum* is indicated, by the totality of the symptoms, a saturated solution of the same should be frequently applied. (See cases under CARBUNCLE, and CANCER OF THE LIP.)

We have also applied in some cases, with advantage, the *Sesqui-Carbonate of Potash*, and the *Sulphate of Zinc*, in solution or powder, and pyroligneous acid diluted. The *Sesqui-Carbonate* has the peculiar power of dissolving dead portions of tissue or bone, while it simply stimulates to healthy action the living portions. The *Sulphate of Zinc* will dissolve the slough, and correct the fetor, but will also destroy the healthy tissue. Prof. Newton (in vol. i. of the Eclectic Medical Journal), speaks highly of it, as efficacious, prompt, and unattended with any danger to the patient. The pyroligneous acid is excellent to correct the fetor.

GUN-SHOT WOUNDS. — The orifice of these wounds is no guide to the *course* of the *ball*. For example; a bullet may strike the middle of the forehead, and emerge from the occiput, just as if it had passed through the center of the brain, yet the patient be almost uninjured, the ball having simply whirled round the skull under the integuments. One of the authors witnessed a still more remarkable case, where the ball seemed to enter the thorax near the sternum and fifth rib, and passed out behind at the junction of the spine and the rib, along which it had slid, doing no material damage. The direction of the shot does not even require bone to change it: cartilage, intermuscular ligament, and even fasciæ, have been found sufficient.

The orifice which the ball makes in entering, is always much smaller than that of its emergence. The latter has ragged, everted edges; and the parts contiguous to its course are always more or less contused or lacerated. When bones are broken, the fractures are generally comminuted. Injury done to nerves is apt to occasion tetanus, sometimes even after the wound has healed. Primary hemorrhage is rare; the secondary more dan-

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gerous. *Diagnosis* and *prognosis* must therefore be regarded as difficult. An individual in Erie county, of this State, had a rifle ball pass directly through the belly, from side to side, yet scarcely endured a minute's suffering, and in three weeks was perfectly well. The ball entering just below the false ribs, must have passed along in front of the colon, so as to avoid both the intestines and any considerable blood-vessel. In other cases, a small squirrel shot, entering the abdomen, has caused speedy death.

The *treatment* depends much, of course, on the site and direction of the wound. The union, it should be noticed, must always take place by *granulation*. In your examination, use your finger as far as possible. It is the best of probes, causing less pain and injury than any other, and giving the most reliable information. Remove the ball, shot, clothes, or any other substance it may have introduced. If, however, the ball be so situated as to be got hold of with difficulty, and do not interfere with recovery, let it alone. Many persons carry shot in their flesh without any inconvenience. If it is near the surface, and cannot be removed, *via* the wound, it is better to cut through to it, than to dilate the original wound. After cleansing, proceed as with a punctured wound. We may here mention an accident that occurs occasionally in this class of wounds. A nerve of considerable size may be inclosed in the cicatrix, and give rise to neuralgic or tetanic affections. In such an event the cicatrix must be excised, and a new one allowed to form.

Dr. Thorer, of Görlitz, strongly recommends *Calendula Officinalis*, in preference to *Arnica*, in wounds of every description, but especially incised, punctured, or lacerated wounds, and those with considerable loss of substance. The sphere of the latter, as a traumatic remedy, he confines to contusions, sprains, bruises without abrasion of the surface, or lacerations of the soft parts. Dr. Thorer speaks, moreover, in favorable terms, of the effect which Calendula appears to exercise over the process of granulation and cicatrization. Very frequently, even after amputations, the cure, under the employment of this remedy, was effected by the first intention, and in almost every instance where it was impossible to avoid suppuration, the extent to which it occurred was

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comparatively insignificant. He employed two different preparations of this remedy as lotions; the one to which he gave the name of *Aqua Calendulæ Officinalis*, he prepared as follows: "I filled one-third of a clean bottle with the petals or leaves of the flowers, the remaining two-thirds with pure spring water, corked it well and exposed it for two or three days to the warm rays of the sun. The water was by this process, rendered aromatic, and having been poured off from the leaves, it was put into a bottle well sealed up like wine bottles; then immediately placed in the low temperature of the cellar. Whilst the bottle, with the mixture of the leaves and water, is exposed to the higher temperature of the sun, it should be narrowly watched, and the moment that any signs of incipient fermentation make their appearance, measures must be taken to arrest it. The second preparation was a *Spiritus Calendulæ*, for which I employed the same quantity of leaves of the flowers, as in the preceding instance, and pure rectified spirits of wine in place of the water. I employed the latter preparation only on one occasion, very much diluted, in order that the spirit of wine might not exercise a detrimental influence on the injured parts. Its effect was equally beneficial." We give the following cases, as instances in which Dr. Thorer applied *Calendula* as a lotio vulneraria Homeopathica, with success:

1. R. K—— had the under lip much bruised and *lacerated* from the kick of a horse. The lips of the wound were brought together, and retained there by means of a strip of adhesive plaster; in addition to this the patient was furnished with a phial containing *Aqua Calendulæ*, and desired to keep the wound covered with a compress saturated with the lotion. Already, after an interval of three days, healthy cicatrization began to set in, without suppuration. The process of healing went on quickly and uninterruptedly, per primam intentionem, and the scar of the divided lip is now scarcely perceptible.

2. M. A—— had the misfortune to fall down a flight of stairs, and in addition to several contusions on the chest, two extensive wounds were inflicted, one on the forehead and the other along the ridge and at the point of the nose, producing great disfiguration. In this case also, the healing process proceeded most

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rapidly and favorably, without suppuration and without leaving any disfigurement, such as a wound of so severe a character might reasonably have led me to anticipate.

3. This case was of infinitely greater importance than the above. Flöder, a boy 16 years of age, while engaged at his occupation in a cloth manufactory, had the misfortune to become entangled in the machinery, in consequence of which the following injuries were sustained: 1, compound fracture of the left arm, the sharp extremities of the broken bone protruding through the integuments; 2, a deep wound at the bend of the elbow; 3, the bones of the left forearm completely stripped of their muscles, and laid bare to the extent of six inches; 4, the hand torn off, being only kept adhering to the stump by a slip of skin; 5, the skin, and portions of the muscles of the exterior surface of the right leg were torn off, leaving a large and deep wound extending down to the bone; 6, face and chest severely contused and exhibiting many small flesh wounds. The unfortunate patient was reduced to a state of extreme exhaustion by loss of blood and excessive suffering; amputation of the left upper arm was, nevertheless, rendered imperative, and was accordingly performed. Compresses, saturated with *Aqua Calendulæ*, were applied to the exposed lacerated muscles of the right leg, up to the period of recovery of the patient, and it was striking to observe how dry, and without suppuration, incarnation proceeded in the parts to which the *Calendula* was applied, in comparison with the extensive suppuration, and slow curative process, which took place in the stump of the amputated arm, treated according to the ordinary surgical rules. I was not at this time aware of the peculiar properties of *Calendula;* but, in consequence of the striking beneficial effects which it produced on the injured lower extremity of the patient, I subsequently applied it to the wound of the stump, and was gratified by the peculiarly favorable granulations which soon ensued there likewise. All the wounds henceforward filled up and healed in so satisfactory a manner, that it was scarcely possible to conceive that they could have been of so serious a character, and attended with so much loss of substance, as they in reality were. The patient was restored to perfect health, and I have no hesitation in attributing his recovery to the very favorable process

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of granulation and cicatrization which took place under the employment of the *Aqua Calendulæ*.

4. C. in G. lost his footing, when in his mill, and had the third phalanx of the left index-finger, the second and third phalanx of the ring-finger, and the flesh of the middle finger torn off. A small portion of the bone of the second phalanx of the ring-finger remained, but was entirely bared and exposed; the patient was desirous that this remnant of bone should be removed. I refrained from doing so, however, in the hope that it might become covered by means of favorable granulation. And so the result proved. After the hemorrhage had been arrested, by the application of cold water dressings, *Aqua Calendulæ* was employed, two days from the occurrence of the accident; the wounds thereupon assumed a drier aspect, incarnation went on uninterruptedly, and a perfect cure was rapidly accomplished. On the ring-finger alone, a very minute exfoliation came off from the exposed bone. Mr. Surgeon Schulze, to whom I had recommended the *Calendula* as a remedy in wounds, and who had employed it extensively, with much satisfaction to himself, for the past two years, recently favored me with the following cases, amongst others, in which he had used it with success:

5. A laborer received a comminuted fracture of the right index-finger, while engaged in lifting a heavy stone. The splintered and more or less loose pieces of bone were removed, and the *Aqua Calendulæ* applied as a lotion. The cure followed rapidly, and without any particular suppuration.

6. A miller's apprentice had two of his fingers so completely crushed, that, as in the foregoing case, it was necessary to remove the shattered particles of bone; the Calendula effected an equally rapid cure, with a very trivial degree of suppuration.

7. In a case of complicated fracture of the leg, with a wound nine inches in length, from which the tibia was laid bare, Arnica, largely diluted, was employed for a few days, in consequence of the accompanying extensive suggillation. The *Calendula* was then brought into requisition, and produced a speedy cure, without extensive suppuration.

I could quote a multitude of other cases, in which the *Calendula* alone was employed, and with singularly successful and sat-

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isfactory results; but I shall content myself with adding, that in all instances where there is extensive loss of substance, and where it is found impracticable to bring, and retain the lips of the wound together by means of adhesive plaster, &c., I consider the *Calendula* to be the best aqua vulneria. It has long been occasionally employed by the lower orders, in form of an ointment, made of fresh butter mixed up with the ground or powdered leaves of the flower, and sometimes, though rarely, in the form of infusion, and taken internally. Its *homeopathicity* in wounds, as well as several other affections, has, moreover, been demonstrated and confirmed by the provings of Dr. Franz."

POISONED WOUNDS.

Of these the most familiar are the bites and stings of insects and reptiles.

The sting of a *wasp* or *bee*, though very painful, is generally attended with no serious consequence. Yet in some individuals it occasionally produces alarming, and even fatal results. We have for some years past been in the habit of making one and only one prescription. If this prove as successful in other hands as it has in ours, no one need ever suffer more than a few minutes. Cut in two a *raw onion*, and apply a section to the part affected. It has in every case relieved the pain, and in most, prevented or reduced the inflammation. Dr. Hill applied this simple remedy, in one case, where the nose had been stung three days before. The countenance was completely disfigured by the swelling; eyes closed, and lips and tongue so much envolved, that the individual could not articulate. There was violent sympathetic fever, with pain in the head, amounting almost to delirium. All these severe symptoms subsided in a few hours, and the tumefaction went down in the course of twenty-four. In fact, the pain was relieved in a few moments. The onion is to be changed every fifteen or twenty minutes.

Inasmuch as this convenient application has proved a specific in so many cases, we have not found it necessary to try other means. Is not the *onion* the antidote to *Apis Mellifica?* Dr. Pulte recommends to cover the injured part immediately with damp earth, and keep it wet with arnicated water. Internally,

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Arnica and Camphor every three or four hours. Irritation from the bite of gnats, musquitoes, &c., we have relieved by directing the patient to chew the common plaintain leaf, and rub the spittle on the bite.

We will mention the poison of the *scorpion*, on account of the very simple *isopathic remedy* which, we are informed, both prevents and cures. The common people in Italy, who are much exposed, rely with perfect confidence on the application of a little olive oil, from a bottle they carry about with them, and in which a scorpion is kept. On the coast of Barbary, where many persons go nearly naked, and sleep in the open air on the sand, they are in the habit of anointing the whole body with such a preparation of *scorpio;* after which the live ones run over them without stinging. Of the immunity enjoyed through this article, we are assured by eye-witnesses.

The only dangerously poisonous reptiles we have in this country, are the moccasin, copperhead, and rattle *snakes.* The effects of their bite are so much alike as not to require separate notice.

The person bitten is seldom at a loss about the cause of his sufferings. He feels a smarting pain at the wound, extending up the limb, which swells, and in the case of the rattlesnake, turns spotted. Nausea soon comes on, with dizziness. The swelling continues, extending to the other limbs, and sometimes over the whole body. One of the authors saw a case where the tension was so great, that the skin burst open in several places. The patient often becomes delirious, &c.

A course of *treatment* which has proved successful where we have known it to be tried, is to make the patient drink freely of a strong decoction, in milk, of common plantain and horehound, and apply a poultice of the same articles to the wound. Speedy and permanent relief follows. It is best, however, to continue the prescription, in smaller quantities, for several days, when a complete cure may be relied on. An old practitioner, Dr. Baldridge, states that he has succeeded by this means, in a great number of cases, with brute as well as human patients. We have other testimony to the same effect. The plantain, we think, is the remedial agent, and will be found to possess specific properties in antidoting the poison of serpents. The *Uvularia grandiflora,*

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prepared in the same way, is said to be equally efficacious. The successful administration of sweet oil and scorpion was mentioned when speaking of the scorpion. Would not Crotalus be equally beneficial? An unfortunately more accessible and popular remedy in many parts of this western country is *whisky*, *rum*, or *brandy*, applied externally and internally, *ad libitum*, or in quantities unlimited, and almost incredible. Of the success attending this course we have been assured by many professional as well as non-medical persons. The quantities stated to have been given to those who had been bitten, without producing intoxication, or leaving any bad effects, are almost incredible. Of course this cerebral insensibility to the article is an indispensable *condition* for its prescription; and people need not be made dead drunk for *fear* of being poisoned.

In India, where the poisonous Cobra de Capella abounds, the most successful treatment reported, is the immediate application of a tight ligature above the bitten part; the extraction of the poison by a cupping-glass, or by the patient himself, or some one else sucking the poison from the wound; the administration of large doses of Ammonia internally, and the thorough washing of the wound with a solution of the same.

In conclusion, with our present information, we would say, that we think the best and most successful treatment would be, immediate application of a tight ligature above the bite; excision of the wound, and the radiating heat — afterwards a poultice of plantain to the wound. Internally, a free use of the plaintain decoction or the spirits, whichever is the more convenient. After difficulties to be prescribed for by the totality of the symptoms. (See ULCERS.)

Dr. C. Hering, the best Homeopathic authority on this point, speaks as follows:

"*Envenomed Wounds.* — The best domestic remedy against the bites of *venomous serpents*, *mad dogs*, &c., is *radiating heat.* This should be done by the readiest means at hand, — a red-hot iron, or live coal, or even a lighted cigar, for instance, must be placed as near the wound as possible, without, however, burning the skin, or causing too sharp pain; but care must be taken to have another instrument ready in the fire, so as never to allow

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the heat to lose its intensity. It is essential also that the heat should not exercise its influence over too large a surface, but only on the wound, and the parts adjacent. If oil or grease can be easily procured, it may be applied round the wound, and this operation should be repeated as often as the skin becomes dry; *soap*, or even saliva may be employed when oil or grease cannot be obtained. Whatever is discharged in any way from the wound ought to be carefully removed. The application of burning heat should be continued in this manner, till the patient begins to shiver, and to stretch himself; if this takes place at the end of a few minutes, it will be better to keep up the action of the heat upon the wound for an hour, or until the affections produced by the venom are observed to diminish. Internal medicines must be judiciously administered at the same time. In the case of a BITE FROM A SERPENT, it will be advisable to take, from time to time, a gulp of *salt and water*, or a pinch of kitchen salt, or of *gunpowder*, or else some pieces of *garlic*.

"If, notwithstanding this, bad effects shew themselves, a spoonful of *brandy* or *wine*, administered every two or three minutes, will be the most suitable remedy, and this should be continued till the sufferings are relieved, and repeated as often as they are renewed. If the shooting pains are aggravated, and proceed from the wound toward the heart, and if the wound becomes bluish, marbled, or swollen, with vomiting, vertigo, and fainting, the best medicine is *Arsenicum*. It should be administered in a dose of three or four globules in a tablespoonful of water, and if the sufferings still continue, the dose should be repeated at the end of half an hour, but if, on the contrary, the state remains the same, it should not be repeated till the end of two or three hours. If there is an amelioration, a new aggravation must be waited for, and the dose ought not to be repeated before its appearance.

"In cases in which *Ars.* exercises no influence, though repeated several times, recourse must be had to *Bell.* *Sen.* also frequently proves efficacious.

"Against chronic affections, arising from the bite of a serpent, *Phos. Ac.*, and *Merc.* will generally be most beneficial. (For the bite of a mad dog, see HYDROPHOBIA.)

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"For wounds that are envenomed by the introduction of animal substances in a state of putrefaction, or of pus from the ulcer of a diseased man, or animal, *Ars.* is generally the best medicine.

"Lastly, as a *preventative* against bad effects, when obliged to touch morbid animal substances, envenomed wounds, or ulcers of men and animals, under the influence of contagious diseases, the best method that can be pursued is the application of *dry burning heat at a distance.* To effect this purpose, it will be sufficient to expose the hands for five or ten minutes to the greatest heat that can be borne, and after this it will be proper to wash them with soap. The use of of Chlorine and Muriatic Acid in similar cases is well known."

Of the efficacy of *radiating heat* we cannot speak from our experience, never having used it but in one case, of the bite of a *mad dog.* Dr. Hering's recommendation, however, is a sufficient guarantee.

HYDROPHOBIA.

The *bite of the rabid dog* is by far the most serious species of poisoned wounds, on account of the inoculation of the hydrophobic virus into the bitten part. The treatment should be applied early, and be such as is calculated to remove, destroy, or antidote the virus, and thus prevent the development of hydrophobia, although the major part of those bitten would never exhibit any symptoms of the disease. Such is Dr. Hering's confidence in the absolute efficacy of distant heat as an antidote to this, and all other animal poisons, that he simply recommends "to apply distant or radiating heat to the recent wound, as described under *envenomed wounds;* or until shudderings appear, and continue this practice three or four times a day, until the wound is healed without leaving a colored cicatrix.

"At the same time the patient should take, every five or seven days, or as often as the aggravation of the wound requires it, one dose of *Bell.*, or *Lach.*, or of *Hydrophobin*, till the cure is completed."

We should however prefer, immediately after the bite, to cord the limb above the wound, so as completely to cut off the returning

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circulation; to excise the bitten part, and then apply the *distant heat*, &c.*

If any small vesicles should make their appearance *under the tongue*, between the seventh and fourteenth days, puncture them, and rinse out the mouth with salt and water. This course will generally, if not invariably, prevent the development of HYDROPHOBIA.

Symptoms of Hydrophobia. — The first symptoms generally manifest themselves between the seventh and fortieth day after the bite; there are said to be cases, however, where the poison remains latent in the system for years. The precursory stage frequently lasts from two to twelve days. The wound heals very shortly, as every other slight wound. If the wound should not be completely healed while the precursory symptoms are developing themselves, it assumes a livid and spongy appearance, and secretes an ichorous humor. If the wound has closed, it inflames again, and breaks open; the patient complains of itching pains, striking from the wound or cicatrix along the nerve to the neck and trunk; the bitten limb frequently feels numb, or as if it had gone to sleep, or it becomes rigid, or is convulsively moved. *General Symptoms:* anxiety; melancholy; tendency to start; excessive apprehension about his condition and future; he wants to be alone; his sleep is restless, interrupted by dreams (about dogs), and starting as if in affright, or he is completely sleepless. The patient complains of languor, drawing pain in the nape of the neck and back, burning sensation in the fauces and stomach, sensitiveness to cold and draughts of air, alternative heat and chilliness. Frequently we observe vertigo, ringing in the ears, obscuration of sight, nausea, vomiting of green bile. The face is frequently distorted, pale; the eyes faint; the voice hollow and trembling; breathing oppressed; pulse small; urine pale. Many patients manifest an uncommon desire for an embrace, and a constant urging to urinate, the urine being discharged drop by drop. *Symptoms of the disease when fully developed.* — We term this the convulsive, hydrophobic or furibund stage.

The patient shows the most frightful aversion to liquids, in

* For some interesting remarks on this subject, see Dr. Hering on Psoricum, in N. A. Homo. Jour., Nov. 1852.

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spite of his violent thirst; he cannot swallow, nor see, nor hear the noise of any thing fluid; whenever he attempts to swallow a few drops of water, his throat and chest become constricted, and the most violent suffocative convulsions of the facial, cervical, thoracic, and abdominal muscles take place; they are excited even by merely swallowing saliva, or by thinking of drink. The patient experiences a most violent sensation of oppression of the chest, and has to sigh frequently. In some cases the convulsions are excited by the least draught of air, the motion of the curtain in contact with the body; the eye dreads the light; shining objects, looking-glass, a burning candle, are painful to the patient, and excites his spasms; every kind of noise is unpleasant to him; hence it is that frequently, without any apparent cause, periodical paroxysms of spasmodic oppression, constriction of the fauces and larynx, set in. At first there is a constant secretion of a thick tenacious, frothy saliva; hence slavering and spitting, for fear the saliva should have to be swallowed. At last, rage breaks out, and tetanic or epileptic convulsions take place; periodically the patient is attacked with furibund delirium, during which his muscular strength increases to an enormous extent, and he can scarcely be controlled; at the same time he spits about, bites, endeavors to escape from his attendants, tears clothes and beds, howls, barks like a dog, and endeavors to destroy himself; his blood-shot eyes roll wildly in their sockets, and fright is depicted in the features of the patient. He is frequently attacked with epileptic convulsions, or tetanus. The attacks last a quarter or half an hour. During the intervals the patient is entirely exhausted.

He is generally conscious of himself; warns his attendants of the danger to which his rage might expose them, and prays them to terminate his frightful sufferings. Sometimes vomiting takes place; and men are attacked with priaprism and seminal emissions, and women with *furor uterinus*. The pulse is up to 130 or 150 beats, small and irregular. As the disease increases, the paroxysms become more frequent and violent, until death ensues after twenty-four hours, two or three, and less frequently five to eight days: generally by exhaustion (apoplexia nervosa); towards the end the patient sometimes becomes quiet, is even able to

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drink, and dies quite composedly in a state of sopor, or in a violent paroxysm of convulsions, suffocated. Modifications occur in this disease as in any other; but the symptoms are the same, except more or less intense. For instance, in some cases the patient is able to swallow; in others he is able to swallow coffee, beer, or solids, but no water; or the hydrophobic symptoms only occur during the paroxysms; or the patient is able to swallow water, provided he does not see it, and his nose is kept closed. There are cases where the disease did not break out, but the cerebral affection was confined to anguish and sensitiveness; this is probably the case when the patient, after being bitten by a dog, is tormented by the fear that he will be attacked by the disease; this might be termed an imaginary hydrophobia. *Anatomical changes.* — The bodies of hydrophobic subjects generally decay very rapidly; the blood is dark, fluid, and is rapidly imbibed by the tissues; the veins are engorged. Air is frequently found in the larger vessels, and emphysema develops itself rapidly. The whole surface of the body is blue-red; the epidermis very dry; all the muscles are dark red, and, like the tendons, they are rigid and tight. *Causes.* — This disease develops itself spontaneously among the canine and feline races. Spontaneous rage has been observed among every species of those races, wolves, foxes, jackalls and cats. The virus can be transferred to men and to all sorts of warm-blooded animals, horses, cattle, sheep, swine, goats; but animals that live on vegetables do not seem to reproduce the virus. The same remark applies to man, and all the observations which have been gathered on that subject go to show that the bite of a man is not dangerous. The primary cause of this disease is not known. It is supposed that it can be excited by excessive heat or cold, unsatisfied sexual instinct, decayed food, deprivation of fresh meat, want of water in very hot weather. The rage of dogs is either raving or silent. Formerly it was supposed that a mad dog dreaded the water; that he had foamed at the mouth; that he took his tail between his hind-feet, and went straight on his course. All this is either false, or only partially true. We now know that dogs, even in the last stage of the disease, do not always dread the water; on the contrary, real hydrophobia only attacks man. Foaming at the mouth and slav-

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ering occur only among dogs attacked with silent rage, &c. Other and more important symptoms of hydrophobia among dogs are; alteration in their conduct, restlessness, constant roving about, escape from their masters, loss of appetite, devouring of things which are not natural food for them, such as wood, straw, dirt, &c.; constipation, vomiting, a peculiar rough, hoarse, howling bark, disposition to attack and bite people, hasty snapping at inanimate objects, altered, lean, shaggy, sleepy appearance, redness of the conjunctiva, photophobia; in dogs attacked with silent rage, the lower jaw is moreover depressed, as if paralyzed; they slaver, the tip of the tongue is protruded between the teeth, and finally the hind-legs are paralyzed. Dogs attacked with rage die after six or eight days, and sometimes even before that time, in an apoplectic fit. The following anatomical alterations have been discovered in the bodies of mad animals: dark, tarry blood; inflammation of the pharynx, tonsils, epiglottis, larynx, and mucous membrane of the stomach; pieces of undigested food in the stomach. Sometimes the duodenum and jejunum were found inflamed; the trachea and bronchi were filled with a tenacious, bloody foam; congestion of the brain and spinal marrow. The hydrophobic virus is transmitted by the saliva or slaver being applied to a sore or a part covered with a very delicate epidermis. Contact is necessary to establish the infection. The flesh, spleen, or the substance of the nerves do not contain any virus. It has no poisonous effect when received into the stomach. A peculiar predisposition on the part of the poisoned subject is likewise necessary to create hydrophobia. Not every bite of a mad animal is contagious, if the necessary susceptibility be wanting. Hunter relates that four men and twelve dogs were bitten by a mad animal: all the dogs died, but the men remained uninjured. In another case, twenty individuals were bitten by the same dog, but only one was poisoned. It is probable that the virus loses its intensity, whenseveral animals or men are bitten in succession, and that those only who were bitten first are poisoned. Age, sex, or constitution do not modify the action of the virus. The hydrophobic virus retains its infectious power for a long time; it attaches itself to straw, wood, clothes, and other substances, covered with the slaver of the mad animal; in this way the dis-

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ease may be communicated a long time after a mad beast had been seen on the spot. Physiologists differ as to the period how long the virus can remain latent in the organism, before manifesting its destructive agency. This rarely takes place before the tenth day; according to some it has remained latent for months and years. This, however, may be an illusion, for hydrophobic symptoms may supervene while some other disease exists, and may thus lead to the belief of hydrophobia having set in. Spasms of the pharynx, and dread of swallowing liquids, are observed in hysteric patients, individuals afflicted with typhoid and other fevers, local disease of the pharynx, esophagus, nervus vagus. The development of hydrophobia in man can be hastened by excesses, emotions, and passions: anger, fear, fright, sexual intercourse (*Canstatt*).

Prognosis:* Tolerably favorable.

Treatment. — Hahnemann says in his preface to Belladonna: "A small dose of Belladonna every three or four days is the best preventive of hydrophobia; one or two doses of Belladonna will cure it." Belladonna, however, not being the only remedy for this disease, it may break out, even though Bellad. should have been taken as a preventive; but it will probably be very much modified in intensity, and will then be easily combated.

The preventative treatment has been before mentioned. Should a cicatrix have formed, and the hydrophobic symptoms not speedily yield to internal remedies, we should advise to get up a free discharge from the original wound. The internal treatment must be conducted in accordance with the state of the patient. If the patient had already been treated with the plaster of Cantharides, or had been salivated, the homeopathic remedies have to be chosen with reference to the results of that treatment. It should be observed that under homeopathic treatment, the patients experience no pain from the treatment, whereas the allopathic treatment inflicts upon them untold tortures.

The principal remedies for hydrophobia are: *Belladonna*, *Hyoscyamus*, *Stramonium*, *Cantharides*, *Hydrophobin*, *Lachesis*. *Belladonna* is principally indicated by the following symptoms:

* "Hydrophobia may still be considered an incurable disease." — *Gibson's Institutes of Surgery.*

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ineffectual attempts at sleep, anxious breathing, frequent desire to drink, though the patient rejects every drink which is offered; burning sensation in the throat, with great dryness, red, bloated face, and glistening eyes; excessive thirst, with suffocative constriction of the throat on attempting to swallow liquids (this constrictive sensation in the throat does not exist continually, but only at the commencement of every new attempt to swallow a liquid); inability to swallow, fear, alternating with a desire to snap and spit at those present, or to escape from the attendants; constant restlessness of the whole body, and jactation of single muscles, particularly the muscles of the face.

Though *Belladonna* is not counter-indicated by convulsions of the extremities, yet *Hyoscyamus* is preferable when the convulsions are more permanent, when the spasmodic constriction of the throat is less violent, and there is not so much a desire to snap and spit at the attendants as to injure them in some other way. *Hyoscyamus* is particularly adapted to the following symptoms:

The patient complains of great dryness and burning heat in the throat, with stinging in the throat, and a suffocative constriction of the throat when swallowing; he has a dread of drinks, because he is unable to swallow them, and if he does succeed in swallowing a liquid, he is attacked soon after with spitting, and with convulsions that deprive him of his senses. He is constantly delirious, even when there is no paroxysm; or he is taciturn, and exceedingly fearful, or he has paroxysms of rage, during which he endeavors to injure others, and is so strong that he can scarcely be controlled; frequently excessive anguish alternates with startings, as if in affright, trembling convulsions; he shows a peculiar fear of being bit by animals; at times the upper and lower extremities are only slightly convulsed, at others the extremities are spasmodically curved, and the body is tossed off the bed; during such attacks the patient is often drenched with sweat. His face is red and bloated. There is some sleep, but it is disturbed by starting, and by anxious visions and dreams. In this respect, *Hyoscyamus* is distinguished from *Belladonna*, which has ineffectual attempts to go to sleep.

Stramonium is indicated by the following symptoms: restlessness, violent convulsions (of a rather tonic nature), during

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which the patient becomes so frantic that he has to be tied; he has no sleep, and tosses about his bed, uttering hoarse screams; he is delirious, without memory or consciousness; his pupils are very much dilated; violent desire to bite and to tear every thing with his teeth; excessive dryness of the inner mouth and fauces; the sight of a candle, of a mirror, or of water, throws him into frightful convulsions, with irresistible aversion to water, constriction and convulsions of the pharynx, slaver at the mouth, and frequent spitting; loquacious mania, with gesticulations, dancing, singing, laughing." *Lachesis* may be advantageously alternated with Belladonna or Hydrophobin, in the raging state. *Hydrophobin*, however, from the experiments of *Dr. Hering*, we should regard as the best *prophylactic*, and most valuable remedy for every stage of Hydrophobia.

Drs. Hartlaub and Trinks recommend Cantharides as a preventive of hydrophobia. Dr. Hartmann thinks it should be recommended for the following symptoms: alternate paroxysms of rage and convulsions; the convulsions can be excited by touching the larynx, which is painful in the region of the thyroid cartilage; by making pressure on the abdomen, and by the sight of water; the eyes look fiery and flashing, and roll about in their sockets in the wildest manner. The patient is scarcely able to swallow, especially liquids, on account of a burning and dryness of the mouth and pharynx. There is an excessive desire for sexual intercourse, with constant painful erections, or constant itching and burning in the internal sexual parts. The oppression of breathing and anguish are less striking than in cases for which Bellad. and Hyoscyam. are indicated; the covulsions, however, are sometimes frightful. In general, Cantharides seems to be more indicated when the inflammatory symptoms are more prominent, and when the impeded deglutition does not proceed from spasmodic constriction of the fauces, but the spasm proceeds from the inflammation of those parts, or from the pains caused by the swallowing.

It is said that a strong decoction made of the bark of the roots of the white ash (Fraxinus accuminata), drank freely, will cure hydrophobia. It is also stated as a fact, which we omitted to mention when speaking of snake bites, that rattlesnakes can

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be made more easily to crawl over live coals than white ash leaves, and that they are never found in forests where the white ash grows. We will conclude this subject (treatment of real Hydrophobia), with the interesting case of *M. Buisson*, as reported by himself to the Paris Academy of Sciences, as it suggests to the Homeopathic Surgeon a valuable auxillary means, which he may employ at the same time that he is administering his internal remedies. "He had been called to visit a woman, who for three days was said to have been suffering under this disease. She had the usual symptoms: constriction of the throat, inability to swallow, abundant secretion of the saliva, and foaming at the mouth. Her neighbors said that she had been bitten by a mad dog about forty days before. At her own urgent entreaties, she was bled, and died a few hours after, as was expected. M. Buisson, who had his hands covered with blood, incautiously cleansed them with a towel which had been used to wipe the mouth of the patient. He had then an ulceration upon one of his fingers, yet thought it sufficient to wash off the saliva that adhered with a little water. The ninth day after, being in his cabriolet, he was suddenly seized with a pain in his throat, and one still greater in his eyes. The saliva was continually pouring into his mouth, the impression of a current of air, the sight of brilliant bodies, gave him a painful sensation; his body appeared to him so light that he felt as if he could leap to a prodigious height; he experienced, he said, a wish to run and bite, not men, but animals and inanimate bodies. Finally he drank with difficulty, and the sight of water was still more distressing to him than the pain in his throat. These symptoms recurred every five minutes, and it appeared to him as though the pain commenced in the affected finger, and extended thence to the shoulder. From the whole of the symptoms he judged himself affected with hydrophobia, and resolved to terminate his life by stifling himself in a vapor bath. Having entered one for this purpose, he caused the heat to be raised to 42° (107° 36′ Fah.), when he was equally surprised and delighted to find himself free from all complaint. He left the bathing room well, dined heartily, and drank more than usual. Since that time he says he has treated more than eighty persons bitten, in four of whom the symptoms had declared themselves, and in no

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case has he failed, except in that of one child, seven years old, who died in the bath."

Symptomatic hydrophobia is much less dangerous than the real disease; it is not contagious, and is not always attended with violent symptoms; the frightful anguish is likewise wanting, nor is there any slavering. It is not caused by virus; frequently by fright or anger, or it is a symptom of some inflammatory, nervous, or hysteric disease, or attending a very acute eruption, or some other spasmodic or malignant disease. Fear and imagination, after an innocent bite, may, in very sensitive persons, cause the disease. The allopathic preventive treatment, with large doses of Belladonna, Cantharides, and Mercurius, may likewise lead to a medicinal hydrophobia, which ignorant physicians might mistake for symptomatic hydrophobia.

To cure this disease, it is of the utmost importance to find out its cause. If it was caused by the continued use of large doses of Belladonna, large quantities of black coffee should be administered by the mouth and rectum, to be followed by one, two, three, or four doses of Hyoscyamus. Repeated doses of Camphor may likewise be required, particularly if the disease was occasioned by the abuse of Cantharides. If there should be symptoms of poisoning by Mercury, Camphor, Opium, Belladonna, Electricity, or some other of the above-mentioned remedies will have to be given, according as indicated.

If, however, the symptoms should point to the existence of a more general and more deep-seated disease than symptomatic hydrophobia, in this case the physician will have to select one of the remedies mentioned in the preceding paragraphs; and this will be so much easier, as the hydrophobic symptoms constitute the more prominent symptoms of the patient's illness.

TRAUMATIC TETANUS.

It will be proper in this connection to speak of tetanus as connected with wounds. When the jaws only are affected, it is called trismus.

It arises in consequence of the violent pain, or nervous irritation, immediately after a wound, when it is fatal in a short time; or in the first few days after the wound, during its inflammatory

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stage; or eight or ten days afterwards, while the wound is in the best process of healing and suppuration, without any inflammation and pain. Here the wound is apparently the predisposing cause, increasing the sensibility of the nervous system.

In some cases the attack occurs suddenly with great violence, but generally it comes on gradually.

The first *symptom* is a sensation of soreness and stiffness in the muscles of the neck and face. This rapidly increases; the forehead wrinkles; and the countenance assumes a ghastly appearance. Swallowing becomes difficult, and soon impossible. The jaws are locked fast, and the whole body is rigid. There is often a cold and clammy perspiration, accompanied in general with costiveness. The pain is extreme, but somewhat remittent. Though every muscle in his body seems in painful contraction, the patient still retains his consciousness. The pulse is at first strong and full, then small and rather feeble. Death results from suffocation or apoplexy.

The most dangerous cases are those arising from wounds in tendinous and aponeurotic parts, as in the palm of the hand, or sole of the foot. Exciting causes are the presence of foreign bodies in the wound, mental affections, taking cold, impure air, or tension and *distraction* of single fibers in the wound from suppuration.

A sad summary and just estimate of a common practice may be seen in the following extract, from a quite recent work. Under the head of "*Treatment*," in Hasting's Practice of Surgery,* we are informed that "this" (the treatment) "has been, as yet, but *experimental* — no form is settled on as rational and *hopeful practice* — remedial means, as comprehended in the present day, seem to hold forth but a slender chance of success — therefore nothing more can be done than to give a *catalogue* of remedies that have been employed" (with little or no success!). "The following means have been *constantly* tried, and it is said of each, *occasionally* with success; amputation, division of the nerves, cupping the part, the incision being deep enough to cut off *all nervous communication* (!) — the actual cautery — cold bath — hot

* Published in Philadelphia, in 1850.

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bath — *general bleeding* — active purgation — enormous doses of opium — tobacco enemata — large and repeated draughts of brandy — counter-irritation over the spine, with the *endermoid* (endermic?) use of morphia, aconite, belladonna, &c., — the external application of cold, stimuli being given internally at the same time, and *salivation by mercury*" (*!!*)

The prognosis under our treatment is far more favorable. The treatment must be both internal and external. If the disease arises from a puncture, the wound should be enlarged, either with a knife or caustic (the latter is frequently preferable, allaying irritability, by the destruction of all sensibility), and a warm emollient poultice applied, to promote suppuration as soon as possible. If the wound is lacerated, cleanse it, and remove all irritating substances, and then apply the warm poultice. Ligatures around the thighs or arms may be of service, if the injury is upon the extremities. (See different classes of wounds.)

Arnica is doubtless the most important remedy in traumatic tetanus. It should be given internally, and at the same time applied to the wound in dilution. It is better to keep the poultice constantly moistened with the *Arnica* lotion. If after the use of *Arnica* for several hours, the patient does not improve, and is afflicted with frequent *shiverings* and *faïntness*, use Lobelia in the same manner, both internally and externally. This, in large doses, under the Eclectic practice, used to be our great reliance. Calendula, applied to lacerated wounds in the early stage, before the tetanic symptoms are fully developed, will often prevent any further progress, and restore a healthy action in the wound. Whether it will prove as valuable after their development in that class of wounds, is yet to be seen. Should the disease prove still unyielding, *Angustura*, and *Cocculus*, or *Opium* and *Hyoscyamus* will prove serviceable.

Belladonna, though particularly beneficial in idiopathic tetanus, has been useful in the traumatic variety, when there is a sensation of *constriction* in the throat, *spasmodic clinching of the jaws*, foaming and distortion of the mouth, the paroxysms being excited or made more severe by attempting to drink. It is frequently advantageously alternated with *Lachesis*.

Nux Vomica is also a valuable remedy in idiopathic, and will

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often be found useful in traumatic tetanus, especially in cases of drunkards.

Where a nerve has been injured, *Hypericum* will be useful.

Rhus. is valuable when the disease arises from contusion of the joints, synovial membranes, or tendons.

Stramonium is also indicated in the latter stages, when the other remedies have not relieved the symptoms, and there is delirium. If, however, the delirium occur in the early stage, *Opium* is the most important remedy. Other remedies, as Acon., Ign., Bry., Cicuta, Camphor, Merc., Mosch., Sulphur, or Verat., may sometimes be indicated. When it is impossible to introduce the medicine into the mouth, moisten the lips and nostrils with it, dissolved or diluted in water, and administer the same as an enema.

TRAUMATIC ERYSIPELAS.

This is a species of inflammation with eruptions, which sometimes occurs on the margins, and around wounds which themselves have degenerated into an unhealthy, and more or less irritable condition. It is an evidence that the vital powers are much impaired. The surface affected has a dark purple appearance, with vesicular eruptions around, and is very irritable and painful. The pain is often of a severe itching and burning character. A sanious fluid exudes from it. The remedies are, *Bel.*, *Arren.*, *Rhus. Tox.*, *Lach.*, *Caust.*, *Carb. Veg.*, and *Phytolac. Dec.*

Bel. and *Rhus.* will be found very valuable when there is severe local inflammation, partaking of the erysipelatous character.

If the pain is burning, with chilliness and thirst, *Arsenicum* or *Lachesis* is the proper remedy.

Carbo. Veg. is to be used when the wound bleeds easily, discharges sanious and corrosive matter, with burning pain.

Rhus. Tox., if the pain is more of the itching character, but if the *itching* and *burning* both be severe, *Causticum.*

The surface of the affected part should be cleansed often. The pus will, if allowed to remain, act as a contagious, corrosive poison. A solution of the same remedy that is given internally should be applied externally to the affected surface by means of lint. We have sometimes applied, with very great advantage, as

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a detergent and mild local stimulant, a solution of the sesquicarbonate of potash, before spoken of. It did not, as we could perceive, interfere with the action of the specific remedy. It should be applied once or twice a day, and will cause, for a few moments, a slight smarting. But should any case remain obstinate, and resist treatment, we should not hesitate to cautiously touch each vesicle with the pure caustic potash, so as to disorganize them, following this with an Elm poultice, to promote suppuration. We have relieved some cases by the simple application of the Tr. of Phytolacca Decandria. (See ULCERS.)

CHAPTER VI.

OF WOUNDS AND INJURIES LOCALLY CONSIDERED.

Scalp — Peculiar Dangers and Precautions — Face and Eyes — Concussion and Compression — Hæmastasis — Treatment for, and Cases — Throat-cutting — Wounds of the Chest and Venesection — Of the Abdomen and Intestines — Peculiarities of Treatment — Of the Joints, Anchylosis, &c.

WOUNDS OF THE HEAD.

THE scalp is much exposed to cuts and contusions, and the more liable to be seriously injured by them, inasmuch as it is abundantly supplied with nerves and vessels, some of which communicate directly with those of the membranes investing the brain within the cranial cavity. Erysipelatous inflammation may be easily excited in this part, and extend over the whole head and face. A trifling blow may occasion effusion of blood between the scalp and bone, which may form a tumor and remain stationary for a long period. This tumor will take on inflammation from a very slight additional injury, and this inflammation may extend within the cranium, producing meningitis; or the pressure on the bone, without any violent action, may occasion caries. Such tumors sometimes appear on the heads of new-born infants, being occasioned by pressure against the parieties of the pelvis.

Months, and in rare instances even years, after the scalp has

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been injured, troublesome *nervous symptoms* may ensue — twitchings of the muscles of the face — sometimes paralysis of the limbs, or convulsions resembling epilepsy, occur.

Gun-shot wounds of this part are more dangerous than other kinds; though recovery is not impossible, even when the skull has been fractured and the brain itself injured. Both tables of the skull may, however, be fractured, without affecting the brain. A ball will often take a circuitous course for a considerable distance between scalp and skull.

Wounds of the face are no more to be dreaded than those of other parts, except in as far as the organs of sense are involved, or permanent disfigurement becomes a consideration. Another peculiarity that may be noticed, is closure of the salivary ducts, giving rise to fistulous openings. (See Second Part.)

The sight is generally more or less injured by any wound *near the eye*, — though a ball has been known to enter the socket, and lodge between the eye and orbital plate, without obstructing vision. The destruction of one eye may cause paralysis of the other. When the eye-ball has been so injured that it must evidently be destroyed, it will save the sufferer much pain to puncture it and let the humors out. This, however, should not be done merely because the sight is irretrievably lost. Save the eye to look at, if not to look through. The external ear may be lost altogether, without any loss of hearing.

In treating wounds of the *hairy scalp*, the first thing you have to do is to turn barber. *Shave* off the hair for a considerable distance around the wound. Neglect of this, by preventing proper examination as to the extent of the injury, may lead to the death of your patient. Remove any foreign substance or coagulation of blood. Then ascertain, with scrupulous care, whether or not the bone has been injured. The mere fact of fracture does not authorize trephining. (The symptoms requiring it will be noticed when speaking of that operation — see Second Part.) Carefully adjust any portions of the scalp that may have been torn loose. Fix them by adhesive straps and bandages, if possible, — if not, the interrupted suture may be used. Then treat as other incised or lacerated wounds. Symptoms of concussion may be present. (See CONCUSSION).

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The *diet* should be light, unirritating, and unstimulating. Regard must be had to this rule for several weeks.

If the head has been simply *bruised*, without laceration of the integuments, but with sensible effusion below the surface, it is customary to open the tumors and let out the extravasated blood. This should never be done, unless in the three following cases: — immediately on the receipt of the injury, before any soreness or sensible inflammation comes on; or after it has entirely passed off, and a large tumor continues stationary for a long time; or, finally, when a large blood-vessel is ruptured, and requires to be tied. In ordinary cases, any extravasated blood is soon absorbed under the use of *Arnica*. (See CONTUSED WOUNDS.)

The scalp, *after healing*, under the common treatment, will in some instances remain *tender* for a long period; the *Arnica* will prevent, and generally cure this. If necessary, however, resort may be had to *Ars.*, *Bovis.*, *Carb. An.*, *Phytolac. Dec.*, *Silic.* or *Sul.*

Should *erysipelatous* inflammation at any time supervene, resort must be had to *Rhus.*, *Bel.*, *Phytolac. Dec.*, &c.

CONCUSSION AND COMPRESSION OF THE BRAIN.

A sudden and violent blow on the head, whether organic injury be occasioned or not, generally *stuns* the person. That common word expresses a degree of *concussion*. In severer cases, the patient is found in a state of entire insensibility; the face is pale, the hands and feet cold, and the pulse weak and fluttering: *even the function of respiration being for a while suspended.* This returns, and with it a gradual restoration of the senses. The mind, however, is still for some time wandering. At this stage the pulse is nearly natural, but if you attempt to rouse the patient his breathing is disturbed, and the action of the heart quickened. He may try to get on his feet, but falls again, like a drunken man. This inability to move will sometimes continue after the person has become conscious of all that is going on around him. Nausea and vomiting are frequently concomitant symptoms.

Concussion, as observed, is a "stunning," — a *shock* to the

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very center of the nervous system, occasioning a slight temporary or entire suspension of consciousness, and has no necessary connection with *compression*, contusions or extravasation.

In some instances this shock is so severe that the patient dies very soon after the injury. The brains of those who have thus died show, on dissection, no organic lesion; though Mr. Collins, of Dublin, thought that those he examined were diminished in size, and did not completely fill the cranium.

It is usually divided into three stages: *depression* or insensibility, already described — *reaction*, or the return to the normal action, and lastly, *inflammation*, or excessive reaction.

Compression, frequently an attendant or sequence of concussion after injuries to the head, may arise from direct pressure of the bone upon the brain — from extravasation of blood, effusion of serum, or the formation of matter.

In compression there is a loss of all consciousness, sensation, and volition. The pupils are dilated, and do not contract under the stimulus of light. This is, however, not invariable, as there is sometimes contraction of both pupils, or contraction of one and dilatation of the other. The respiration is laborious and stertorous. The pulse is small, hard and laboring: usually irregular, and occasionally intermitting. Paralysis, generally on the side opposite to the one injured, is sometimes present.

When compression is the result of depression of the bone, it comes on *immediately* after the accident; but if from extravasation of blood, effusion of serum, or formation of matter, the symptoms come on gradually. In the case of extravasation of blood, or effusion of serum, should the ruptured vessel be small, or the inflammation not very violent, several hours or even days may pass before the symptoms are fully developed; the time may be extended even to weeks when it is the result of the formation of matter. In the latter case the symptoms frequently come on insidiously, though they are usually preceded by pains, rigors, &c., such as result from the formation of matter in other parts.

When the skull is fractured, and one edge is depressed, the inequality may easily be detected by pressing the finger for a few moments *firmly* upon the edges of the fracture; sometimes, however, the internal plate is fractured and depressed, while the

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outer one is uninjured; and occasionally the fracture occurs upon the side opposite to the injury. The last two cases would render the diagnosis difficult; but in either of these, as also when it is the result of the formation of matter, the scalp will become puffy; if raised, the periosteum will be easily separated from the bone, and the skull itself be dry and of an ashy color. When there is an external wound the edges become glossy, and the matter thin and ichorous, when matter forms under the cranium.

The *prognosis*, except in those cases of concussion where the patient dies in a few hours after the accident, is favorable under our treatment. Formerly it was the plan to bleed people back to life in these cases of suspended animation; but it was as mischievous as absurd. The brain is not inactive from too much blood, but too little, as the pallid face plainly shows; the loss of an ounce or two of blood in such a state of the system may be the loss of life; indeed all modern authorities are against bleeding until reaction is established. Sir A. Cooper, seeing that reaction was frequently preceded by vomiting, was in the habit of ordering an emetic to excite it; although it was successful in his hands, surgeons generally have been fearful of causing effusion by the rush of blood to the brain in the act of vomiting. The common practice now is to resort to stimuli (more or less active, according to the views of the surgeon) till reaction is excited, then to bleed; or if not in favor of venesection, to catharticize to control it. The danger of subsequent inflammation resulting from the use of stimulants, has made the most judicious surgeons favor the let-alone treatment.

The Homeopathic treatment is, however, unattended with the hazard of the stimulant or the let-alone, or the debilitating effects of bleeding or purgation. The remedies used to excite, also control the reaction; they not only arouse but sustain the constitutional powers; and should inflammation arise, we have remedies specifically adapted to control it.

Treatment.—In all severe cases of concussion, place the patient in a horizontal position in a dark room; keep the body warm, and do not let him be disturbed by questions, conversation, or any noise, as perfect quietude is the most favorable state for the brain to recover its normal action; and for some time after all unpleasant

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symptoms have subsided the patient should be kept free from all excitement, and the diet should be very light and simple.

At the same time *Arnica Mon.*, dissolved in water, should be given once in two hours, until reaction is beginning to be established; then not so often. Should the patient have been frightened very much at the time of the accident, a dose of *Opium* should precede the *Arnica.* If no symptom of reaction appear soon after the administration of the *Arnica*, wet the nostrils occasionally with a dilution of the *Arnica Tr.* The beauty of the *Arnica* is that it has a specific power in removing the effects of the shock upon the nervous system, restoring it to its normal condition, thus preventing violent reaction, arresting hemorrhage, and exciting the absorbents to the removal of any extravasated fluids. It is thus admirably adapted to the treatment of concussion and compression.

One or two doses of *Aconite* should be alternated with the *Arnica* as often as once in three hours, when the reaction threatens to terminate in inflammation. The patient's hands and feet should be immersed in water as hot as he will bear, for twenty-five or thirty minutes; the temperature being kept up by constant additions of hot water, and the head kept cool by cloths frequently wet with cold water. If the inflammation should not yield, recourse must be had to *Belladonna*, almost a *specific* for inflammation of the brain and its membranes, which is especially indicated when the *head is hot*, the face red and bloated, with *violent pulsations of the carotids*, increase of suffering from the *slightest* noise, and intolerance of *light*, *eyes red and bloodshot*, with a wild expression, pupils contracted or dilated, *violent* and *furious* delirium, loss of consciousness; sometimes low mutterings, convulsions and vomiting. If necessary, *Hyos.*, *Bry.*, *Merc.*, *Op.*, *Stram.*, *Cupr. Acet.*, &c., may be used. The particular symptoms indicating each remedy may be learned from any Homeopathic work on Theory and Practice. As this work will probably fall into the hands of some who are inexperienced in the use of Homeopathic remedies, and who have been accustomed to frequent doses, we would here caution them especially against the repetition of *Belladonna* in these cases. It should never be used lower than the third dilution, nor repeated oftener than once in three or four

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hours, generally not under six, and as soon as an amelioration of the symptoms takes place, it should be discontinued until there are some indications of a return.

Much benefit may also be derived from the use of *Hæmastasis*. This is no more nor less than mechanically confining the blood in one or more of the extremities. By applying ligatures around the arms and thighs sufficiently tight to check the venous but admit the arterial blood, we can in a few minutes remove from the trunk from one-third to one-half of its usual supply of blood, and thus break up severe congestions, by keeping the blood away from inflamed parts. If the patient is feeble, the application of the ligatures will cause him to faint in a few moments, when they should be loosened. The simple ligature is *always at hand*, and usually all that is necessary to avail ourselves of the advantages of *Hæmastasis*; but as Dr. Junod some fifty years ago invented an ingenious instrument acting upon this principle, which was highly prized and made use of by Hahnemann, we give, from the British Journal of Homeopathy, a description of it, as well as the report of an interesting cure: "The object sought to be accomplished by the ingenious inventor, is to determine a large portion of the blood of the system into a limb, and thus abstract it from congested or inflamed internal parts. This design he accomplishes by means of a tin boot into which the leg of the patient is inserted, and from which the atmospheric air is gradually withdrawn by means of a small air-pump, the top of the boot being kept in air-tight apposition to the leg by means of a broad belt of vulcanized india-rubber. The effect of thus exhausting the air is to cause a rush of blood into the limb contained in the apparatus; it resembles dry cupping on a large scale, a whole limb in place of a few square inches of skin being subjected to the action of the instrument. No pain, but only a slight uneasiness is experienced in the limb inclosed in the boot, which is found on being withdrawn to be much increased in size, and the blood does not entirely return into the circulation and the leg resume its original size at first for twenty-four hours; but the oftener the operation is repeated the more transient is its effect. The effect of the operation in the cases for which it is applicable is almost instantaneous —congested states of internal organs, all the symptoms of acute

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local inflammations vanish as if by magic, the pain of many forms of neuralgia is at once subdued, hemorrhages from the lungs, uterus, &c., cease. In many of these cases the effect is, as may be imagined, transient, and the diseased states recur as soon as the blood is restored to the circulation, though the effect may be often rendered permanent by repeated applications of the boot; still, even supposing the effect to be transient and palliative, it is for us a matter of great importance in many cases to procure a suspension of the dangerous symptoms, in order to gain time for the action of our specific remedies. Thus, in threatened apoplexy, in hemoptysis, in violent metrorrhagia, and many other conceivable cases, the palliation of the paramount and dangerous symptom is of the utmost importance, and if this can be done by such a simple appliance as that of Mr. Junod, we should be very wrong to despise it. In cases of congestion, hemorrhage, &c., we seek to attain the same object by placing the patient in certain positions, by the application of cold water, ice, hot foot-baths, &c.; but M. Junod here presents us with a much more powerful and certain mode of effecting our purpose. By means of one boot he can draw into the limb four pounds of blood, and the effect of this, when rapidly performed on a robust individual in the erect position, is so powerful as to produce perfect pallor of the countenance and syncope. Dr. Junod attended in Paris several cases, in conjunction with Hahnemann, who had a high opinion of the utility of the hemostasic apparatus. One case which he attended along with the founder of Homeopathy deserves to be detailed, as it illustrates forcibly the value of the treatment pursued. The case was that of a young lady, the daughter of a late noble earl, formerly English ambassador at one of the European courts. This lady had long been afflicted with a most curious and sad disease; she had entirely lost the use of her limbs, and lay constantly on a couch, her head generally supported by an attendant's arm. She seemed to be entirely destitute of any power of volition, never spoke except when roused, lay constantly in a half-comatose state, the face being very much flushed, and the head very hot; evidently she labored under severe congestion of the brain. She was under Hahnemann's treatment; he went to see her very frequently, in fact was in almost constant attendance upon

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her, but was unable to produce any favorable result, and after nearly a year of ineffectual Homeopathic treatment, Hahnemann called in Dr. Junod to his assistance. When they met together beside the patient, Hahnemann said, 'Now, Dr. Junod, you shall operate on the legs, and I on the stomach.' After the first application of the boot the patient roused up, addressed those around her, and chatted familiarly and quite sensibly with her friends: her face assumed a natural color, and to the surprise of all, she was able to walk about the room, a thing which she had not done for a very long time. After ten applications of the boot, on ten successive days, the patient was perfectly cured, and was able to travel into the country, where she remained perfectly free from all symptoms of her former complaint, and was able to take a considerable amount of walking exercise. It is possible that the Homeopathic remedies administered by Hahnemann at the same time, were the cause of the permanent character of the result obtained in this case, though as long as the congested state of the brain existed, it was evident that the medicines were of no avail. Dr. Junod's apparatus has been introduced into all the hospitals in Paris, and is frequently employed by the Parisian medical men in their treatment of many diseases that were formerly supposed to require blood-letting; it has also been adopted by almost all the London hopitals, and letters from London hospital physicians and surgeons of eminence, testify their satisfaction with the performances of the instrument."

When symptoms of compression are present, if the skull is shattered, any depressed portions may be removed or elevated with forceps, Hey's saw, or perhaps, in some instances, an air-pump. The trephine should not be used until after our remedial means have been thoroughly tried without success. The brain, it is generally conceded, possesses the power of accommodating itself to considerable pressure, and the *Arnica*, every Homeopath well knows, has a good deal of efficiency in increasing that power, and is unequaled in removing extravasated fluids.

When the internal plate only is fractured, or the side opposite to that upon which the injury was received, we should rely upon remedial measures, and if these are insufficient, and the scalp becomes puffy, and being incised and raised, the periosteum is found

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loosened and the skull of ashy color, we can then be pretty certain of the exact seat of the injury, and are justified in the use of the trephine. Miss B. had fallen and struck the left temporal bone upon the corner of a bench: inflammation followed. Dr. Hill, at that time Professor of Surgery in the Eclectic Med. Institute, being in attendance, called in consultation his partner, Dr. Hunt, who was in favor of relying solely upon Homeopathy. The Doctor, although partly converted, had not sufficient confidence. He accordingly subjected her to a thorough antiphlogistic course, without perceptible benefit. *Arnica* being then exhibited once in six hours, cured the patient, and converted the Doctor and the family to Homeopathy.

A distinguished old-school surgeon says: "If we examine the history of injuries to the head, we shall find by far the greater number of successful cases have been those in which there has been the least surgical interference." We give below two cases, illustrative of this and of diagnosis.

One of the authors was cognizant of a case where a falling limb produced a comminuted fracture,—a literal smashing of the parietal bone. The patient lay several hours in a comatose condition. Three physicians agreed that nothing could be done for him. His widowed mother, a poor woman, but not so ignorant as many a wealthy lady, believing in the good old maxim, "while there is life there is hope," observed, as reaction advanced, that his head was too warm, while his feet were too cold. On her own responsibility, therefore, and the suggestion of her common sense, she immersed his feet in hot water, and kept pouring a cold stream on the wounded part. She also administered a strong stimulating injection. By these "*unprofessional*" means, he revived and escaped the danger of inflammation. As the cranium was *fortunately*, under the circumstances, completely *fractured* and not merely *compressed* (which might have required more surgical skill than it was worth while giving a *poor* boy), the elasticity of the brain *set* its own bone — more accurately, perhaps, than art could have done it, and the boy recovered perfectly. In an adjoining neighborhood, and about the same time, a rich man's son met with a similar accident. In his case the trephine was used by one of the medical gentlemen, whose prognosis was mentioned above,

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though not till after the patient had been allowed to lie fourteen hours — nothing done for him, of course, *secundum artem*, till "the doctor" could be brought from a distance of sixteen miles; this patient died.

WOUNDS OF THE NECK

are principally important from the liability to fatal hemorrhage. Death may quickly ensue from this cause alone, if any of the larger vessels are wounded.

Suppression of hemorrhage is, therefore, the first point of TREATMENT, for which purpose it is often necessary to apply the ligature to veins as well as arteries. It is always best, however, to check the hemorrhage from veins by compression, rather than the ligature, to avoid the danger of phlebitis. When the hemorrhage has been checked, bring the lips of the wound together, and fasten them by sutures, using precaution to prevent your dressings from being thrown off. Most cases of serious wounds in the throat occur in persons attempting suicide, and may require the hands to be tied, as well as the head to be secured in one position, leaning over toward the wound. This last precaution is proper in all cases. The patient should not even be allowed to talk. Eating and drinking have often to be restricted, or altogether interdicted for awhile. These wounds heal very rapidly, and require but little attention after the first proper dressing, except from good nurses.

WOUNDS OF THE CHEST.

When the cavity of the thorax is entered, the lungs are, of course, almost always injured. When this is the case, air will pass out through the wound, causing a bubbling of the blood as it flows. The respiration will be short, and the expectoration bloody. The patient will often complain of a sensation like a *stitch*, at every breath.

The external passage of air must be stopped as soon as possible. Apply a wet bandage firmly around the chest, to prevent motion of the ribs, leaving an aperture to admit dressing the wound (for which see the different classes of wounds), and place the patient in such a position that the wound may be the most de-

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pendent part. Frequently change the dressing, to give exit to the blood and matter, using, however, *no compression*.

Venesection is recommended in the books, "to divert," as they say, "the blood from the lungs." But surely it is as well to bleed to death through a wound in the chest as through one in the arm! We are told that the bleeding "can hardly be carried too far, for if the patient be not relieved by this measure, *no other can possibly save him*." *—(Gibson, vol. i., p. 19.) The reason given for bleeding in such cases, is as absurd as the process itself. We are told by the same author to "*draw blood copiously* from the arm, which will have the effect of *diverting it from the lungs*, and thereby save the patient, perhaps, from suffocation." Now, it is an anatomical absurdity to speak of diverting the blood from the lungs by drawing it from the arm, as if the lungs and arm were merely supplied by different branches from the same arteries. The blood going to the arm comes through the aorta from the left side of the heart. The blood going to the lungs proceeds from the right ventricle; hence it is obvious that by taking blood from the arm, we act upon the systemic instead of the pulmonary circulation, and cannot possibly influence the determination to the lungs, or produce any diversion. The only effect that we can produce is to diminish the amount of venous blood returning to the right side of the heart, which object could be accomplished by a loss of venous blood from any portion of the body, and which can be accomplished with far greater facility and efficiency by the application of ligatures, without any loss of blood.

As the only object which the surgeon can hope to attain by bleeding, if he understands anatomy, is not the diverson of blood from the lungs, but a diminution of the total amount of blood in the body, common sense would suggest the query, Why should we make such efforts merely to diminish the total amount of blood, when this loss of blood is the very evil and danger which is threatening the life of the patient?

It is desirable, however, that less blood be thrown upon the lungs. Any means, therefore, that will retain a larger quantity

* Such expressions are frequently used by old-school writers, who seem to think that when they have reached the limits of their knowledge, they have exhausted all the resources of science.

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in the extreme vessels, or prevent its return to the heart and lungs without permanent loss of it, ought to be resorted to without hesitation. Such a means we have in *hæmastasis:* * cording the arms and legs so as to partially arrest the returning circulation, without impeding the arterial flow, or using Dr. Junod's Hæmostasic Apparatus.

Should severe inflammation arise, notwithstanding the use of *Aconite*, *Arnica*, *Calendula*, &c., resort must be had to *Bryonia*, *Phosphorus*, and such other remedies as are appropriate in the treatment of inflammation of the lungs (for which see some Homeopathic work on practice).

A gentleman lived eleven years after having the chest transfixed by a gig-shaft. Both lungs were transfixed. The anterior portion of the thorax of this patient is preserved as a specimen in the Hunterian Museum.

WOUNDS OF THE ABDOMEN

are no less dangerous than those of the thorax. The amount of danger will depend, of course, on the part and organ injured, but any penetration of the peritoneum is likely, from its great vascularity and sensibility, to bring on serious inflammation.

When the *intestines* are wounded, nausea and vomiting generally occur, the matter thrown up, as well as the stools, being bloody. Fæcal matter and fetid wind pass out of the wound. A portion of the bowel may also protrude. There is often griping pain about the precordia. Cold clammy sweats are among the fatal symptoms.

Wounds of the *small intestines* present more dangerous symptoms than those of the large. Any part, however, of the intestinal canal may be injured, and recovery take place.

If an intestine has protruded, it will be too late to return it two days after the injury. The only chance then is to leave it open as an artificial anus.

The *adhesive* process goes on very rapidly in the intestines. If there be no protrusion and no division of the bowel, no sewing up is required. If it is cut for a considerable distance lengthwise, and also protruded, one stitch for three or four inches is sufficient.

* See Concussion.

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If it is quite severed, only two sutures are required, one opposite the other. The smallest thread and needle should be used, with as little handling as possible. And you need not be very nice about bringing the edges together exactly in their natural coaptation. They will unite in any part; and your turning and handling will do more harm than some degree of displacement.

Keep the wound open and in a dependent position, dressing it with lint wet with *Aqua Calendulæ*, to protect it from the air. The patient must remain quiet for the first twenty-four hours at least. At each dressing, press upon the wound a little, to force out the matter. After the second day the external wound may be allowed to heal. For the first day let the patient eat nothing, and as little as possible for some days after. Let his *diet* then be cooling and unirritating. Every thing he takes should be of easy digestion; solids had better be avoided altogether. Stimulants of all kinds of course must be proscribed. Constipation should be avoided by small injections of cold water.

After healing, the intestine may contract so as considerably to diminish its caliber. This may give rise to colic-like pains in the passage of its contents. In such a case great strictness of diet must be observed. All indigestible things, such as raisin-seeds, fruit-rind, had better be avoided, and the appropriate internal remedies employed.

In July, 1851, a boy, son of Mr. L., of Berlin, Erie co., *aet.* 13, while riding a horse, raking hay with a horse-rake, the horse ran away with him and threw him upon the rake; a tooth, one and a quarter inches in diameter, entered his abdomen about midway between the umbilicus and left anterior superior process of the illium, passed through the colon, making a hole two and a half inches long in it, tore off the peritoneal coat some distance further, and emerged at the right ischiatic notch, passing through the pelvic cavity, penetrating through the rectum, and severely lacerating the sacral plexus. The wound was dressed and treated by Dr. G. S. Hill; — B. L. Hill, consulting surgeon. The parts were washed with a dilution of *Tr. Calendula* — half an ounce to a pint of tepid water — this was made to run through the whole course of the wound; the parts brought in contact and kept there by straps, compresses, and bandages, and kept constantly wet with

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the same fluid. *Arnica* was given internally every four or six hours for two days; then *Calendula* was given internally.

At first there was considerable depression in the circulation, but reaction came on, and the pulse rose but little, if any, above the natural standard, and the case went on; healing took place by the first intention in all the parts except the opening at the ischiatic notch. Through this the fæces continued to pass, as well as through the rectum, as in health. In a few weeks he was able to walk about; still he suffered much from the soreness and chafing of the wound, by the passing of fecal matter, as well as a neuralgic affection of the limb, in consequence of injury of the sciatic nerve. After the healing of the upper wound, no further medicine had been given for several weeks, during which time no progress towards a complete cure seemed to have been made, but the pain and soreness grew rather worse, and his general health had failed very much; he was evidently fast running down. *Calendula Tr.* in drop doses, once a day, was given, and no local application made. He began to improve from the first day, and in about two weeks the wound had healed, and all symptoms of disease soon disappeared, since which he has enjoyed perfect health (Oct. 1853). The *Calendula* was continued daily for about ten days.

WOUNDS OF THE JOINTS.

Injuries of the larger joints are almost as dangerous as any in surgical practice. The danger consists as usual in inflammation — which it is much safer preventing than trusting to cure.

The limb should be placed in the *easiest position* that will bring the lips of the wound together, and be kept there perfectly still, so as to avoid the necessity for suture. Adhesive straps will be sufficient, if this point be attended to; but the patient must positively learn what we mean by "rest:" must not be allowed for several days to move the affected parts at all.

If the KNEE joint is concerned, you should keep the limb *extended*, that your patient, in the event of *anchylosis*, may still be able to walk, though with a stiff leg. The arm, on the contrary, when it is the elbow that is affected, had better be secured in a *half-flexed* position. The danger in question results mainly from

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adhesion between the synovial membranes, on losing their contained fluid. The joint should not be kept too long motionless. As the wound improves, it should be gently exercised.

For other treatment see the different classes of wounds, and consult the pathogenesis of *Arn.*, *Alum*, *Chin*, *Calen.*, *Led.*, *Nat. M.*, *Nux Vom.*, *Petr.*, *Puls.*, *Rhus.*, *Ruta.*, *Sep.*, *Silic.*, *Sulph.*

The practice of scarifying, blistering and leeching, about the wound, cannot be too strongly reprobated.

If *inflammation* should have progressed so far before you are called that suppuration is unavoidable, it will be proper to make such local applications as will induce or promote it. Retaining the limb in an elevated position is an important auxiliary in restraining or preventing inflammation.

In cases of this kind, a most excellent local application to the joint, for the prevention or moderation of the inflammation, and one which has been eminently successful *alone*, in our hands, is simply pure yellow clay kept moist with water, or dilute *Arnica*, *Calendula or Rhus. Tr.*, at the option of the surgeon.

Inflammation alone does not authorize *amputation*. A stiff joint is preferable to an amputated limb. Should the bones and cartilage be extensively shattered, leaving little or no hope of restoration, while danger of tetanus is imminent, immediate recourse to the knife and saw is justifiable, without waiting for inflammation. When we *must* operate, the sooner the better.

CHAPTER VII.

BURNS AND SCALDS

Distinction — Four degrees of Burning — Their respective symptoms and dangers — Heat — Spirits — Rum and Molasses — Carbonate of Lead — Flour — Soap — *Ulmus Ful.* — *Vertica Urens* — Internal Remedies — Prevention of Deformity.

UNDER this head are usually included all local injuries caused by the application of heat. Scalds are distinguished from burns by the mechanical state of the heated and heating substance; the popular meaning of the words may be considered as the technical

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one. All cases, then, caused by hot liquids are "scalds," while "burns" proper are those produced by solids at a high temperature. Greater injury may be done by oils and some other fluids, as they can be heated above 212°, the maximum of temperature for water under ordinary circumstances. On this account some writers would restrict the "scalding" to injuries done by hot or boiling water. They are all, however, degrees of "burning;" and the specific difference is better marked by the distinction of solid and liquid, than by that of the chemical character or temperature of the substance inflicting the injury. The effect of a hot liquid, or

Scalding, is likely to be more superficial, and is chiefly dangerous from the extent of surface affected.

Burns (including scalds) or the local effects of great heat, are *divided* into several kinds or degrees. Some distinguish four, some five or six.

The first degree of burning is when there is only a slight irritation produced, with redness of the surface and the stinging or peculiar pain, but without vesication, or with only small vesicles, the fluid in which is readily absorbed. The inflammation, if any is excited, terminates in spontaneous resolution. At worst, only a superficial dry scab is produced, involving little more than the cuticle. There may, indeed, be considerable tumefaction, produced by serous effusion in the cellular substance; but the effusion is absorbed, the swelling goes down, and the part returns to its natural state and appearance, leaving no trace of the injury.

In the second degree, there is more redness of the surface in the first instance, and this is succeeded by diffused vesication. The serous fluid is not absorbed; and when the vesicle or vesicles are broken, a purulent secretion from the surface takes its place. Still there is no real ulceration, or destruction of parts, further than the cuticle, and no necessity occasioned for granulation. The skin is merely converted into a secreting surface, and may continue to discharge pus for a considerable time. If exposed to the air, a crust or scab will form, protecting the parts beneath, and allowing a new cuticle to form there, as appears when the scab falls off, and presents the surface restored, without a scar, as in the former case.

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In this form or stage of the burn, if care be taken not to puncture the distended cuticle until purulent matter begins to be formed beneath, the pain will be but slight, and the cure facilitated: but if by any accident or officious ignorance, the cuticle is ruptured, and the raw surface exposed to the action of the atmosphere, the pain is often intense, and the danger from irritation and inflammation may become very great.

In cases, otherwise of this character, where gunpowder or other coloring matter is forced through, under the surface, it will remain for a long time, as no sloughing occurs to carry it off.

The third degree is when the heat is so intense as, if not directly to disorganize the surface, to so far lessen its vitality as to render destructive inflammation inevitable. If, however, the extent of the injury be small, and the patient's constitution good, the ulcerative process will very generally terminate of itself, granulations form, and the surface heal up, leaving only an ugly cicatrix. But if the burn be large, much constitutional irritation will generally attend it, and the granulations, instead of healthy, will be of a fungoid character. The discharge also will be often excessive, and accompanied with an offensive smell. All these bad symptoms will be worse, if there is much constitutional derangement. Indeed, serious ulceration may follow the simple vesication, when the general health is very bad, but such a result is rare.

In all cases of ulceration from burns, the cicatrix remains red and glossy for a long time after, or of a higher color than the surrounding surface, with a puckered appearance, which is permanent.

When the heat is so great as of itself to destroy the skin (which some make a fourth variety), the pain is very great during the whole progress of the case, and even continues after the cicatrix has formed. The patient will be unable to use the part, or the muscles and tendons passing near it, in consequence of the preternatural susceptibility, especially if it were a part of a limb that was burnt, and that be in a dependent position. The tendons often contract, if near a joint, and when, in addition to this, adhesions have been allowed to occur, the use of the part or limb may be lost forever. These contractions and adhesions may not occur, in some cases, till after cicatrization, the irritation still continuing and producing a deposit of coagulable lymph.

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The fourth and last degree (in our scale) is the true or complete burning up of the part; vitality being at once destroyed and disorganization effected. The cause of this is usually the application of some highly-heated *solid* substance, as white-hot iron. The part itself being involved in flame or other burning substance, will of course have the same effect. If this complete burning be also extensive, it will be most certainly fatal.

The patient in this case experiences no pain for a time; at least none after the first *touch*. The part is so effectually killed as at once to annihilate sensibility. The burnt part is "burnt to a crisp," leaving only an eschar. If there is sufficient power in the system to react, sloughing takes place, the eschar is thrown off, and a deep ulcer is formed.

The ulcer, in this case as in the last, is liable to suppurate and excite, also, an unhealthy condition of the surrounding parts. Not unfrequently abscesses will form there, with sinuses. The adjacent bones or joints soon become affected. The inflammation excited is sometimes immediately followed by extensive mortification.

If the patient does not *die* before reaction comes on, the constitutional irritation produces *hectic*, and he soon sinks from *exhaustion*.

The *danger* depends much upon the constitutional vigor of the patient, and upon the locality of the burn, as well as its extent. Children are not so likely to recover from the effects of a scald as adults, owing to the greater susceptibility of their nervous system. Very small children are apt to be thrown into spasms, when the effect upon the brain frequently proves speedily fatal. Very old persons suffer much less than any others; but erysipelas occasionally follows, which is very difficult to control. Erysipelatous inflammation is particularly to be apprehended, when the head is the part affected. When it is the abdomen, the inflammation is liable to extend to the vital organs beneath. A burn or scald on either of these locations is always to be regarded as dangerous, and proportionally more dangerous as the patient is younger. A slight injury of this kind upon the scalp is to be looked upon with suspicion; and you should take care to heal as soon as possible when upon the abdomen. Burns upon the geni-

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tal organs are very hard to cure, and give rise to strong constitutional symptoms, in consequence of their peculiar susceptibility and great sympathy with all the vital functions. Upon the course of the *tendons*, these wounds tend more than any others to produce contraction, and when *nerves* are also involved in the eschar, or contraction, there will be danger, for a long time after, of tetanus or neuralgia.

Violent *constitutional symptoms* follow an extensive burn, let it be in what part it may. There will, at first, be rigors, disturbed and oppressed respiration, and general depression, with a pulse for a time low and feeble; but if there is sufficient vigor in the system for reaction, the subsequent inflammatory fever is often very violent.

Scalds, — unless when caused by hotter liquids than boiling water, or unless the part should remain in the hot water long enough to be itself boiled or cooked, — belong to the second degree in which nothing worse than vesication is the necessary result. Generally, therefore, their only danger is from the extent of surface involved. How large an amount of the cutaneous tissue may thus have its function stopped or changed, without *thereby* causing death, is not known. Some author has stated that life could not be supported after one-seventh of the surface was vesicated; but we are sure we have had cases in which a much larger fraction was not only blistered, but "flayed" away with the clothes.

The most important point of

TREATMENT

without doubt, in all kinds and grades of burns, is the *keeping* of the *surface entirely shielded from the atmosphere.*

Numerous *applications* "for burns and scalds" are in repute with the profession or the public, some of them are as "specifics." Many of them are really valuable, and we will mention a few, selecting those whose good effects we have had opportunity of testing, or those which, if not intrinsically superior to others, are oftener to be relied on, because universally accessible. Not the best possible, but the best practicable — the best under the circumstances of the case — is the rule for the medical man as well as the moralist.

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In slight cases when the skin is not destroyed, it is best to expose the part for a short time to a moderate, dry heat, or apply water as hot as the patient will bear. When practicable, this can best be done by immersing the part in hot water. In either case the heat should be constant. Warm spirits have been recommended, but will be much more beneficial with molasses.* Prof. Gross of Louisville (in his notes to the American reprint of Liston's Surgery), strongly recommends the application of carbonate of lead and linseed oil, mixed as in common white paint; but this should *never* be used, since fatal consequences *have*, and are likely to result from the absorption of the lead. Lime water, sweet oil and soap, have been used with good results (see remarks on soap). But the applications most beneficial and easiest applied, are flour, soap (castile) or *ulmus fulva*. Of these the flour is most convenient, and from the testimony in its favor *at least* as beneficial. As soon, therefore, as possible, after the accident, oil the injured surface with sweet, or linseed oil (if the burn or scald is severe, the linseed oil will be rather too severe), and then sprinkle, or dredge with a common dredging-box flour over it until every part is *completely and thickly* covered. The fluids discharged, are absorbed by the flour and form it literally into a "crust," beneath which a new cuticle is *concocted*, and resolution readily effected, if the case admits of so favorable a termination.

* *Rum and Orleans Molasses* is a southern specific, which has been much extolled by several physicians. One of them assured one of the authors that he had seen it used, with the happiest results, in the most severe cases, both of scalds and burns. It frequently prevents vesication, and even discusses the inflammation where extensive vesication has previously been caused. In a few instances, Dr. Hill made this prescription for the grocery instead of the drug-store; and he says the result of its use has fully answered to its reputation. The spirits and molasses should be intimately mixed, and applied cool, either by wetting an elm poultice with the mixture, or saturating raw cotton or Canton flannel with it, and then applying a covering wet with some article impervious to air, such as a solution of gum arabic.

We are informed by one of the oldest and ablest Homeopaths in Ohio (Dr. Blair of Newark), that he has been in the habit of prescribing pure molasses for a long time, as a specific for all forms of burns, with the happiest results. He applies it so as completely to cover the affected surface, and keep it constantly covered by rewetting the dressings with the molasses until all inflammatory action has ceased.

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Should the flour fall off, or any part become exposed, repeat the application.

In the use of the *soap*, Dr. Tifft, of Norwalk, O., in a communication to the authors, states one peculiarity which is worthy of especial notice. He makes a stiff lather with shaving soap, which he applies with a brush again and again, till he forms a thick coat, a complete covering, to all of the injured part; over this he places linen cloths, spread with a thick layer of soap. This plan he has found far more successful than any other; it is best to cut the linen in small strips, as it can thus be applied more accurately to an uneven surface. The same course should be pursued at every subsequent dressing. By means of the brush and lather, we can bring the soap in contact with every part of the surface, no matter how uneven, which sometimes cannot be done when it is spread on cloths. The application of the soap at first rather increases the pain, but soon mitigates it; it also generally prevents suppuration and those hideous scars. The frequency of the removal of the dressings should generally be governed by the state of the patient. If there should be an exacerbation of the pain after being relieved, apply another coat of lather. The *ulmus fulva* forms an excellent soothing shield from the atmosphere for the injured surface, is adapted to any stage, and has, in many cases, in our practice produced admirable results. The best way is to make it into a poultice with the warm dilute tincture of *Urtica Urens* (or the *dioicæ* seems to have the same effect), and apply over the burnt or scalded surface. From time to time, a little of the liquid may be poured on so as to permeate between the surface and the cataplasm. This is particularly beneficial where there is extensive suppuration or sloughing. It allays the pain and irritation, protects the surface from the action of the atmosphere, promotes the formation of healthy granulations, and is the best vehicle for the application of the specific *Urtica Urens*. After acute symptoms have subsided, simple dressings, such as simple cerate, are all that is necessary for the ulceration. If high febrile excitement comes on, give *Aconite*; also when the system has received a severe shock from fright at the time of the accident; in this *last* case *Opium* is of service. But if the patient sinks into a low state with feeble reaction, use *Carbo Veg.* and *Arsenicum*.

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If his nervous system is much affected, fever being present, give *Belladonna*, or *Hyoscyamus*. *Cham.* has proved beneficial in convulsions from burns. *Tr.* of *Urtica Urens*, regarded by some as a specific, at a low dilution, we have found useful in very bad cases; we always use it internally when we apply it externally. When the suppuration is so extensive as to debilitate the patient, it should be used in alternation with *China*. If the ulcer becomes fungoid, use *Silicia*, *Arsenicum*, *Antimonium*, *Causticum*, *Sulphur*, or *Petroleum*. The latter article may be applied with excellent effect, undiluted to the surface of the sore. It will generally dissipate the fungous growths in a short time. When the fungus remains obstinate, apply the Sesqui Carbonate of Potash in powder two or three times at intervals of a day or two, until the sore assumes a healthy appearance.

An important *caution* for those who are not accustomed to these cases, is to keep fingers, toes and other contiguous parts, from coming in contact at the abraded surface. Another cause of *deformity* to be guarded against, is the contraction of muscles and tendons. For this danger you must study the anatomy of the parts, and resist the tendency with suitable splints or other modes of applying force, flexing or extending as the case may require. When this precaution has been neglected, the case is not quite irremediable. The contracted tendons can be divided when necessary, though we have hitherto only found it necessary in any cases that have fallen into our hands for repair, to dissect away the *adhesions*.

Superficial deformity, by irregular formation of the new integument, is best obviated by proper dressing and attention during the healing process. This becomes an important consideration, when exposed parts of the body, as face, hand or neck, is in question, — particularly in the case of females. A bad cicatrix may sometimes be divided or reopened by blistering, with a fair chance of improvement.

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CHAPTER VIII.

EFFECTS OF COLD.

Frost-Bites and Freezing to Death — Recovery from suspended animation — Progress, symptoms and results of Frost-Bites — Liability of particular parts and persons — Precautions in restoring frozen parts — Efficacy of Snow — Chilblains — Variety — Liability — Relapse and chronic cases.

Too LOW a temperature is equally inimical to life with too high; and indeed the ultimate effect of a "frost-bite" is very similar to that of "a burn." Some parts of the body will suffer from exposure to cold much sooner than others. The peculiar stinging pain of intense cold ceases after a while, and the part becomes so entirely insensible that the individual knows not that he is partially *dead*. Complete freezing to death comes on in a similar way. After the first ineffectual effort of the system to bear up under the continual abstraction of heat, an irresistible sensation of drowsiness comes on, and the sufferer feels only inclined to rest and sleep. The sleepiness, however, is death in its most attractive and insidious form of approach. If the exposed person be aware of his danger, he may bear up a long time by force of will and muscular motion. Snow being a bad conductor of heat, and the surface of the body already reduced to its temperature, vitality may be preserved longer by wrapping up in that natural blanket than by *resting* in any other cold environment. Loss of voluntary power and of consciousness is soon followed by a cessation of the organic functions: the lethargy becomes the sleep of death. This sort of death, however, may be only temporary; from even this complete and dreamless sleep, the sleeper may be awakened, by a gradual restoration of the vital stimuli.

The essential difference between this sort of death and the more common is, that it results rather from a cessation of the functions than a change necessitated by a greater or less disorganization. It is a stagnation rather than an evaporation of life, so to speak. When an individual is found in this state of

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SUSPENDED ANIMATION

from cold, he should be carefully removed to a *cold* room, where he will be protected from the *slightest* draught of air. If the limbs have become stiffened, cover him over with snow, to the depth of several inches, leaving only the mouth and nostrils free. As the snow melts and runs off, it should be replaced with fresh. Should there be no snow, the body of the patient may instead, be immersed in an iced salt-water bath for a few minutes. As soon as all parts have lost their rigidity, carefully remove the clothing, and rub the whole surface briskly with the snow or iced water with the bare hands, until the skin becomes red. The patient should then be well rubbed with dry flannels, wrapped up in a dry blanket, and laid in a cool bed in a cool room. If he does not soon begin to revive, small injections of tepid water containing a small portion of camphor may be given, and if necessary, repeated every fifteen minutes, until symptoms of restoration, when an infusion of browned coffee may be used instead of the former. As soon as the patient can swallow, which he will often do instinctively, before perfect consciousness has returned, a little of the coffee infusion may be given, a teaspoonful at a time. A persevering application of the above course has been rewarded by restoration, even when animation has been suspended for several days. A person thus resuscitated, should avoid exposing himself to much heat for a *considerable* time, as disease of the bones may be thus induced.

Carbo Vegetabilis should be given in repeated doses for the severe pains which generally follow a return of animation, and if not sufficient followed by *Arsenicum; Aconite* will be of service, if heat or stinging pains are felt in the head.

When a part of the body only has become insensible, and had its organic functions suspended, or been, as it is said,

FROST-BITTEN,

the same *principle* of treatment is to be observed. If much heat be too suddenly applied to the part, violent inflammation, if not speedy gangrene, is almost sure to occur. The spontaneous re-

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storation of vital warmth, on entering a warmer medium, is of itself painful and dangerous enough, and to be made as gradual as possible.

The parts most liable to suffer first from cold, are those at the greatest distance from the source of circulation, as the fingers and toes; or most isolated from the general current, as the nose, ears, &c. The trunk of the body is not only protected by clothes, but by its mass and the easy communication of heat from part to part, in addition to the fact that the heat is conducted or radiated from a much less proportionate amount of surface. The importance of this distinction is very sensibly felt in the superiority of mittens over gloves, for the mere purpose of warmth. Hence one reason for the instinctive drawing up of the body when suffering, or, as it is said with mechanical correctness, shrinking from cold.

The *first* visible *symptom* of a part having been unduly exposed to cold is not paleness, nor the *florid* redness of over action or inflammation, but a sort of livid or dull red, indicated by the expression, "looks blue." This is accounted for by the stagnation of venous blood, and the diminished quantity of arterial blood attracted to the part. Certain depressing emotions, or states of mind, seem to be indicated as having a tendency to produce the same effect upon the cutaneous capillaries. Shame reddens, but chagrin or disappointment "looks blue." The depressing or *negative* feelings are, as it were, internal cold. Real physical cold, however to a mortal degree, is the only thing that produces the complete blue or "black looks."

If the exposure to cold, or abstraction of heat, still continue, even the venous blood disappears, all the blood is thrown upon the internal or less exposed parts, and the surface in question becomes white, considerably contracted or "shrunk up," and quite insensible and motionless. The part is in fact killed for the time, as much as if it had "mortified,"—only the process by which the latter state is brought about is usually the very reverse, and necessarily irremediable. The deadening of a frost-bite is temporary, because it is merely functional, instead of structural. Its danger, after withdrawal of the cause, is, that structural disease, inflammation, and common mortification, will ensue on a too sudden or on only partial restoration of vital temperature and activity.

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This accident may happen much more readily to some persons than others. It is generally supposed that the degree of cold must be below the zero of our common thermometer (or 32° below the ordinary freezing point of water), in order to freeze a part of a living body. But the length of time the person or part has been exposed, must be taken into account, as well as the state of system at the time, in regard to food or fasting, clothing and exercise or the reverse, the general plethoric or active habit, and in short, so many other circumstances, that no general rule can be laid down. One individual may have a limb or member of the body frost-bitten, while those about him, exposed to the same amount of cold and for as long a time, will scarcely suffer at all. Indeed, the person who is said to "suffer the accident," does not feel it after it has occurred, or always know what has happened until he is told of it by others. If, however, it is a foot or hand that has been frozen, he will discover the fact from the loss of voluntary motion, as when the nerves are paralyzed. If heat is not restored to the part, it may be regarded as already in a state of sphacelus; and a sudden restoration, either of external or internal warmth, is very likely to bring on gangrenous inflammation around the part.

Habit, as well as original vigor of constitution, has much to do with a person's power of resisting cold. All know that individuals accustomed to wear gloves will suffer, from exposure without that protection, much sooner than those who habitually go about with their hands bare. Individuals, living on the shores of our northern lakes, are accustomed to wear boots without stockings, all the year round, and to work out in the open air through the winter, handling their ordinary implements of labor, or stones and metals, when necessary, without any covering on their hands.

Notwithstanding the present suspension of vitality, and future danger in the restoration of a frozen part, it is well known that not only small parts or members of the body may be restored to life and health but that whole limbs which have become white and quite brittle, may recover under a judicious course of treatment.

Though *haste*, in these cases, is more dangerous than *delay*, no time need be lost, after the discovery of the accident. The direct effect of the cold, and the indirect influence of partial death,

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should not be allowed to continue and extend. Wherever the patient may be, the first and most indispensable measure for his relief can be adopted. The accident never happens but where there is ice, if not snow, within reach. First, then, the rule given by all authorities, and sanctioned by the greatest of authorities, — *universal experience*, — is *Homeopathic:*

Rub the frozen part well with *snow* (where it is not to be met with, smooth ice may do for a while). After a while, the snow may be laid aside, and the part put into cold water, and there rubbed first with flannel and then with the hand. All this while the patient should be kept out of any room in which there has recently been a fire, and in an atmosphere not much, if any, above the freezing point. These precautions must be observed, and the means spoken of continue to be used, until the parts become sensible, or feel natural again, which may require several hours of constant rubbing. The patient will generally be thirsty, and it will be well to have him drink frequently small quantities of cold water. By so doing we have frequently seen persons, who were just before suffering extremely from cold, break out into a warm perspiration, with a genial glow of the whole surface.

By this management, the patient may experience no bad effects from the freezing, further, perhaps, than a slight swelling of the part, or desquamation of the cuticle as from a trifling scald. In such a case the part should be treated by some soothing application. If the part concerned be a limb, it will generally be found, though there is little sensible disease or suffering, to be much weaker for a long time after.

CHILBLAIN OR PERNIO.

This troublesome affection is a peculiar *atonic* kind of *inflammation* of the skin, induced by partial freezing, or rather by too sudden a change of its temperature, such as warming the feet or hands at a fire when very cold.

Children and very *old* persons are the most liable to this species or degree of "frost-bite," though it depends more on the degree of constitutional vigor than on mere time of life. Scrofulous individuals generally suffer most from these affections, in consequence probably of their tender susceptibility to cold.

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At first the skin is red or *purple*, in round spots of an inch or two in size, and somewhat *swollen*, with a severe *itching* sensation, very much aggravated in moist or damp weather. In some instances vesications occur in the center, the skin around continuing to wear the same purple or bluish aspect; at other times the inflammation proceeds to the extent of sloughing. A serous fluid is generally discharged, or the mere swelling may become indolent, when it is very difficult to cure.

But by far the most troublesome cases are those in which *no ulceration* takes place. This is most frequently the case where the surface is protected by thick or horny cuticle, as on the ball of the great toe, and the sides of the bottom of the foot. When these parts become once affected, the patient is apt to suffer an intolerable itching and burning, not only during the cold season of the year, but still more in the fall or spring, when there is much moisture on the ground, and whenever the feet get damp.

Although the patient's sufferings may often be palliated by soaking the feet in hot salt water, and then rubbing them with palm oil, and holding them for some time to the fire, any relief obtained by this or other domestic means is only temporary; the predisposition to the recurrence of the disease must be removed by appropriate constitutional means.

The remedies most useful are *Agar.*, *Ars.*, *Arn.*, *Carb. Veg.*, *Cham.*, *Kali Carb.*, *Lyc*, *Nit. Ac.*, *Nux Vom.*, *Petr. Phos. Puls.*, *Rhus. Sulph.*

When the inflammation is slight, with bright red swelling, cracking and bleeding easily, and a burning itching when warm, *Nux Vom.* will relieve. *Cycl.* will also often be of service.

If the inflammation be caused by bruising or pressing upon the affected parts, or the swelling be hard and *shining*, *Arnica* should be used. In more severe cases, with *severe itching*, *burning* and *redness*, *Agaricus* will be effectual. When the parts are swollen and blue with itching and throbbing pain, aggravated in the evening or towards midnight, and the patient of a mild or phlegmatic disposition, *Pulsatilla* is indicated.

When the inflammation is *considerable*, not so dark as that of *Pulsatilla*, more of a bluish red, with a creeping tingling sensation, temperament melancholic, at times vehement, *Belladonna* is to be

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preferred. For these blue-red chilblains, with severe itching, *Kali Carb.* is also a valuable remedy. *Sulphur* is only suitable when the violent itching occurs during warmth.

Nit. Ac., *Petrol*, and *Phos.*, will also be found efficient in very painful chilblains; the first two, especially, if the inflammation sets in with very cold weather.

Rhus. when with the burning and itching there is a severe stinging in the chilblains, obliging to scratch, after which pustules arise. When the pains are very violent, with severe burning, or if blisters should show themselves on the inflamed parts, with a tendency to gangrene, *Arsenicum* alone, or in alternation with *Carb. Veg.*, should be used.

Should the inflammation degenerate into an ulcer, see *Ulcers.*

A lotion of the remedy given internally may be advantageously applied to the affected parts.

CHAPTER IX.

ULCERS — THEIR VARIETIES AND TREATMENT.

Definition and division — Boil or healthy Ulcer — Irritable and indolent Ulcers contrasted — Varicose Ulcers — "Specific Ulcers."

AN "ulcer" has been defined a *chronic purulent* solution of the continuity of the animal texture.

Writers have generally divided them into a variety of classes, according to their appearance, progress and effects. The division here adopted will be sufficient for all practical purposes, though not so minute as may be found in some of the books.

We would distinguish then these five *kinds* of *ulcers:* 1st, the healthy; 2nd, the irritable; 3rd, the indolent; 4th, the varicose; and 5th, the specific.

This last class includes a great variety, which will be considered separately, as we come to speak of the diseases or causes which produce them. As examples, we may here mention the scrofulous, the syphilitic, the schirrous and the sinuous (or fistulous) ulcers.

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1. As to the HEALTHY ULCER, it may be defined *Hibernice*, by saying it is no ulcer at all. It is a suppurative, but not an ulcerating, *i. e.*, destructive process. The pus discharged by it is a normal secretion.

Its *surface* has a florid appearance, without any offensive smell. The *pus* is consistent and easily removed. The granulations are small, and of a uniform size. It *heals* spontaneously and regularly, leaving little or no trace of having existed. Patches of granulations may be *early* noticed, over the top of which is thrown a delicate membrane or cuticle, which finally thickens and becomes true skin.

An example of the "healthy ulcer" is the common *boil*, — which, if not an evidence of perfect health, is regarded, and no doubt correctly, as the next thing to it, — a successful effort of nature to throw off some slight obstruction or impurity. It may appear on any part of the body, and occasions no difficulty further than the local pain and temporary inconvenience.

Treatment, as every one knows in the case of the boil, is little more than the "let well enough alone" practice: a little *salve* to protect it from the atmosphere, is all-sufficient. The only true "healing salve" is that which nature prepares for herself, — *healthy pus.*

II. THE IRRITABLE ULCER

is very sore to the touch, and easily made to bleed. It generally wears a dark purplish appearance, discharging but little matter, and that of a thin, ichorous or sanious appearance, and sometimes very fœtid and corroding. Its imperfect granulations are spongy, of a dark red hue, or having a whitish vesicular look, appearing at different points, or leaving vacant spaces between them, and often disappearing again by absorption. It is bounded by a sharp undermined (or shelving) edge, sometimes ragged, nearly what would be called in Botany, "serrated." The parts around the ulcer are swollen and reddened, — sometimes edematous.

The *constitutional effects* of this kind of ulcer are often very great, and manifested by thirst, chills, and great nervous prostration, as well as irritability. The pain at the part affected, which is often great, is of a smarting or burning character.

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The worst result is, when the irritable ulcer becomes gangrenous.

THE INDOLENT ULCER

is in almost every particular the opposite of the *irritable*. Each can be best studied in contrast with the other. Reverse the definition of the one, and you have that of the other. The *edges* of the sore, for instance, are now *everted*, instead of being inverted, as in the former case; being, moreover, rounded and thick, somewhat glossy and quite regular. The *granulations*, instead of being red and sensitive, are insensible and of a dull pale aspect, with round flat heads, and generally located on the bottom of the excavation: they have, in short, a fungoid character. The pus, instead of being ichorous, is thick, of a dark yellow color, and so firmly adherent to the base of the ulcer that it cannot be removed without considerable force, and causing a good deal of pain (which, of course, should not be done).

This kind of ulcer is the more important, inasmuch as it is the most common form of "sore" which you will be called upon to treat professionally; while it deserves your attention still more, from the fact that it is an affection as rarely cured by the profession generally, as any that can be named, not in its nature incurable. *You* must not think of turning off these "hard cases," though you will meet with many persons who have worn their old ulcers for ten or twenty years, and exhausted in "doctoring" all their funds, faith and patience, without the least benefit. If there is in the whole catalogue of human sufferings, any disease in which the superiority of one form of practice over another is plain and palpable, it is this: our success in this class of cases, both before and since embracing Homeopathy, has been truly gratifying.

Indolent ulcers most frequently occur on the lower extremities, and much oftener in males than females (the latter seldom being troubled with them, unless in connection with a varicose condition of the limb, of which we shall speak further on).

VARICOSE ULCERS

are so named, because always connected with a swollen or varicose condition of the neighboring veins. In other respects, they may

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present the characteristics of either of the other two contrasted classes — may be either indolent or irritable. They are, however, almost always extremely tender to the touch, and often very painful when the part is exercised. The pain indeed is occasionally excessive, and the nervous system may become involved, even to the extent of delirium.

Varicose ulcers seldom occur any where but on the lower extremities, and then only *below the knee.* Nearly all the smaller veins, adjacent to the ulcer, are involved. The reddish brown color of the sore extends to some distance around. The ulcer itself may be superficial, or deep and burrowing.

SPECIFIC ULCERS,

meaning those that result from some specific inflammation or disease, as scrofula or syphilis, will be considered in connection with the disease producing them.

Wounds upon the lower extremities often degenerate into ulcers, and ulcers are often rendered intractable, not from any particular dyscrasia, but from the limb not being kept in the horizontal position until perfectly healed. The weight of the column of blood retards the circulation, the capillaries thus become congested, and are hindered in the reparative process; such wounds and ulcers, although before intractable, have changed to a healthy character immediately upon a change of position.

Ulcers are sometimes also rendered irritable by the depending position. The minute nervous filaments that are so numerously distributed upon and connected with the capillaries are put upon the stretch, and irritated by the congested state of the blood vessels; a few days' maintenance of the horizontal position will remove this, and the use of an appropriate bandage will entirely prevent its return. Hence the bandage, although usually contra-indicated in irritable ulcers, is sometimes useful.

Another fact to be borne in mind, is that the continuity of the skin is broken, and that it does not exert its accustomed pressure upon the superficial veins. The value of this pressure may be suspected from ulcers which have before shown no disposition to heal, being completely and effectually cured by an artificial cutis,

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i. e., drawing the edges together by means of successive strips of adhesive plaster: hence one of the advantages of the bandage. The *local treatment* of ulcers upon the extremities, consists mainly in removing these mechanical obstacles to the cure. Whenever, therefore, ulcers are situated upon the limbs, they should be kept, as far as circumstances will admit, in a horizontal or even slightly elevated position. This is particularly important in the irritable, while they are such. In the majority of chronic ulcers, as it is impossible for the patient to do this much of the time, a substitute is provided in the strapping or bandage (for which, see next chapter).

In all forms of ulcers, it is best to use, as a topical application to the ulcer, a solution or dilution of the same remedy given internally. This is best applied by means of patent lint, or a soft sponge. The sponge is best in indolent ulcers, as by it we may obtain a slight elastic pressure upon the granulations, which will tend to stimulate them to a healthy action. It will sometimes, however, be necessary to apply soothing applications to the *irritable*, exposing the limb twice each day for half an hour to the vapor, from a weak infusion of hops, or an effusion of tepid water, and in the interval dressing with an emollient poultice, ulmus fulva, linseed or the common carrot. The latter, grated and wet with scalding water, makes an excellent one. When the irritability arises from the distention of the capillaries, gentle compression, by means of a bandage wet with tepid, occasionally cold water, will be very beneficial. (See also *Capsicum*.)

Indolent ulcers, when very foul, should be cleansed with a few applications of a weak solution of the Chloride of lime, or the sesqui-carbonate of potash, before applying the remedy used internally. At each dressing, the edges of the ulcer should be drawn together by means of straps spread upon the ends with adhesive plaster, and over this should be the bandage.

In *varicose* ulcers, the engorged and enfeebled state of the veins constitutes the most serious difficulty. To overcome this, the bandage or strapping (see next chapter) is indispensable; sometimes the principal veins around the ulcer have to be obliterated. For this, three plans are recommended: tying the veins, destruction by caustic, and coagulating the blood by means of electro-galvano

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puncture. The *obliteration* of the *veins* by ligature is much recommended, among other authorities, by Mr. Phillips, Surgeon to the Marylebone Infirmary (London), but is condemned by Bransby Cooper, Mr. Skey, and others. It is undoubtedly attended with much more danger than the caustic. We have applied the potassa fusa to each vein, from one to two inches from the ulcer. In the cicatrix which is formed, the vein is effectually obliterated. No fears need be entertained about the healing of the *caustic ulcer* (as there must be in that of the ligature). Such a stimulus is given to the part that it will only require simple emollient dressings. Mr. Skey, however, recommends three parts lime, and two of good fresh caustic potash (Vienna paste), made into a paste by the addition of spirits of wine, at the time of its application. His manner of applying this is to take three or four layers of good adhesive plaster, and make holes in them of about the size of a pea, the number to be regulated by the extent and complication of the disease; fix these firmly over the veins. Then fill the apertures with the paste, and over each of them place a piece of adhesive plaster. After twenty or thirty minutes, the whole may be removed.

Any number of eschars, he says, may be made on diseased veins, — that he has had as many as nine on one leg at a time, — but that they should be all made at one operation. This treatment he regards, after several years' trial, as both efficient and safe. He acknowledges, however, that occasionally the ulcers heal very torpidly, and that in one or two cases the disease of the veins partially returned at the expiration of three years. *Galvano-puncture* is certainly superior to the caustic, if the cures effected by it prove as permanent. No artificial ulcers are produced, and the cure is less painful and more rapid. The operation is performed by inserting into the vein two fine needles, which are connected with the positive and negative poles of a moderate-sized galvanic battery. This causes the vein to fill with a firm coagula of blood, without injuring its coats. The needles are best made of gold or silver, and should always be insulated by being covered, except at the points, with a varnish of shellac.

The magneto-electric instruments should never be used, as the interrupted currents produce severe pain. Dr. Restelli prefers a

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pile of many pairs of small plates, since less caloric is evolved, while the coagulating power is increased.

He also thinks that, by inserting the needle in connection with the negative pole, in direct opposition to the current of the blood, its flow will thus be checked, and coagulation accelerated. Cases will be given with those of ulcers in the next chapter.

Dr. Roth says that the tourniquet, applied for a few minutes every day, will cure varices.

We come now to the most important part, the internal treatment. The totality of the symptoms present, of each remedy, must all be carefully considered in connection with the previous medication and history of each case and the pathogenesis of the medicament. We can only give a few general indications.

The remedies found most generally useful are *Asaf.*, *Ars.*, *Carb. V.*, *Lach.*, *Lyc.*, *Merc.*, *Puls.*, *Sep.*, *Silic.*, and *Sulph.*

For *irritable*, particularly *Asaf.*, *Ars.*, *Bel.*, *Caps.*, *Lach*, *Lyc.*, *Hepar.*, *Graph.*, *Merc.*, *Mez.*, *Acid M.*, *Nit. Ac.*, *Phos.*, *Puls.*, *Silic.*, *Sulph.*

Indolent—*Acid Phos.*, *Carb. V.*, *Euphorb.*, *Sang.*, *Sep.*, *Lach.*, *Lyc.*, *Ars.*, *Silic.*, and *Sulph.*

Varicose — *Arn.*, *Puls.*, *Fluoric Acid*, *Kreos*, *Lach*, *Silic.*, and *Sulph*; also, *Ars.*, and *Phos. Ac.*

When proud flesh forms in ulcers — *Sang.*, *Sep.*, *Ars.*, *Petr.*, *Silic.*, and *Sulph.*

Asafœtida. Ulcers with elevated bluish edges, discharging a thin, ichorous, and fetid pus; painful upon pressure, particularly those affecting the bones and venereal-mercurial ulcers.

Arsenicum, when the ulcer bleeds easily, is very painful, with a *severe burning*, which sometimes changes to a tearing, when the parts become cold; the edges hard, irregular, and everted; the discharge is rather scanty, thin, offensive, and bloody, or blackish, copious, very fetid and ichorous: also old ulcers, with red shining areola, and a basis, which is either black, blue, or has the appearance of lard, and those with *proud flesh* and *fetid ichor*.

Belladonna, when the areola around the ulcer is inflamed and painful; there is a *burning* in the ulcer, upon its being touched, or at night, with lameness of the affected part; discharge bloody and ichorous. (See SCROFULOUS ULCERS.)

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Carbo Vegetabilis is indicated by symptoms similar to those of *Arsenicum*, except that the ulcer, instead of being inflammatory in its character, is *torpid*, and *entirely destitute of organic reaction*. It is sometimes useful in alternation with *Arsenicum*, when the ulcer is disposed to be gangrenous, the discharge very fetid, and there is much exacerbation of the burning pains towards evening, or at night.

Capsicum we have frequently used internally and externally for those obstinate cases, when nothing else affords relief; such as will be met with in ulcers on the legs of females who have been affected with *phlegmasia dolens*. The pain being of the severest character and nearly continuous, *smarting* and *burning* as *though the part were enveloped in fire;* the nervous system much affected; chills and great prostration, with loss of appetite and great thirst, being accompaniments. For the external application, dilute the tincture, leaving it strong enough to produce severe smarting, and wash the ulcer freely with it. Though it first aggravates the suffering of the patient, it will soon allay the burning and smarting. It may be reapplied upon a return of the pain, and will soon change it to a healthy ulcer.

Graphites is beneficial when the pain is of the itching and smarting kind, with a feeling of pressure and sticking, the pain being very violent, with a sensation as though the bone would be broken when the limb is moved.

Fluoric Acid, in repeated doses, reduced to one-half their former size, numerous varicose veins, of twenty years' standing, on the left leg of an old man.

Kreosotum. Scrofulous and varicose ulcers, particularly on the feet of old people, secreting an acrid fetid ichor, bleeding easily, the edges irregular and raised, looking as if corroded by insects. (See GANGRENOUS ULCERS.)

Hepar Sulphuris. Ulcers with itching, corrosive, gnawing pain; burning and throbbing at night; *bleeds even when slightly wiped;* pus having a *sour smell*, as old cheese. If on a limb, the pain is so aggravated by the depending position, that it is insupportable. Sometimes follows Arsenicum, with advantage.

Lachesis. Foul, flat ulcers, of various sizes, scattered over the body with ichorous discharge: old, very painful ulcers, deep, foul,

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uneven at the bottom; edges raised, pad-shaped; a spongy appearance; cannot bear to be touched or moved; burning pain at night, palliated by bathing with cold water; tightness of the skin around the ulcer, as if too short. The leg sometimes of a livid, dark brownish mottled appearance, enlarged, with numerous small ulcerating pustules around the ulcer.

Lycopodium. — Phagedenic ulcers; edges callous or everted, with very great itching tearing pain, especially at night in bed, and pus of a yellowish citron color.

Mercurius. — Deep ulcers, disposed to spread rapidly, bleed easily, very sensitive, least touch causing severe pain; base uneven, of a dirty reddish or lard-like appearance; edges raised, irregular, serrated, varying in appearance, some parts red, shining, others livid; pus thin and offensive; pains are generally burning with stitches, sometimes shooting. Should there be also present an unequal quick pulse, restlessness, profuse night sweats, great nervousness and impatience from the slightest causes, it will be more strongly indicated.

Muriatic Acid. — Ulcers covered with scurf, on persons whose vital powers are much impaired, and disposed to become dropsical; very painful, with burning, more around than in the ulcer; exercise causes a sort of throbbing in the ulcer; fetid, ichorous pus.

Pulsatilla. — Flat, putrid, carious, *varicose* and easily bleeding ulcers, surrounded by a hard, shining red areola, which is affected with severe itching, pain in the ulcer of a stinging, biting-burning character, which is somewhat relieved by the pressure of the bandage.

Sanguinaria. — Old, indolent, ill-conditioned ulcers with callous borders and ichorous discharge, and those disposed to the formation of proud flesh.

Silicia. — Old, unclean ulcers on persons who have become debilitated and cachetic, whether from abuse of mercury or drunkenness. It is often, in obstinate cases, advantageously alternated with *Sulphur* or *Sepia*, and *Nitric Ac.* It is useful when granulation takes place slowly and imperfectly, or proud flesh is disposed to shoot up. In ulcers with rough callous edges, the parts around the ulcer, if on the legs, enlarged, bluish red, and hard,

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sometimes like bone; pain stitching and burning around the margin, but aching in the ulcer; pus either thick and discolored, or thin, bloody, ichorous and offensive.

Sulphur, — in most all old ulcers, Scrofulous, Fistulous, Psoric, Mercurial, &c., when there is a very strong tendency to the production of proud flesh, and there is no distinct appearance of granulations. In the irritable, easily bleeding with raised, swollen and sensitive edges, discharging a thin, fetid, ichorous or sanious fluid, as well as those almost destitute of sensibility, surrounded with a dark bluish areola, the base covered with pale-red, spongy, insensible proud flesh, with a smooth shining surface, and discharging a thick yellow pus. The *Tincture* of *Sulphur*, first attenuation, one dose night and morning, is highly recommended by Hartman for phagedenic and varicose ulcers. He says it will remove the itching and burning, and the inflammation around the ulcer in a few days, though it generally takes a number of weeks to cure the ulcers.

CHAPTER X.

CHRONIC ULCERS — "OLD SORE LEGS" — "FEVER OR BRANDY SORES."

Chronic Ulcers — Their frequency and supposed incurability — Description — "Ought old sores to be cured?" — Old School treatment — Bandaging and strapping — Therapeutic indications from Dr. Boenninghausen — Report of Cases.

THAT the subject of ulcers may be as complete as possible, we shall in this chapter call attention to another species or compound of the ulcer genus, give the peculiarity of topical treatment, and in addition to the remedies and their indications given in the preceding chapter, quote from that valuable work of Dr. Böenninghausen (Therapeutic Pocket Book, translated by Dr. Hempel), his remarks upon ulcers, and in conclusion give the report of a few cases.

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This species we have designated by the truly descriptive, if not very classical name of

OLD SORE LEGS!

That it is of more importance than any of the others, must be evident, if for no other reason than for this, that it *includes all* the others, — the same limb often producing specimens of the indolent ulcer, the irritable, the varicose, and perhaps, too, at the same time, one or two in a tolerably healthy condition.

These cases will often be brought under your notice as "*fever sores;*" and as they not unfrequently afflict those who are, or have been, hard drinkers, they are also called, in many parts of the country, "*whisky*" or "brandy *sores.*" Though intemperance, as this name implies, may have been the principal cause, "signing the pledge," or even the keeping of it, will not always be sufficient to obtain a remission of .the penalty. Physiological sins are not pardoned on simple repentance. Medicinal means of grace have been provided.

But, unfortunately, the sinners, or sufferers, lack *faith* in the Old School ministry, and little wonder! They have often gone the rounds of the profession, consulted every doctor within their reach, been treated or maltreated in hospitals and in private hands; and if their general health, which is often tolerably good, escapes *this* great additional danger, the only result is, that they get resigned to their original affliction as well as the disappointment, and can hardly be brought to believe there is for them any "balm in Gilead,"— any hope from surgery. Few cases come into our hands that are not of long standing. We have had them ten, twenty, and even thirty years old.*

Although the patient is apparently well, and will tell you that his general health is perfect, he is often more or less lamed (the ulcers being deep), and suffers much, particularly at night. The chief suffering is from the heated state of the parts, which is so great that cold water affords no sensible relief, and you will often find that, even in the coldest nights, he lies with the limb entirely uncovered. But grown accustomed to the evil, and faithless as to any remedy, the sufferer makes no complaints and calls for no aid.

* In one case of *thirty-five* years' standing, where thousands had been spent for medical treatment, a complete cure was effected in a little over twelve months.

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His cure, however, is not hopeless, though he is past hoping for it. Of however bad a character and long standing may be the case — and though all the "eminent" surgeons and doctors in the country may have failed, — the Homeopathic surgeon need not fail, and will not, if he carefully selects his internal remedies, and faithfully applies the topical treatment as recommended in this and the preceding chapter.

One peculiarity of these ulcers was alluded to: they are often from an inch to an inch and a half deep. They often appear deeper than they really are, from the edges being raised, and hardened by a deposit in the cellular tissue. Sometimes *sinuses* are present, and retard the cure. The patient may suffer much more, however, from the swelling, where there is no open ulcer at all.

Aside from the character of the ulcers themselves — the *condition* of the *limb* is remarkable. This is hardened as well as swollen, and in some instances not to be distinguished by the touch from bone. Not unfrequently the patient will say that Dr. somebody or other has pronounced it an incurable "enlargement of the bone," and thrown out a pleasant hint about amputation in prospect! Around the ulcers, and at other points where ulcers have formerly existed,— sometimes the limb all over, from ankle to knee,— it is as *dark* as a negro's leg: where the cuticle scales off, as often happens, it leaves a shining, bluish or livid surface, which becomes *white* on *pressure* with the finger.

It is a popular opinion or prejudice, that if these old sores could, they *should not be cured!* This notable idea is often encouraged too, by professional men!! Is it to conceal their own want of skill, or because they really have seen bad effects follow the "cure" of such cases *under their practice?* Certainly no *physician* will consider the *mere external closure of a chronic ulcer as a cure*, while the diseased state of the system which occasioned it, and which perhaps required it, remains uncorrected. Physiology does not enumerate among the natural emunctories, an artificial anus in the leg. The human mechanism was surely constructed to be kept in order without such a safety-valve as *that!* Restore the *general health* by proper constitutional means, giving due attention to *all* the functions, secretory and excretory, and there will be *no danger whatever.*

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Nature will be able to preserve the general system without the sacrifice of any particular part. Nor *need* there ever be any necessity for reopening the unfortunate ulcer, or setting up of a substitute in the shape of an artificial issue in some other part of the body, as is the practice of some surgeons. The drainage and sewerage of the system are better provided for than they can be by our art. Where, however, constitutional treatment is resorted to by the *old Alleopathic school* of practitioners, it is often worse than useless. They are informed, indeed, by one of their greatest American lights, that "constitutional means often (!) exert great influence (!!) over indolent ulcers." And what do you suppose is indicated as the very best of all "constitutional means?" "In the words of the Philadelphia Hospital," continues the professor quoted,* "I have succeeded in numerous instances by the use of *blue pills*, and other preparations of *mercury*, after *most other means* had been tried for months ineffectually."

How much, or rather how *little* is implied by this expression, "most other means," we may perhaps guess from what follows: "where the patient's constitution has been prostrated by intemperance and other similar causes, the internal use of carbonate of ammonia, wine, brandy, opium, &c., will prove of immense service; indeed, in most instances, chronic ulcers cannot be healed without the use of such remedies." These eight or ten lines include all the constitutional treatment recognized as necessary by a distinguished teacher in one of the first Old School colleges in the world! The blue pill and other preparations of mercury, with wine, brandy and opium!! When such a guide as that is blindly followed by thousands, can we wonder at the consequences to the tens of thousands whose lives and health are at stake? *Opium* and *Mercury*! The former of these *never-failing* resources is also recommended by Druitt, the author of a much esteemed practical compend of English Surgery. He tells us (p. 85) "to begin with half-grain doses night and morning, and gradually increase to keep up the impression,"—as of course we must to a Chinese or Turkish extent, and probably never be able to leave it off again, while it *leaves life*. Besides this often fatal *inconve-*

* Gibson's Surgery, vol. 2, p. 163.

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nience, the use of the *article as recommended* is clearly contra-indicated by the very state of the system assigned as a reason or *excuse* for giving it. We are encouraged to rely on this tempting palliative, because forsooth "it acts on the surface!" as if its certain *secondary* effects on the surface in those large doses, when long continued, as in this case it must be, were not *visibly* the reverse of those designed! Who knows not the sear and dried-up skin of the opium eater?

It is these partial and superficial views of disease, and the action of remedies, that occasion such frequent failures, and even fatal errors. Not only has the *general surface* been for years in a diseased condition, but the system at large is as plainly out of order. Yet opium and mercury are to be prescribed! the former being certain in the end to lessen the healthy action of the skin and other excreting surfaces, and the latter having a direct tendency, when used as recommended, to derange the liver and stomach, and through its constitutional influence aggravate the local difficulties already present. What ulcers are so ill-conditioned and intractable as *mercurial ones?*

Not in a single instance is any application recommended for the skin, — that most important and most neglected of the health-preserving, and health-restoring organs, — no, not even soap and water! Is it then surprising, that in these chronic diseases, under the old Alleopathic practice, the *rule* should be the failure, and *cure* the exception? and that, in a large proportion of cases, such doctoring should prove worse than unavailing — positively and grossly mischievous?

Homeopathy keeps us from any such empirical practice, by teaching us to carefully consider the *totality* of the symptoms present in each case, and the selection of that remedy whose symptoms correspond most fully.

The peculiarity of topical treatment, consists in making use of such mechanical appliances as will remove the mechanical obstacles to the cure. The weight of the superincumbent column of blood, retarding the circulation, tends to produce congestion of the capillaries, and consequent tension of the filaments of nerves distributed over them. These difficulties are increased by the division of nature's bandage — the skin. They are overcome by the

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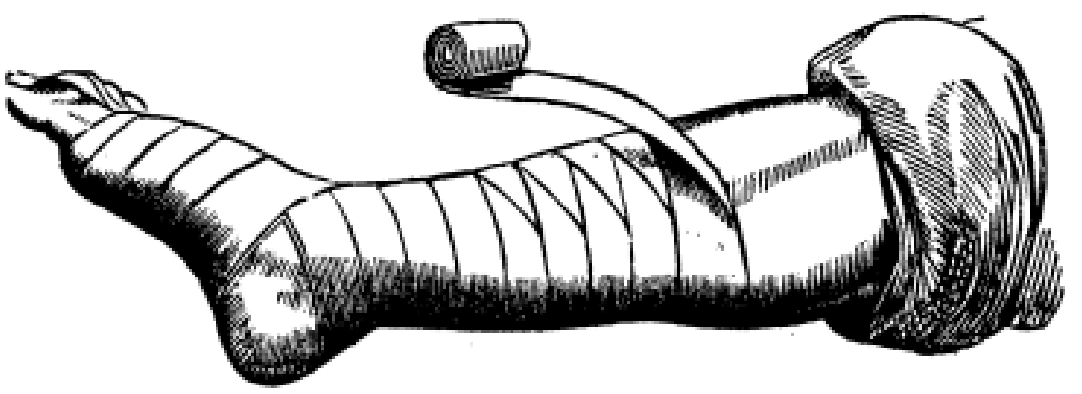
artificial bandage. It is true that they may also be obviated by confining the limb in a horizontal position. This is, however, impossible in the majority of instances, during the length of time necessary for the cure of these long standing cases, either from the circumstances or unwillingness of the patient. But if it were possible, it would be impolitic; depriving a patient of the advantages of exercise in the open air, might injure his health. Besides, experience has shown that a cicatrix formed while the limb was kept in the horizontal position, is not as firm as one formed where the limb was exercised. Some Homeopathic writers have said that "the treatment of chronic indolent ulcers ought to be solely internal at the *commencement.*" If the internal remedies are sufficient to overcome the mechanical obstacles, as well as remove the dyscrasia at the *commencement*, and convert the ulcer into one of a healthy character, why not let them complete the cure? Why is it more improper to remove the mechanical obstacles to the cure at the commencement than at a later period of the treatment?

The bandage, for some time after commencing the treatment, should be applied once or twice a day by the surgeon himself, so that he may know that it *presses equally upon every part.* Any part left constantly uncompressed by unskillful bandaging, will soon become sore, and probably break out in an ill-conditioned ulcer. The pressure should be gentle at first, and gradually increased according to the feeling of the patient. If it acts favorably, the swelling will decrease, and the pus become thicker, and more cream-like.

Fig. 1.



To *apply the bandage*, which should be about two and a half inches wide, begin with it at the extremity of the great toe, so as to compress it equally all round. At the next turn include the second toe, and so on with the others, one at a time. Then go on

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smoothly and firmly all over the foot, first placing compresses in the hollows round the ankle, so as to have equal pressure at every point. Continue to the knee, or should the state of the limb require it, include even the thigh also. Let each layer of the roller overlap the preceding for at least two-thirds of its width. Where the limb is tapering (as just above the malleoli), it will not lie smooth unless it is folded over itself and slightly changed in its direction at almost every turn. When it reaches the knee, or as high as you wish to go, bring it, in the same manner, down to the foot again, taking care to bind it no tighter than before.

The limb may now be kept wet with cold or warm water, and covered with flannel or oil silk to prevent evaporation (see preceding chapter). When there is a hard, callous welt around the edge of the ulcer, a compress of thin sheet lead over it, will hasten its absorption. When there are sinuses, they should be daily injected with a dilution of the internal remedy, after which, lint, wet with the same, should be pushed into them until they are quite filled. Where they connect, lay them open with a ligature.

With the appropriate internal and this topical treatment, the *ulcers* will soon heal, but the *cure* is not complete so long as there is any hardness or discoloration of the limb.

The limb should be daily bathed in cold water, and the *bandage* continued for some time after all traces of the difficulty have disappeared.

The diet in these cases, needs generally to be *nutritious*, not stimulating. And besides the sponge-bath, which should be universally used, if only for the purpose of cleanliness, a great advantage may be derived from the wet-sheet pack, and other invigorating appliances of Hydropathy. The bandage has been sufficient in our hands, yet as there are cases in which we think Mr. Scott's plan of

Strapping may be advantageous, we quote the directions for it as given by Dr. Critchett in the London Lancet, vol. ix. He says: "You must seat your patient opposite to you, and support his foot upon a small stool about a foot and a half in height, and so constructed as to receive the point of the heel, and leave the rest of the foot free. You should be provided with strips of plaster, about two inches in width, and varying in length from twelve

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to eighteen inches, according to the size of the limb. The best material for this purpose is the simple *emp. plumbi*, of the Pharmacopoeia, spread upon soft, unglazed calico, and free from resin, which is often introduced to increase its adhesiveness, but which is very liable to irritate the skin. If the plaster be well made, and of the best materials, it will adhere perfectly. I have often found it unmoved for many weeks and even months. It is convenient to provide yourself with a metallic warmer, made with a flat top, upon which you can lay three or four pieces, heated either by hot water or by small lamps, which are better, if you require it for any length of time. This form of warmer is far preferable to the circular one, ordinarily in use, saving both time and trouble. But to proceed. You then take the center of the first piece, and apply it low down to the back of the heel, and then with the flat part of both hands, press the plaster along both sides of the foot. This plan is preferable to taking hold of the ends, and endeavoring to apply them, as it insures a perfectly smooth adaptation of the plaster to the part, and also because it enables you to regulate the amount of tightness, which is a very important point. As you proceed with the remainder, you must always remember the principle is to make one portion hold on another; you must, therefore, alternate them round the foot and ankle. Your second piece should be placed in a similar manner underneath the heel, then carried upwards, at a right-angle to the last, so as to cover a portion of each malleolus. The third piece should be again applied to the back of the heel, overlapping the first by about one-third. The fourth piece under the foot and carried upward, each piece being pushed along so as to allow it to take its own course; this must be continued until the foot and ankle are enveloped. The strips must then be carried in a similar manner up the leg, increasing in length as the calf increases, and extending as far as the knee, and in some few cases even above this. A calico bandage, about three inches in width, and eight yards in length, varying, however, according to the size of the limb, must now be applied, to keep the plaster in its place, and the limb is supported in the most complete and efficient manner that human ingenuity has yet devised." In small ulcers, situated in the hollow, between the malleolus and os calcis, he directs, previous to the support just described, to apply

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some pieces of strapping, about six inches in length, and two inches in width, in a crucial manner, over the wound, so as to extend a few inches above and below it.

For the selecting of internal remedies, see the remedies spoken of in the preceding chapter, and carefully consult the following indications as given by Dr. Böenninghausen.

"Ulcers in general.

Acon. alum. ambr. amm. anac. ang. *ant-crud.* ant-tart. arg. *arn.* ARS. ASAF. *aur. bar.* BELL. bor. bov. BRY. CALC. camph. canth. *carb-an.* CARB-VEG. *caust. cham. chel. chin.* cic. cina. *clem.* cocc. coff. colch. CON. *creos.* croc. cupr. cycl. dig. dros. dulc. euphorb. *graph.* guaj. HEP. hyosc. ignat. jod. ipec. kali. LACH. led. LYC. mgs. m-arct. m-austr. mang. MERC. *mezer. mur-ac. natr.* natr-mur. NITR-AC. n-mosch. n-vom. par. *petr.* PHOSPH. PHAC. plumb. PULS. *ran-bulb.* ran-scel. RHUS. *ruta. sabin.* samb. sassap. scill. *sec-corn.* selen. seneg. SEP. SIL. spong. STAPH. stram. stront. SULPH. sulph-ac. tar. *thuj.* veratr. vit. zinc.

—— bruised, with pain as if.

Ang. ARS. cham. *chin. cocc.* CON. HEP. hyosc. natr-mur. *n-vom.* rhus. *ruta.* SULPH.

—— biting (smarting).

Ars. bell. *bry. calc.* carb-an. *caust.* cham. chin. *colch.* dig. EUPHORB. *graph.* LACH. LED. LYC. mang. *merc. mezer.* natr. petr. ph-ac. PULS. ran-bulb. rhus. ruta. selen. *sil.* staph. SULPH. sulph-ac. thuj.

—— black, turning.

Ant-tart. ARS. ASAF. bell. *carb-veg.* con. *euphorb.* ipec. *lach. mur-ac.* PLUMB. sas. *rhus.* scill. SEC-CORN. SIL. *sulph.* sulph-ac.

—— —— on the bottom,

ARS. *ipec.* plumb. *sil.* sulph.

—— —— on the edges.

ARS. lach. *sil.* sulph.

—— bleeding.

Ant-tart. arg. *arn.* ARS. ASAF. bell. CARB-VEG. caust. con. creos. croc. dros. HEP. *hyosc.* jod. KALI. LACH. LYC. *mgs.* MERC. mezer. natr-mur. NITR-AC. PHOSPH. *ph-ac.* PULS. rhus. ruta. sabin. *sec-corn.* sep. SIL. SULPH. sulph-ac. thuj. zinc.

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Ulcers, bleeding on the edges.

ARS. *asaf.* caust. *hep. lach.* LYC. MERC. phosph. ph-ac. puls. sep. SIL. sulph. thuj.

—— **with blisters around.**

ARS. bel. *caust. hep.* LACH. mgs. merc. natr. petr. phosph. *rhus. sep.*

—— **bluish.**

Arn. *ars. asaf. aur.* bell. bry. calc. carb-veg. CON. HEP. LACH. mang. *merc.* ph-ac. sec-corn. seneg. *sil.* staph. *veratr.*

—— **boring.**

Arg. aur. *bell.* calc. caust. chin. *hep.* kali. natr. natr-mur. *puls. ran-scel.* sep. SIL. SULPH. thuj.

—— **burning.**

Ambr. ARS. *asaf.* aur. bar. *bell.* bov. *bry.* calc. *carb-an.* CARB-VEG. CAUST. cham. chin. *clem.* CON. *creos.* dros. graph. HEP. ignat. kali. *lach.* LYC. mang. MERC. MEZER. mur-ac. *natr.* natr-mur. nitr-ac. *n-vom.* petr. phosph. ph-ac. plumb. PULS. *ran-bulb.* RHUS. sassap. scill. sec-corn. selen. sep. SIL. *staph.* stront. SULPH. *thuj.* zinc.

—— —— **in the edges.**

ARS. *asaf. carb-an.* CAUST. clem. HEP. *lach.* LYC. MERC. *mur-ac.* petr. phosph. ph-ac. *puls.* ran-bulb. sep. SIL. staph. *sulph.* thuj.

—— —— **in the circumference.**

ARS. ASAF. bell. CAUST. cham. *hep.* LACH. LYC. MERC. *mezer.* mur-ac. natr. n-vom. petr. phosph. PULS. RHUS. sep. SIL. staph.

—— **as if burnt.**

Alum. *ant-crud.* ARS. *bar.* bell. bry. calc. CARB-VEG. *caust. creos.* CYCL. hyosc. *ignat.* lach. *n-vom. puls. sabad. sec-corn. sep.* stram.

—— **cancerous.**

Ambr. ant-crud. ARS. aur. *bell.* calc. *carb-an. carb-veg.* caust. chel. clem. *con. creos.* dulc. HEP. LACH. MERC. *nitr-ac.* phosph. *rhus.* sassap. scill. SEP. SIL. spong. *staph.* SULPH. *thuj.*

—— **cold, with a sensation of.**

Ang. ARS. BRY. *merc.* petr. plumb. *rhus.* SIL. thuj.

—— —— **with corroding (gnawing) pains.**

Bar. bell. calc. *cham.* cycl. *dros.* hyosc. *kali.* led. *lyc.* mang.

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merc. mezer. natr. *phosph. ph-ac.* PLAT. PULS. RAN-SCEL. rhus. *ruta.* STAPH. *sulph.* thuj. VIT.

Ulcers, crusty (scabby).

Ars. bar. BELL. bov. *bry.* CALC. carb-an. cic. clem. CON. GRAPH. *hep.* led. LYC. MERC. mur-ac. *puls.* ran-bulb. RHUS. sas-sap. SEP. SIL. staph. SULPH. viol-tr.

—— cutting.

BELL. CALC. *dros.* graph. ignat. *lyc.* mur-ac. NATR. ph-ac. rhus. sep. *sil.* sulph-ac.

—— deep.

Ant-crud. ars. *asaf. aur.* BELL. CALC. *carb-veg.* caust. chel. clem. CON. creos. *hep. lach.* led. LYC. mgs. *merc. mur-ac.* natr. natr-mur. NITR-AC. *petr.* phosph. *ph-ac.* PULS. *rhus. ruta.* sabin. selen. *sep.* SIL. staph. stram. SULPH. *thuj.*

—— digging.

ASAF. bell. bry. calc. *chin.* natr. phosph. ruta. *sep.* stront. sulph.

—— drawing. (See Tearing).

—— dry. (See Pus too little).

—— even (flat).

Amm. ang. *ant-crud.* ant-tart. ARS. ASAF. *bell.* carb-an. carb-veg. *chin.* LACH. LYC. MERC. natr. *nitr-ac. petr.* phosph. PH-AC. *puls. ran-bulb.* SELEN. SEP. SIL. *sulph.* thuj.

—— feeling, destitute of.

Anac. ARS. CALC. *camph. carb-an.* CARB-VEG. CON. dulc. *euphorb.* graph. *jod.* ipec. kali. *lach.* LAUR. LYC. mgs. mur-ac. *nitr-ac. oleand.* OP. phosph. PH-AC. *plumb.* rhus. sec-corn. *sep.* SIL. stram. SULPH. vit. zinc.

—— fistulous.

Ant-crud. ars. ASAF. *aur.* BELL. bry. CALC. CARB-VEG. *caust.* chel. clem. CON. creos. *hep. lach.* led. LYC. merc. natr. natr-mur. NITR-AC. *petr.* phosph. ph-ac. PULS. rhus. *ruta.* sabin. selen. *sep.* SIL. staph. stram. SULPH. *thuj.*

—— flat. (See Even).

—— gangrenous.

Ant-tart. ARS. ASAF. *bell.* carb-veg. con. EUPHORB. LACH. merc. PLUMB. ran-bulb. SCILL. SEC-CORN. SIL. *sulph. sulph-ac.*

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Ulcers, with gnawing pains. (See Corroding).

—— hard.

Arn. ARS. ASAF. aur. bar. BELL. BRY. CALC. carb-an. *carb-veg.* caust. cham. chel. CHIN. cic. cina. CLEM CON. cupr. cycl. dulc. *graph.* HEP. hyosc. jod. LACH. led. LYC. MERC. mezer. natr. n-vom. *phosph. plumb.* PULS. ran-bulb. ran-scel. selen. *sep.* SIL. *staph.* SULPH. thuj. veratr. *vit.*

—— —— on the edges.

ARS. ASAF. *bry.* carb-an. caust. cic. cina. *clem.* HEP LACH. LYC. MERC. petr. phosph. ph-ac. PULS. ran-bulb. sep. SIL. staph. *sulph.* thuj.

—— —— in the circumference.

Arn. ARS. ASAF, BELL. caust. cham. cina. *hep.* LACH. LYC. *merc.* mezer. natr. n-vom. petr. phosph. PULS. sep *sil.* staph. sulph.

—— with high, hard edges.

ARS. ASAF. *bry.* carb-an. *caust.* cic. cina. clem. hep. lach. LYC. MERC. mur.ac. *petr.* phosph. ph-ac. PULS. ran-bulb. *sep.* SIL. staph. *sulph. thuj.*

—— difficult to heal.

Alum. amm. *bar.* CALC. *carb-veg.* caust. CHAM. chel. *clem.* CON. croc. GRAPH. hell. HEP. kali. LACH. LYC. magn. mang. MERC. mur-ac. *natr.* NITR-AC. n-vom. PETR. *phosph. ph-ac.* plumb. RHUS. *scill.* SEP. SIL. STAPH. SULPH.

—— hot. (See Burning and Inflamed).

—— jerking.

Arn. ASAF. aur. *bell.* bry. CALC. CAUST. *cham. chin.* clem. *cupr.* graph. *lyc. merc.* natr. NATR-MUR. *nitr-ac. n-vom.* petr. PULS. RHUS. *sep.* SIL. *staph. sulph.*

—— inflamed.

ACON. ant-crud. *arn.* ARS. *asaf.* bar. BELL. bor. bov. BRY. *calc.* caust. *cham.* cina. cocc. *colch.* con. creos. croc. cupr. dig. HEP. hyosc. ignat. led. LYC. m-arct. mang. MERC. *mezer. natr. nitr-ac.* n-vom. petr. *phosph.* plumb. PULS. ran-bulb. RHUS. *ruta.* sassap. sep. SIL. STAPH. *sulph.* thuj. veratr. vit. zinc.

—— itching.

Alum. ambr. amm. anac. *ant-crud. ant-tart.* arn. ARS. bar. *bell. bov.* bry. *calc. canth.* carb-veg. CAUST. *cham.* chel. CHIN. *clem.*

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con. creos. dros. GRAPH. HEP. ipec. *lach.* led. LYC. *merc.* mezer. natr. natr-mur. nitr. *nitr-ac.* n-vom. petr. *phosph.* PH-AC. PULS. *ran-bulb.* RHUS. ruta. sabad. sassap. scill. selen. SEP. SIL. STAPH. SULPH. *thuj.* veratr. viol-tr. zinc.

Ulcers, itching round about.

Ant-tart. ars. bell. caust. clem. HEP. LACH. LYC. merc. mezer. natr. n-vom. petr. phosph. *ph-ac.* PULS. *rhus.* sabin. *sep.* SIL. *staph. sulph. vit.*

—— looking like lard.

Ant-crud. ART. *creos.* cupr. HEP. MERC. NITR-AC. *sabin.* sulph. thuj.

—— —— on the bottom.

Ars. *hep.* MERC. *nitr-ac.*

—— with maggots.

Ars. calc. merc. SABAD. SIL. *sulph.*

—— old, opening again. (See Cicatrices).

—— painful. (See Sensitive).

—— painless.

Ambr. anac. ant-tart. arn. ARS. aur. bar. BELL. bov. *bry.* camph. carb-an. cham. *chel.* chin. cic. COCC. CON. croc. graph. *hell.* HYOSC. *ignat.* ipec. *laur.* led. LYC. *mgs. merc.* n-mosch. n-vom. OLEAND. OP. PHOSPH. PH-AC. plat. PULS. *rhus. sec-corn.* staph. STRAM. *sulph.* veratr. zinc.

—— with pressure.

Camph. *carb-veg. chin.* GRAPH. par. SIL.

—— pricking.

Acon. alum. ant-crud. arn. ARS. ASAF. *bar.* BELL. bov. BRY. *calc.* camph. canth. *carb-veg.* cham. *chin. clem.* cocc. *con. cycl. graph.* HEP. *led.* LYC. m-arct. magn. mang. MERC. *mezer.* mur-ac. *natr.* natr-mur. nitr. NITR-AC. *n-vom.* PETR. *phosph.* PULS. *ran-bulb.* RHUS. sabad. *sabin.* sassap. scill. selen. SEP. SIL. spong. STAPH. SULPH. thuj.

—— —— in the edges.

ARS. ASAF. *bry.* clem. HEP. LYC. MERC. mur-ac. *petr.* phosph. PULS. ran-bulb. *sep.* SIL. *staph.* SULPH. thuj.

—— —— in the circumference.

Acon. ARS. ASAF. *bell.* cham. cocc. *hep. lyc.* MERC. mezer.

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mur-ac. natr. n-vom. *petr.* phosph. PULS. *rhus.* sabin. *sep.* SIL. *staph.* SULPH.

Ulcers, with tingling.

Acon. ant-tart. ARN. *bell.* caust. *cham.* CLEM. *colch.* CON. croc. graph. *hep.* kali. *lach. merc.* natr. natr-mur. *n-vom. ph-ac.* plumb. *puls.* ran-bulb. RHUS. sabin. *sec-corn.* SEP. spong. *staph. sulph.* sulph-ac. thuj.

—— with flesh in the ulcer.

Alum. ant-crud. ARS. bell. *carb-an.* carb-veg. caust. CHAM. *clem.* creos. *graph.* LACH. merc. PETR. *phosph.* sabin. SEP. SIL. *staph.* SULPH. *thuj.*

—— pulsating.

Acon. arn. *ars.* ASAF. bar. bell. bov. bry. CALC. *caust.* cham. chin. *clem.* con. *hep.* hyosc. ignat. KALI. LYC. *mgs.* MERC. mezer. *mur-ac. natr.* natr-mur. *nitr-ac.* petr. *phosph.* ph-ac. *puls.* rhus. *ruta. sabad.* sassap. *sep.* SIL. staph. SULPH. *thuj.*

—— pus of the ulcers. (See Suppurating.)

—— with pustules around

Acon. ARS. bell. CAUST. cham. hep. LACH. *lyc.* mgs. merc. mezer. mur-ac. natr. petr. phosph. PULS. *rhus.* SEP. *sil.* staph. sulph.

—— putrid.

Amm. *ars. asaf.* aur. bell. bov. *bry.* CALC. carb-veg. caust. chel. CHIN. cic. con. *creos.* cycl. *graph.* HEP. *lyc.* mang. *merc.* mezer. MUR-AC. natr. *nitr-ac.* n-mosch. n-vom. phosph. PH-AC. plumb. *puls.* RHUS. ruta. sabin. sec-corn. *sep.* SIL. staph. SULPH. sulph-ac. thuj.

—— with redness around.

ACON. ant-crud. arn. ARS. ASAF. bar. *bell.* bor. bry. *calc.* CHAM cocc. creos. cupr. HEP. hyosc. ignat. LACH. led. LYC. MERC. mezer. natr. *nitr-ac.* n-vom. *petr. phosph.* ph-ac. plumb. PULS. ran-bulb. RHUS. sassap. *sep.* SIL. STAPH. *sulph.* thuj. veratr. zinc.

—— salt-rheum.

AMBR. ARS. *calc.* chin. GRAPH. LYC. merc. natr. *petr. phosph.* PULS. SEP. *sil. staph.* sulph. zinc.

—— scabby. (See Crusty.)

—— sensitive (painful).

Alum. amm. anac. ang. ARN. ARS. ASAF. aur. BELL. carb-

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an. CAUST. *cham. chin.* cic. CLEM. *cocc.* coff. con. *creos.* croc. *cupr.* dig. *dulc.* GRAPH. HEP. hyosc. jod. LACH. led. LYC. MERC. mezer. *mur-ac.* natr. natr-mur. nitr-ac. *n-vom. petr. phosph.* PH-AC. PULS. ran-bulb. ran-scel. rhus. sabin. scill. selen. SEP. SIL. sulph. thuj. *veratr.*

Ulcers, sensitive on the edges.

ARS. ASAF. *caust. clem.* HEP. LACH. LYC. MERC. mur-ac. petr. phosph. *ph-ac. puls.* ran-bulb. *sep.* SIL. sulph. thuj.

—— —— **in the circumference.**

ARS. ASAF. *bell. caust.* cocc. HEP. LACH. *lyc. merc.* mezer. mur-ac. natr. n-vom. petr. phosph. PULS. rhus. *sep. sil.*

—— **suppurating.**

Acon. ambr. *amm.* anac. ang. ant-crud. ant-tart. arg. arn. ARS. ASAF. *aur.* bar. BELL. bov. bry. *calc.* CANTH. caps. carb-an. CARB-VEG. CAUST. cham. chel. *chin.* cic. *clem.* cocc. *con. creos.* croc. dros. *dulc. graph.* hell. HEP. hyosc. ignat. jod. ipec. kali. *lach.* led. LYC. mgs. mang. MERC. *mezer. mur-ac.* natr. natr-mur. nitr. NITR-AC. *n-vom.* petr. *phosph.* ph-ac. plumb. PULS. *ran-bulb. ran-scel.* RHUS. *ruta.* sabad. *sabin.* sassap. *scill.* sec-corn. selen. SEP. SIL. spig. spong. STAPH. SULPH. sulph-ac. thuj. viol-tr. zinc.

—— **scrofulous, of the glands.**

Cistus canadensis.

—— **with shocks in them.**

Ang. ARN. cic. CLEM. mezer. *mur-ac.* plat RUTA. *sulph-ac.*

—— **with pain as of soreness.**

Alum. ambr. ant-crud. arn. *ars.* bell. *bry. calc.* caust. cic. GRAPH. HEP. hyosc. *ignat.* kali. *lyc.* mgs. m-austr. MERC. *mezer.* natr-mur. *n-vom. phosph.* PH-AC. PULS. *rhus.* SEP. *sil. staph.* SULPH. sulph-ac. thuj. *zinc.*

—— **spongy.**

Alum. *ant-crud.* ant-tart. ARS. *bell.* calc. CARB-AN. *carb-veg.* caust. *cham.* CLEM. con. *creos.* graph. jod. LACH. lyc. *merc.* nitr-ac. n-vom. *petr.* PHOSPH. ph-ac. rhus. sabin. SEP. SIL. STAPH. SULPH. THUJ.

—— —— **on the edges.**

ARS. CARB-AN. caust. *clem.* LACH. lyc. *merc.* petr. *phosph.* ph-ac. *sep.* SIL. *staph. sulph. thuj.*

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Ulcers, with white spots.
ARS. *con.* LACH. phosph. *sep.* SIL. sulph.

—— **speckled.**
Arn. ars. CON. ipec. LACH. sulph-ac.

Ulcers, suppurating:

The pus being blackening.
Bry. *chin.* lyc. SULPH.

—— —— **bloody.**
Ant-tart. arg. arn. ARS. ASAF. *bell.* CARB-VEG. CAUST. con. creos. croc. dros. HEP. hyosc. jod. *kali. lach.* LYC. mgs. MERC. mezer. natr-mur. NITR-AC. *phosph.* ph-ac. PULS. *rhus.* ruta. sabin. sec-corn. *sep.* SIL. *sulph.* sulph-ac. thuj. zinc.

—— —— **brownish.**
Anac. *ars.* BRY. calc. *carb-veg.* con. puls. rhus. SIL.

—— —— **cheesy.**
Merc.

—— —— **too copious.**
Acon. *arg.* ARS. ASAF. bry. CALC. *canth. chin.* cic. creos. graph. jod. kali. *lyc.* mang. MERC. mezer. natr. PHOSPH. *ph-ac.* PULS. RHUS. ruta. sabin. *scill.* SEP. SIL. *staph.* sulph. thuj.

—— —— **corroding** (acrid).
Amm. anac. ARS. bell. calc. CARB-veg. CAUST. cham. chel. *clem.* con. *creos.* cupr. *graph.* HEP. ignat. jod. lach. LYC. MERC. mezer. *natr.* natr-mur. NITR-AC. *n-vom.* phosph. plumb. *puls.* RAN-BULB. RAN-SCEL. RHUS. ruta. SCILL. *sep.* SIL. spig. *staph. sulph. sulph-ac.* zinc.

—— —— **fetid.** (See Stinking).

—— —— **gelatinous.**
Arg. arn. bar. cham. ferr. *merc. sep.* SIL.

—— —— **greenish.**
Ars. ASAF. *aur.* carb-veg. CAUST. *clem.* creos. *merc.* natr. *n-vom.* phosph. PULS. *rhus. sep.* SIL. staph.

—— —— **gray.**
Ambr. ars. carb-an. CAUST. chin. *lyc. merc.* sep. SIL. thuj.

—— —— **ichorous.**
Amm. ant-tart. ARS. ASAF. aur. bov. *calc.* CARB-VEG. CAUST. CHIN. cic. clem. *con.* creos. dros. *graph. hep.* kali. *lyc.* mang. MERC. mur-ac. NITR-AC. n-vom. phosph. ph-ac. plumb.

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ran-bulb. RAN-SCEL. RHUS. scill. sec-corn. *sep.* SIL. STAPH. *sulph.*

The pus being lingering. (See Too Little).

—— —— **too little** (tarrying, lingering, wanting).

Acon. ars. *bar.* BELL. *bov.* bry. CALC. *carb-veg.* caust. chin. cina. *clem.* coff. creos. CUPR. dros. DULC. *graph.* HEP. hyosc. ignat. ipec. LACH. *led.* lyc. *magn.* MERC. n-vom. *petr. phosph.* PLAT. plumb. puls. rhus. *sassap.* SEP. SIL. spong. *staph.* sulph. VERATR.

—— —— **with maggots.**

Ars. calc. merc. SABAD. SIL. *sulph.*

—— —— **too much.** (See Copious).

—— —— **putrid.** (See Stinking).

—— —— **salty.** (See Salt-rheum).

—— —— **smelling like old (rotten) cheese.** (See Stinking).

—— —— —— **like herring brine.** (See Stinking).

—— —— **of a putrid smell.** (See Stinking).

—— —— **of a sour smell.**

Calc. graph. HEP. MERC. natr. *sep.* SULPH.

—— —— **stinking.**

Amm- ARS. ASAF. *aur.* bell. bov. bry. CALC. *carb-veg.* caust. chel. CHIN. cic. *con. creos.* cycl. GRAPH. HEP. LYC. mang. MERC. mezer. *mur-ac. natr. nitr-ac.* n-mosch. n-vom. phosph. PH-AC. plumb. puls. *rhus.* ruta. sabin. *sec-corn.* SEP. SIL. *staph.* SULPH. sulph-ac. thuj.

—— —— **stinking, like herring brine.**

Graph.

—— —— —— **like old (rotten) cheese.**

HEP. *sulph.*

—— —— **like tallow.**

Merc.

—— —— **thin.**

Ant-tart. ASAF. carb-veg. CAUST. dros. jod. kali. lyc. MERC. *nitr-ac.* plumb. puls. *ran-bulb. ran-scel. rhus. ruta.* SIL. staph. SULPH. thuj.

—— —— **tenacious.**

Ars. asaf. BOV. cham. CON. MERC. mezer. *phosph.* ph-ac. *sep.* sil. staph. *viol-tr.*

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The pus wanting. (See Too little).

—— —— **watery.**

Ant-tart. ARS. ASAF. calc. *carb-veg.* CAUST. *clem.* con. dros. *graph.* jod. kali. *lyc.* MERC. *nitr-ac.* n-vom. plumb. puls. RAN-BULB. RAN-SCEL. RHUS. *ruta. scill.* SIL. *staph. sulph.* thuj.

—— —— **whitish** (like milk).

Amm. ars. CALC. carb-veg. hell. LYC. PULS. *sep. sil. sulph.*

—— —— **yellow.**

Acon. ambr. amm. anac. ang. arg. *ars. aur.* bov. *bry.* CALC. caps. CARB-VEG. CAUST. *cic.* CLEM. con. *creos.* croc. *dulc.* graph. hep. jod. *lyc.* mang. MERC. *natr.* natr-mur. *nitr.* nitr-ac. n-vom. PHOSPH. PULS. *rhus.* ruta. sec-corn. selen. SEP. SIL. spig. STAPH. sulph. sulph-ac. *thuj.* viol-tr.

Ulcers, swollen.

Acon. arn. *ars.* aur. bar. BELL. BRY. *calc.* carb-an. *carb-veg. caust.* cham. cic. cocc. *con.* dulc. graph. HEP. jod. KALI. led. *lyc.* mang. MERC. natr. *natr-mur. nitr-ac.* n-vom. petr. *phosph.* ph-ac. plumb. PULS. RHUS. sabin. samb. SEP. SIL. staph. SULPH. vit.

—— —— **round about.**

Acon. *ars.* BELL. caust. cham. HEP. *lyc.* MERC. natr. n-vom. petr. phosph. PULS. *rhus.* SEP. *sil.* staph.

—— —— **on the edges.**

ARS. *bry.* carb-an. caust. cic. HEP. *lyc.* MERC. petr. phosph. ph-ac. PULS. SEP. SIL. SULPH.

—— **tearing** (drawing).

ARS. bell. *bry.* CALC. *canth.* carb-veg. caust. *clem.* cocc. CYCL. *graph.* kali. LYC. mgs. MERC. mezer. natr. nitr-ac. n-vom. phosph. *puls. rhus.* SEP. SIL. *staph.* SULPH. zinc.

—— **tensive.**

Arn. ASAF. aur. BAR. *bell. bry. calc. carb-an. carb-veg.* CAUST. cham. chin. *clem. cocc.* CON. creos. *hep.* jod. *kali.* LACH. *lyc.* MERC. *mezer.* mur-ac. natr. nitr-ac. *n-vom.* petr. PHOSPH. ph-ac. PULS. RHUS. *sabin. sep. sil.* SPONG. *staph.* STRONT. SULPH. *thuj.* zinc.

—— **tensive, in the circumference.**

ASAF. bell. *caust.* cham. cocc. hep. LACH. lyc. *merc.* mezer.

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mur-ac. natr. n-vom. petr. *phosph.* ph-ac. PULS. *rhus.* sabin. sep. sil. staph. STRONT. SULPH.

Ulcers, with indented edges.

Hep. lach. MERC. PH-AC. sil. *staph.* sulph. THUJ.

—— with pain as of subcutaneous ulceration.

Amm. anac. *arn.* ars. ASAF. aur. *bar.* BRY. CALC. CARB-VEG. chin. colch. CON. creos. *cycl.* dros. euphorb. GRAPH. *hep.* hyosc. jod. *kali. led. natr-mur.* nitr-ac. n-vom. par. *petr.* PHOSPH. PULS. RAN-BULB. RHUS. ruta. sassap. *sec-corn.* SIL. *staph.* SULPH. *valer.* veratr. *zinc.*

Varices.

AMBR. ANT-TART. ARN. ARS. *calc.* CARB-VEG. CAUST. coloc. CREOS. FERR. GRAPH. LACH. LYC. M-AUSTR. magn. NATR-MUR. *n-vom.* PULS. *sil.* SPIG. SULPH. *sulph-ac. thuj.* ZINC.

—— suppurating.

Ant-tart. ARS. creos. LACH. LYC. PULS. SIL. *sulph.*

—— inflamed.

ARN. ARS. *calc. creos.* LYC. n-vom. PULS. *sil. spig.* SULPH. thuj. *zinc.*"

REPORT OF CASES MOSTLY FROM THE BRITISH JOURNAL OF HOMEOPATHY, AND RUCKERT'S THERAPEUTICS.

Arsenic cured the two following cases as reported by Dr. Miller (Hygea xi., 108):

"The wife of a rope-maker, aged sixty-five, had been affected with an ulcer of the foot for *eighteen years.* A great many physicians and quacks had treated her in vain. I had treated her myself in 1830, according to the principles of the old school. The disease began in the left foot, near the ankle, by the formation of small, pustular elevations, which burst, and discharged a clear, acrid fluid, and formed an ulcerated surface, which gradually encroached on the neighboring healthy skin, till it reached the size of two hand's breadths. It grew gradually more foul and fetid, and the pains, which were at first more tearing and drawing, became at length sharp and burning. The patient had been confined to bed for the last two years; the foot was edematous, and the swelling increased almost daily; and also the foot

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swelled often. The patient was becoming visibly thinner, her appetite declined, and she had a cachetic appearance. I treated her for nine weeks with Arsenic 8, a dose every other day; upon this she gained strength daily, and the ulcerated surface gradually diminished in extent and dried up, the burning pain subsided, so that in the fifth week she was able to be up half the day, and at the end of thirteen weeks was able to resume her usual occupations."

"I treated in the same way a man aged twenty-three, affected with a psoric ulcer on the foot, arising from suppressed itch. He had been treated for two years with outward and inward remedies, but the disease had at last gained such a height that amputation was proposed. At first the ulcer had been covered with a scab, from under which oozed an acrid fluid, and the edges were thick and surrounded by scabious pustules; but latterly it displayed a foul blackish surface, almost insensible, discharging a fetid ichor, and was in fact sloughing. By the use of *Arsenic*, used as above, the patient was quite cured in seven weeks."—*B. J. Hom.*, vol. iv., p. 356.

"*Arsenicum* 30, 2 pellets, removed black-blue ulcers, surrounded with a shining red border, one being situated on the front part of the thigh, one in the bend of the knee. The swelling hindered walking. The ulcer in the bend of the knee required two more doses of *Arsenic* to complete the cure. —*A. H. Z.* vii., p. 327.

Arsenicum 30, one dose, was effectual where the following symptoms were present:

The whole body, except the face, was covered with small, ichorous ulcers, painful and burning when becoming cold; the pain is somewhat relieved by warmth. Emaciation; great exhaustion; every kind of food causes a pressure in the esophagus, as if it had been arrested there. Restless sleep; fever every day; first chilliness, afterwards heat, and lastly sweat; mind full of uneasiness and despair. — *Arch.* p. 156.

Graphites 30, commenced the cure of an ulcer on the foot of a female, which was completed by *Lycopodium*.

Symptoms: a flat herpetic ulcer of the skin, in the region of the ankle, on the whole anterior surface of the tarsal

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joint; it secretes a good deal of ichor, and is bordered with small, irritable ulcers, penetrating deep into the skin, and looking like pustules when making their first appearance. Violent itching and smarting; pains in the whole ulcer, accompanied with chilliness and extending up to the knee. The ulcer suppurates a good deal at the time of the menses. Frequent alternation of costiveness and diarrhea.

Graphites 30, and after a long interval *Sepia* 30. *Symptoms:* Ulcer on the dorsum of the foot, covered with impure, ichorous pus, having a fetid smell; red granulations on the base of the ulcer; callous edges, very painful to the touch. Constant lancinating pains in the ulcer, especially in the night and forenoon. The foot is swollen, blue-red around the ankles and hot, accompanied with a chilly feeling in the foot.

Lachesis, valuable in old ulcers of the foot: one or two doses of *Lachesis* 30, brought on a rapid cicatrization of several ulcers on the leg, having a dirty appearance. —*Arch.* xiii. 2, p. 102.

Lachesis 12, three times a day, followed in a week by *Arsenicum* 12, repeated in the same way, produced a rapid healing of a varicose ulcer of twelve month's standing, after lower attenuations were ineffectual.

The ulcer was over the right ankle joint; the pain accompanying it was intense and burning, preventing sleep at night. —*Brit. J. Hom.* vol. x., p. 667.

Lycopodium 27, one-fourth of a drop removed an ulcer on the leg which came on after a knock in the region of the inner ankle; became deeper and deeper; had callous edges; secreting a fetid, impure ichor; finally occupied the whole of the tarsal joint, and caused violent burning pains, especially at night. —*Ann.* iii., p. 196.

Lycopodium has been beneficial in malignant, inveterate ulcers of the foot, phagedenic ulcers generally occupying the legs. In one case repeated doses of the 15th attenuation were given at the commencement; afterwards one drop of the 30th. *Symptoms:* The left leg was covered with a multitude of ulcers; they are all of them flat, and do not penetrate through the skin; edges red,

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hard, shining, raised. The base has a dirty-yellow appearance, greenish, bluish, pale red. Pus copious, watery, ichorus, fetid, diminishing when at rest, and yellowish. The ulcers are surrounded with a blue-red, hard, hot, painful border; the leg and foot are thick and swollen, hard shining, red, inflamed. The pains are partly tearing, partly lancinating; sometimes there was a continued aching, which was almost insupportable in the night and in bad weather. Likewise ulcers on the right leg and forearm.—*A. H. Z.* v., p. 195.

Merc. Sol., one-twelfth of a grain, cured an ulcer upon the tongue in sixteen days. *Symptoms:* On the edge of the tongue there is an ulcer of the size of a bean; along the adjoining parts of the tongue, in the substance thereof, there are several hard nodosities, and a deepening resembling an incision. The base of the ulcer looks gray, reddish, uneven, secreting a fetid matter; the edges are hard, elevated, of a blue appearance; burning in the ulcer. The tongue is swollen, coated white, speech unintelligible. Ptyalism; fetid odor from the mouth. The edges of the gums are bright red, inflamed, standing off from the teeth, swollen in several places, bleeding frequently, tearing toothache at night. The vermillion border of the lower lip is covered with small painful pimples having brownish crusts. Hot water was used to rinse the mouth.—*A. h. Z.* v., p. 231.

Psoricum 6, has cured ulcers of the lower limbs, with intolerable itching over the whole body.—*A. h. Z.* ii., p. 192.

Psoricum 30, and *Anthracin* in alternation, cured ulcers on the leg and tibia of an old man.—*A. h. Z.* v., p. 64.

Rhus 30, four pellets, followed in six days with three pellets, cured a patient with the following *symptoms:* Gradually the whole body except the head, chest and back, became covered with large and small vesicles, containing a clear, yellow fluid, and itching considerably. The opened vesicles had become gangrened ulcers, secreting an acrid, fetid ichor, which was likewise secreted from the inner surface of the toes. Continual and violent fever; pulse small and quick. The whole head, especially the face, was bloated and red, with edema of the lower eyelids and the penis. The throat was somewhat swollen, making deglutition difficult. Stool delaying, but every

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day. Urine suppressed, scanty, turbid and brown. Little appetite; much thirst, disposition impatient; out of humor.—*Pr. Com.* i., p. 172.

Silicea 18, smelling, repeated in three weeks, ulcer of the foot, the original cause of which was congelation. *Symptoms:* Deep ulcer on the dorsum of the foot, with an impure base; the wound, which secreted a quantity of thick jelly-like mucus, being covered with a quantity of spongy and readily bleeding flesh.—*Arch.* vii. 2, p. 46.

Silicea 30, one dose, cured an ulcer of the tibia, which was brought on by a previous violent inflammation; the ulcer secreted a quantity of fetid ichor. The periosteum appeared injured and the bone to be affected.—*Arch.* viii. 1, p. 23.

Silicea 30, two pellets, and in six weeks *Sulphur* — Ulcers of the leg brought on by vesicular erysipelas. *Symptoms:* Swelling of the legs up to the knees; seven ulcers, partly open, partly bordered with indented crusts, having a bad appearance and secreting a cadaverous ichor; burning pains, especially in the night; intolerable itching round the ulcers, obliging one to scratch, which is followed by burning as of hot coal, and bleeding of the scratched parts.—*Arch.* viii. 3, p. 57.

Silicea 3, one grain — Ulcer on the leg, brought on by a blow. *Symptoms:* Round ulcer below the patella, over the upper extremity of the tibia; the ulcer had penetrated down to the bone. The base of the ulcer was dirty bluish-red. Copious secretion of a sanguineous, thin fluid; stitching pains in the ulcer, especially at night; the margin and the surrounding parts of the ulcer were sometimes itching and somewhat burning.

Silicea in repeated doses has proved curative in the following cases: *Symptoms:* Unimportant external injuries bring on wide-spreading, erysipelatous, or deeply-penetrating asthenic inflammations, followed by a troublesome suppuration; a fetid, sanguinolent, badly colored, yellowish ichor is secreted from fistulous openings; slow separation of dead fetid pieces of cellular tissue, muscles and tendons, of a dirty color, partly penetrated by tenacious yellow pus. There remain open ulcers penetrating down to the bone, and surrounded by shaggy callous borders; the ulcers

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refusing to heal, with vanishing of strength; the adjoining soft parts are swollen, hard bluish-red.—*A. H. Z.* v., p. 326.

Sulphur, three doses, cured ulcers on the ankle of an old man, situated at a place which had formerly been occupied by varices, with stitching pains, especially at night.

Sulphur 30, one dose, cured three psoric ulcers on the tibia in three persons.—*Arch.* xi. 2, p. 115.

Sulphur 30, three doses, in a fortnight; ulcer on the foot. *Symptoms*: Inflammation in the region of the tibia after a bruise; this results by the formation of a flat ulcer, with raised edges and secretion of a quantity of benign pus. The ulcer is surrounded by small itching pimples. There is a similar, but smaller ulcer in the region of the left tarsal joint.—*J. d. h. H.* i., p. 155.

Sulphur, three doses, removed in five weeks an old, fetid, deep ulcer, on the inner ankle, secreting a thin ichor, and surrounded by some swelling. — *A. h. Z.* iv., p. 15.

Galvano-puncture. — "A miller in good health was received into the hospital at Varese, with considerable enlargement of the trunk of the vena saphena above the knee, and ten knotty dilatations, varying in bulk from the size of a bean to that of a nut, below the knee. The pain and weakness of the limb were so great, that he had been obliged to give up his occupation.

"August 3d, 1846. M. Milani, having bandaged the leg above and below the spot chosen for the operation, inserted two steel needles into one of the dilated knots, and brought them into communication by means of copper wires, silvered, with the two poles of a voltaic battery of twenty-six pairs of plates, two and a half inches in diameter. At first the patient suffered a slight shock; afterwards, merely a sensation of burning. The needles were left in the vein for twelve minutes, when a hard clot had formed around that in communication with the zinc or negative pole, cold water and vinegar were applied to the part.

"August 4th. Needles were introduced into the saphena above the knee, and into the varicose enlargements below. A battery of twenty-six pair of plates was connected with the upper needles (Dr. Milani tried one of thirty-one plates, but the patient could not bear it;) another of twenty-four plates, with the needles inserted

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below the knee. Hard clots were produced in the veins of the leg and in the saphena, blocking up the latter for two or three inches. Subsequent operations upon the remaining varices proved equally successful.

"In ten days all the varicose dilatations had disappeared. Although the points of the two needles were never in contact, and they were covered with a varnish of gum lac, which left only their points bare, a slight areola of cauterization had taken place round each puncture, the extent of which was greater around the negative pole.

"In a second patient, still under treatment at the time of the report, a tumor as large as a goose's egg, near the internal malleolus of the left leg, filled with coagula under two applications, and diminished two-thirds in volume." — *Chapman on Ulcers*, pp. 149–150.

CHAPTER XI.

DISEASE OF BONES.

Inflammation and Ulceration of Bone — "Caries and Necrosis" — Causes, Constitutional and Exciting — Symptoms — Stages — Diagnosis — "Bone-pus" — Probing — Prognosis — Treatment.

BONES in their healthy state are hard, smooth, and destitute of sensibility. But, like soft parts, they are liable to become inflamed, and be far more painful and distressing than ordinary inflammation — the pain is deep-seated, worse at night — attended with swelling, heat, and often redness of the parts. This nightly exacerbation is specially prominent, if the inflammation arises from syphilis or abuse of mercury.

The inflammation of bones may be developed in an acute or chronic form, and, if not resolved, may proceed to adhesion, suppuration, ulceration and mortification. It may be located in the periosteum, or in the substance of the bone. If the periosteum is the part inflamed, the progress of the disease is much more rapid

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than if the bone alone is affected. The swelling and pain also comes on then, very rapidly. The latter being caused principally from the periosteum being put on the stretch by the effusion which takes place between this membrane and the bone. An incision into it will remove the tension, and afford great relief.

In chronic inflammation, generally arising from mercurial poisoning or scrofula, the progress of the disease is slower. The pain, at first, is dull, heavy and deep-seated, worse at night or upon pressure; as soon as matter is formed the pain becomes throbbing, and rigors are felt. The skin over the abscess becomes discolored when deep-seated, as suppuration takes place and enlarges the cavity of the abscess, there is a deposit of bony matter on the outside, so that the bone continues to enlarge until an opening is made for the exit of pus, either by ulceration or mechanical means.

The condition called *Caries*, is the same as ulceration in soft parts; while by necrosis and exfoliation are both meant the death of bone. The former being internal and more complete, usually arising from inflammation of the medullary membrane; the latter external but partial, the consequence of inflammation of the periosteum. Caries may take place in any of the bones or at any period of life, but most frequently occurs in young subjects. The tarsus, carpus, sternum, vertebræ and extremities of the long bones, are usually the ones involved.

The general *causes* to be noticed in our day, are the syphilitic, mercurial, and scrofulous affections. Thousands have died from the two former being confounded. The pathogenetic power of mercury has been proved on a tremendous scale.

The admissions of so distinguished a surgeon as Bransby Cooper on this point, are worthy of careful consideration. He says, p. 179, "Syphilis is supposed to be a frequent cause of caries, *but it is a matter of question whether the caries so often concomitant with syphilis, does not in fact result from the action of the mercury given to cure the specific disease.*"

Again, p. 180, "I have used the term 'syphilitic taint' again and again, but I am not sure that I have done so advisedly, *for it is doubtful if this caries in bone does not result from the use of mercury, and not from syphilis.* Whoever heard of a person having diseased bones in syphilis, unless mercury had been given? Sailors

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