

fever begins to decrease, which is ordinarily on the third day. With its appearance the lymphatic glands of the neck, axillæ, and groins become enlarged. These enlargements of the glands, and the soreness of the muscles and joints, oftentimes persist for weeks and months after the eruption and fever have disappeared. In many cases the prostration continues for months, and totally disqualifies the subject for mental or physical exertion. I have known both physical and mental prostration to persist for six months after all symptoms of dengue had vanished. It may be truthfully affirmed that wellnigh invariably the convalescence is slow and wearisome, and altogether out of proportion to what is witnessed in any other disease so non-fatal in its issue. During the entire course of dengue insomnia is frequently encountered. It is persistent and intolerable, and whatever sleep is obtained is unrefreshing, and the patients long for more. But that which particularly characterizes the whole course of dengue, and which gives to the patient an experience never to be forgotten, is the pain. It is disproportionate to all other symptoms. It is intense, insufferable, persistent; by day and by night the patient is tortured and harassed by agonizing pains in every portion of the body—pain in the head, limbs, back, joints, muscles, and apparently in the very substance of the bones; pains which are stabbing, boring; at one time fixed, at another fugitive; hard to bear when the body is quiet, intolerable when a limb is gently moved; pain which no attitude of the body can assuage and no medicine of the physician wholly subdue causes the subject of dengue to declare that this is the sum total of human misery. From personal experience I testify to the truthfulness of the assertion.

Relapses are occasionally observed—sometimes after an interval of two or three weeks from the original attack. As a rule the relapse runs a milder course than the primary attack.

PATHOLOGICAL ANATOMY.—Dengue being proverbially a non-fatal disease the pathological processes occurring during its course are wholly unknown.

PROGNOSIS.—The prognosis is almost invariably favorable. Death from dengue is extremely rare, save when it attacks very young or feeble children, or very old and debilitated individuals. When death is observed during the course of dengue the fatal result is almost invariably due to some complication, such as convulsions, diarrhœa, hemorrhage, or abortion, or it is the result of some intercurrent disease.

DIFFERENTIAL DIAGNOSIS.—From 1828, when Dr. Osgood wrote a description of dengue as seen by him in the epidemic in Havana, till the present day, the idea that it and yellow fever were identical, or, at least, that dengue was modified yellow fever, has continued to find advocates among a goodly number of reputable physicians who have studied these diseases at the bedside. While they have some features and characteristics which are common to both, there can be no question that in most important particulars they are essentially and radically different, and that each disease is *sui generis*, having its own specific poison, and producing its own kind. The following is a brief summary of the points of similarity and dissimilarity in dengue and yellow fever:

In time of appearance, and generally in geographical distribution (but not in pathological lesions, so far as known), they seem related to one another. Dengue, however, has prevailed in Asia, Egypt, and India, where yellow fever is unknown. Both disorders are arrested by severe frost. Both dengue and yellow fever are diseases characterized by one febrile paroxysm. In dengue, however, the fever rises regularly until the acme is reached, when a short stadium of a few hours occurs, followed by remission, when a second rise of temperature takes place, but never reaches the height observed prior to remission. In yellow fever the temperature rises steadily. In dengue the pulse increases in frequency with the rise of temperature; in yellow fever the pulse becomes slower while the temperature rises. Duration of the fever in dengue is from five to eight days; in yellow fever it lasts

seventy-two hours. In dengue vomiting is rare; in yellow fever vomiting is frequent. Dengue is characterized by an eruption in the vast majority of cases; in yellow fever an eruption is extremely rare. In dengue jaundice is extremely rare; in yellow fever jaundice is almost invariably present. In dengue the urine is generally high-colored, normal in quantity, free from albumin, and never suppressed; in yellow fever the urine is scanty, albuminous, and often suppressed. In dengue there is a decided tendency to hemorrhages from nose, gum, bowels, lungs, and womb, with occasionally black vomit, but these hemorrhages are, as a rule, insignificant; while in yellow fever they are frequent, alarming, and often fatal. Dengue is proverbially a non-fatal disease; yellow fever is very fatal. Dengue is not protective against yellow fever, nor yellow fever against dengue. One attack of dengue is not protective against a second; one attack of yellow fever is usually protective against another. Finally, dengue runs a more protracted course, and is followed by a more prolonged period of convalescence and by frequent recurrence of pains, while yellow fever is shorter in duration, with more rapid convalescence, and freedom from recurrences of pains. From the above-named considerations I have no hesitancy in avowing that yellow fever and dengue are radically and essentially different diseases. It is true that dengue often prevails concurrently with, or precedes, or follows, an epidemic of yellow fever, but in my opinion these epidemic visitations simply indicate coincidences of time and locality.

The Relation of Dengue to Malarial Fevers.—There is no evidence to demonstrate that these diseases are related otherwise than in time of prevalence and geographical distribution. However, dengue prevails where malarial fever is unknown. In the epidemic of 1880 cases were seen at Summerville and Aiken, S. C., where, according to the local physicians, malaria does not occur. The thermometrical observations, together with the arthritic and muscular pains, eruptions and glandular enlargements of dengue, will readily establish the differential diagnosis. The cachexia of malaria is also an important diagnostic point. Detection of Laveran's Plasmodium malarie will, of course, establish the existence of malarial fever.

From acute articular rheumatism dengue differs in that effusions into synovial cavities are extremely rare, while peri-articular enlargements frequently accompany or follow the disease. The pain is not confined to the joints, as in articular rheumatism, but extends to the head, back, and limbs. The inflammatory processes in the heart or its coverings, so frequent in rheumatism, are almost unknown in dengue. The physical, mental, and nervous prostration of dengue is also almost unknown in rheumatism. Finally the eruption, the enlargement of the lymphatic glands, and the epidemic nature of dengue add to the certainty of diagnosis between dengue and articular rheumatism. From muscular rheumatism dengue is to be differentiated by the more localized fixation of the pains in the former, and by the symptoms of dengue above given.

From scarlatina dengue may readily be diagnosed. These diseases in the beginning have great resemblance, but they may be diagnosed by the intense muscular and arthritic pains, and glandular enlargements of dengue, and the diversified eruptions of scarlet fever.

COMPLICATIONS are comparatively rare. Abortion in pregnant women and convulsions among children were the most important complications met with in the epidemic in Augusta in 1880.

SEQUELÆ.—Marked mental and physical prostration, persistent and annoying insomnia, over which narcotics had not the usual control; anæmia, palpitation of the heart, with no organic disease thereof; marked nervousness, trying and debilitating neuralgias, severe diarrhœa, furuncles, abscesses, partial paralysis of one or more of the limbs, etc., constituted the sequelæ of dengue, as observed in my practice. In the practice of some of my friends insanity, which persisted for several months, was in three instances observed in aged subjects.

TREATMENT.—Quinine is claimed to be a prophylactic against dengue when taken in doses of from ten to fifteen grains daily. From this view I most unqualifiedly dissent. I tested it in my own person—took from ten to fifteen grains daily for about two weeks—and at the very time when my system was thoroughly and unpleasantly saturated with quinine, I was taken ill with dengue of marked febrile intensity, the temperature on the second day reaching 105½° F. I have witnessed repeated failures of the alleged prophylactic powers of quinine in this disease.

Some writers, believing in the contagiousness of dengue, demand isolation of the sick, disinfection of infected clothing, bedding, etc.—in short, such preventive measures as are enforced against smallpox, scarlet fever, and other contagious diseases. I am by no means satisfied that this is a contagious disease. If, however, in future it be demonstrated to be contagious, and amenable to isolation and disinfection, we need never expect to see these preventive measures put in operation against it. It being almost invariably a non-fatal disease, the average citizen can never be induced to adopt preventive measures, even if such were definitely known.

While it is true that we know of no preventive measures nor prophylactic medicaments against dengue, it is unquestioned that judicious symptomatic treatment can do much to abbreviate the disease, or at least mitigate the high fever and extreme suffering which so debilitate and emaciate the patient.

One of the first and most important indications for treatment in severe cases of dengue is to repress the fever. For this purpose antipyretics, in the form of warm baths, packings or spongings, and the internal administration of drugs which are known to have the power of reducing fever, are to be resorted to. Either of these methods, or a combination of them, will be found serviceable in the treatment of this disease. A very high temperature is not infrequently observed in dengue. I have several times seen it reach 106° F. The hydropathic treatment will be found advantageous in these cases. Some physicians prefer a cold bath, *i. e.*, from 60° to 70° F., for periods of ten minutes, and repeated or not according to circumstances. I am not an advocate of the cold bath. I have seen great damage, in the form of shock, result from the cold bath when used in typhoid and other fevers. I prefer, and have used with marked benefit, in dengue and various febrile diseases, the warm or hot bath. If the temperature of the body is 104° F., I use the bath at a temperature of 99° to 101° F., thus abstracting from three to four degrees of heat, and thereby avoid the risk of shock so imminent when the cold bath or pack is used. Hot foot-baths, frequently repeated, will often reduce the fever two degrees, and greatly relieve the head symptoms. Sponging the body with cool or tepid water, for ten to twenty minutes at a time, and repeated if it seems to be required, will likewise reduce the fever. In treating children in this and other febrile diseases, the prompt reduction of the fever is necessary to prevent convulsions.

Of the various drugs administered for antipyretic effect, I know of none equal to quinine. I am aware that some observers deny its efficacy, but the failures are due rather to the method of using the medicine than to its lack of energy. To obtain the antipyretic effects of quinine it must be given in large doses, *i. e.*, gr. xxx. to xlv., within from two to four hours, to adults, and to children proportionate doses according to age. Within six hours after taking full doses of quinine, a marked diminution of the fever will be verified by the thermometer, and in twelve hours the reduction of heat to the minimum will have occurred. The effects of large doses of quinine usually persist for from twelve to twenty-four hours. Even in typhoid fever such doses of quinine will rarely fail to reduce the temperature two or three degrees. The repetition of the drug is to be indicated by the height and persistency of the fever. It is only in severe cases of dengue that this treatment will be necessary. Another important indication for treatment in dengue is the mitigation or relief of pain. Hypodermics

of morphine act more promptly and lastingly than any other method of exhibiting the drug.

When arthritic pains are severe, administration of morphine with salicylate of sodium, together with counter-irritation to the spine and seat of pain, is indicated.

Hydrate of chloral with bromide of potassium should be given for insomnia.

Threatened abortion, nasal and other hemorrhages, diarrhœa, convulsions, etc., are to be treated upon general principles.

The practice of indiscriminately prescribing purgatives is to be condemned. In my experience, troublesome diarrhœa is frequently encountered in the later course of dengue.

Mental aberration following dengue is generally caused by anæmia or insomnia, and is to be combated by hypnotics, chalybeate tonics, and full and nutritious diet.

Eugene Foster.

DENTITION, DISORDERS OF.—A distinguished authority upon children's diseases recently expressed to the writer decided incredulity regarding the propriety of the nosological distinction implied by the above title. This gentleman doubtless gave expression to the view held by a large proportion of the medical profession, in accordance with which morbid conditions other than those confined to the buccal cavity are in no sense dependent upon perverted dental evolution, and their appearance, during teething, is a pure coincidence. The writer believes that the wide prevalence of this doctrine is susceptible of easy explanation by the application of the psychological principle underlying all reactions from extreme erroneous opinions. Our great-grandfathers unnecessarily bled their patients to the verge of syncope. Our fathers, warned by the demonstrated inefficacy of their ancestors' methods, abjured the use of the lancet. The present generation, wisely adopting the golden middle course, regards phlebotomy as a dangerous, yet valuable, therapeutic resource. Again, the success which homeopathy at first attained may be considered a protest against the officious interference of early practitioners with the beneficent and efficient *vis medicatrix nature*. And these examples might be multiplied to show, by analogy, how the current professional scepticism regarding the existence of constitutional disorders bearing to teething the relation of effect to cause is a logical sequence of exaggerated notions, still prevalent with the laity, concerning the potency of dentition in the causation of disease. This modern incredulity has subserved an extremely useful purpose by calling attention to the fact that comparatively few constitutional disturbances are really dependent upon teething, and in doing away with the erroneous belief that the checking of these disorders would exert a harmful effect upon the natural course of dentition. Dr. J. Lewis Smith remarks, in regard to this subject:¹ "Every physician is called, now and then, to cases of serious disease, inflammatory and others, which have been allowed to run on without treatment in the belief that the symptoms were the result of dentition. I have known acute meningitis, pneumonia, and enterocolitis, even with medical attendance, to be overlooked during the very time when appropriate treatment was most urgently demanded. Many lives are lost in this manner, especially from neglected enterocolitis, the friends and physicians believing the diarrhœa to be symptomatic of dentition, a relief to it, and therefore not to be treated. Such mistakes are traceable to the erroneous doctrine, once inculcated in the schools and still held by many of the laity, that dentition is, directly or indirectly, a common cause of infantile diseases and derangements." Dr. Yale aptly says:² "The difference of opinion is, then, not a simple dispute of terms, but one which has a real interest in the nursery. If the parents believe that dentition causes all the ailments attributed to it, they are, as we daily see, prone to consider the ailments as nearly, if not quite as much, a matter of course as the natural teething process, and they consider it useless to try to cure them until teething is complete. As a result of all these errors and

confusions, it too frequently happens that disorders which might have been very tractable at the outset are allowed to progress unopposed, until they reach a serious stage. If, on the contrary, we assume that teething is rarely the real cause of disease, the parent will seek some other reason for any disturbance of the system that may exist, and will endeavor to remove it."

Dr. Holt says²²: "Speaking from impressions, not from statistics, I should say that, in my experience, about one-half of the healthy children cut their teeth without any visible symptoms, local or general; in the remainder some disturbance is usually seen, and though, in most cases, it is slight and of short duration, it may last for several days or even a week." In discussing the place of dentition as an etiological factor in children's diseases, Dr. Holt further writes: "At the present time many good observers deny that dentition is ever a cause of symptoms in children; some even going so far as to say that the growth of the teeth causes no more symptoms than the growth of the hair."

"Although I strongly believe that the importance of dentition, as an etiological factor in disease has, in the past, been greatly exaggerated, and although I have formerly held the opinion that simple dentition did not and could not produce symptoms, within the past few years I have been compelled by clinical observations to change my opinion upon this subject; and I am now willing to admit that dentition may produce many reflex symptoms, some, even, of quite an alarming character."

Having thus clearly indicated, by the above quotations, the cogent reasons for the exercise of caution in attributing to dentition an active agency in the development of any constitutional disease occurring coincidentally with it, the writer still advocates the retention of the term *disorders of dentition*. This he does because, in the opinion of many competent observers, functional and organic ailments do sometimes occur at points remote from the seat of morbid local processes incident to teething, as the result of these processes, although none of the disorders in question can be regarded as peculiar to dentition.³ It would indeed seem equally proper that the collective title of these diseases should indicate the etiological relations existing between them and the processes of dentition, as, for example, that the disorders incident to uterogestation should bear the generic name, "Diseases of Pregnancy," although each individual affection embraced under this heading may at times be developed in connection with various morbid processes instead of simultaneously with a single physiological one. The writer, therefore, designates by the title *disorders of dentition* all morbid states, whether local or general, which are visibly dependent upon local deviations from the normal course of physiological dentition.

The disorders of dentition embrace: I., Anomalies of Development, and II., Disorders of Eruption. Under the former head are included anomalies relating to the time of the eruption of the teeth, to their number, their position, their direction, their form, and their texture, or their structure. These anomalies deserve attention as constituting frequent exciting causes of the disorders of eruption. The disorders of eruption may manifest themselves either at the first, or, more rarely, at the second dentition, being either local, and due to the direct irritant effect of perverted dental development, or sympathetic, and produced by the intervention of reflex nervous mechanisms.

I. ANOMALIES OF DEVELOPMENT.—1. *Anomalies in the Time of Eruption.* Dentition is sometimes notably retarded in rachitic, strumous, syphilitic, and tuberculous children, or in those suffering from marasmus induced by chronic or acute disease. Malformations of the jaw also constitute a rare cause of delayed dentition. "The evolution of the teeth," says Dr. William H. Day,⁴ "tests the vigor of the child, and the more tardy and lingering the process, the less its strength and vitality." In some unusual cases the first teeth have not appeared until the third year, or even later. Steiner⁵ reports a case in point, observed by himself, in which the eruption of the teeth

did not occur until the child was four years old. The milk teeth may, on the other hand, be prematurely developed, even attaining their complete growth before birth, as in the cases of Louis XIV. and of Mirabeau, but their roots are generally rudimentary, and they soon fall out or decay, while early dental development is not an indication that the growth of the entire organism will be more rapid or vigorous than usual. Cases have, however, been reported⁶ in which deciduous teeth, especially the canines and molars, were present and well preserved in persons thirty years of age or upward. In these cases the dental follicles of the permanent teeth were either never developed or remained rudimentary.

Irregularities in the ordinary succession of the teeth are sometimes observed, the upper incisors, usually the lateral ones, appearing before the lower incisors, and, very infrequently, the canines before the molars. Albrecht is of the opinion (*loc. cit.*) that cases of reputed third dentition: are best explained by the assumption that certain teeth may be retained in the jaw until the atrophy of the alveolar process, incident to advanced age, exposes the previously hidden alveoli. Should the eruption of the teeth be delayed beyond the ninth month, diligent search for the cause of the retardation of dentition must be instituted, and, if possible, appropriate remedial measures promptly adopted.

2. *Anomalies in Number.*—In certain rare cases, alluded to by Charles Sarazin,⁷ neither deciduous nor permanent teeth were ever developed. This fact was, perhaps, referable to entire absence of the elementary dental follicles, or to their early destruction by alveolar disease. Symmetrical absence of two incisors, canines, molars, or wisdom teeth has been reported, but failure in development of a given pair of deciduous teeth does not necessarily presuppose a similar deficiency in the permanent set. On the other hand, the first set may be complete, and the second deficient. *Supernumerary teeth*, either deciduous or permanent, are frequently observed. Their development may sometimes be due to accidental segmentation of a primary dental follicle,⁸ or, again, to the existence of supernumerary follicles. Supernumerary teeth of the first dentition are generally developed in positions not normally occupied by teeth, and are distinguished from prematurely developed permanent teeth by their relatively small size, and by their conical crowns. Supernumerary teeth of the second dentition, which closely resemble the supernumerary milk teeth as regards size and shape, often appear at an earlier date than the permanent teeth, and may usurp the place of the latter, which are consequently forced into an unnatural position. They frequently, however, make their appearance between the first incisors or to the inner side of the latter. Sometimes they perforate the palate bone in the vicinity of the wisdom teeth. On account of their abnormal position, these teeth may injure the tongue and interfere with articulation, in which case their removal is urgently indicated.

3. *Anomalies in Position and Direction.*—These anomalies are occasioned either by the development of the rudimentary dental follicles in an abnormal position, or by the interposition of some obstacle in the path of the normally located follicle, by which the latter is forced to assume an unnatural position. The latter cause affects the deciduous teeth only. If the former cause be operative, the teeth may be developed far from their natural site, the wisdom tooth of the lower jaw sometimes appearing in the ascending ramus, even so high as the border of the coronoid process or near the condyle, and the teeth of the superior maxilla effecting their exit in the centre of the hard palate, or even occasionally projecting into the nasal fosse. Dentigerous cysts occur in various situations remote from the jaw, notably in the ovaries. The *direction* of the teeth becomes faulty when obstacles oppose themselves to the growth of the permanent set. These obstacles may consist of milk teeth which have too long retained the places destined for their successors. Again, a milk tooth may have been removed before the permanent one was sufficiently matured to take

its place. Under these circumstances the deciduous tooth follicle may have become ossified, thus erecting an impassable barrier before the tardily developed permanent tooth. In still other cases abnormal narrowness or shortness of the alveolar border may cause the teeth to deviate from their natural direction, and the same result may be produced by a faulty direction of the entire alveolar process. Reference should here be made to an anomalous position sometimes assumed by the root of a deciduous tooth, at the time of the second dentition. If teething progress naturally, this root is gradually absorbed over its entire surface by the advancing permanent tooth, which thus gradually effects the extrusion of its predecessor. Should the advance of the permanent tooth be irregular, uniform absorption of the deciduous root does not occur, and the root, pressing against the alveolar process, causes absorption of the latter, presents itself on the lateral surface of the process, and, by constant friction and pressure upon the neighboring soft parts, causes inflammation and ulceration of the gums, the tongue, or the cheek. The direction of the teeth should be either vertical or slightly inclined inward, the superior incisors overlapping the inferior ones. The operation of either of the last-mentioned conditions may cause all the inferior incisors to project beyond their fellows of the upper jaw, the canines and bicuspid being inclined outward (lateral deviation). The opposite condition, viz., inversion, sometimes obtains. These deformities affect individual teeth alone, provided the obstacle be a single milk tooth, too long retained in its socket, or the ossification of a vacant deciduous follicle. Single teeth may even be twisted in such a manner as to stand at right angles to their normal positions.

4. *Anomalies in Size and Form.*—An entire tooth occasionally attains abnormally large dimensions, thus occasioning displacement of its fellows. The crown may be alone hypertrophied, or the root be sinuous and unusually elongated. In rare instances, certain teeth are so distorted as not to present a vestige of their natural form. Several adjoining teeth, usually the incisors, may be united throughout and covered by common coats of enamel and of cement. Abnormal divisions of single teeth are also rarely encountered.

5. *Anomalies in Structure.*—Histological anomalies of the milk teeth are generally referable to morbid constitutional conditions, such as struma and rachitis, leading to perversion in dental development, and affect either the enamel, which may be soft, opaque, thin, crumbling, and even absent, or the ivory, which is abnormally friable, although often of unnatural thickness, and is very prone to decay. Acute infantile diseases, particularly the exanthemata and typhoid fever, the abuse of mercurials, and stomatitis, occasion morbid histological changes in the permanent teeth, which being inadequately supplied with enamel, are soft and inclined to decay, are furrowed horizontally, separated by abnormally wide intervals, and present a repulsive yellow discoloration. The most interesting pathological processes affecting the permanent teeth are produced by congenital syphilis, and were first exhaustively studied by Mr. Hutchinson, with whose name the appearances about to be described are inseparably associated.⁹ Syphilitic teeth may present any or all of the changes described above as incident to various infantile diseases. The incisors, and sometimes the canines, may also be deformed and dwarfed, being "narrow, rounded, and peg-like, their edges jagged and notched." The morbid conditions pathognomonic of inherited syphilis are, however, positively characteristic, and affect, according to Mr. Hutchinson, the permanent median upper incisors, which often present the peculiar syphilitic deformity when the other incisors are of normal shape. M. Fournier is, however, said by Dr. J. William White¹⁰ to believe that the deciduous teeth are affected by syphilis exactly as are the permanent ones, but that the disease is overlooked in the majority of cases. The characteristic syphilitic teeth are separated by an unnaturally wide interval, but their crowns are generally convergent, rarely divergent. The teeth are abnormally short and narrow,

their corners are rounded, and they present a broad vertical notch at their edges, at the bottom of which the dentine is exposed. Sometimes a shallow furrow passes upward from this notch, on both the posterior and anterior surfaces of the tooth, reaching nearly or quite to the gum. The anterior surface of these teeth looks upward. They are of crescentic form, their convexity being also directed upward. The teeth may present the appearances characteristic of mercurial poisoning simultaneously with the lesions due to syphilis. Dr. Thomas Barlow and M. C. MacNamara¹⁰ state that only one of the upper central permanent incisors may be characteristically deformed, the other being normal or presenting diseased appearances not peculiar to syphilis. These authors also emphasize the facts that the pathognomonic syphilitic tooth possesses a single vertical notch, and not a serrated border, and that "the existence of normal, permanent upper median incisors by no means excludes the existence of hereditary syphilis." Constitutional treatment, appropriate for syphilis, should be promptly adopted as soon as the diagnosis of syphilitic dental disease is fully established.

II. DISORDERS OF ERUPTION.—A. *Local Disorders of the First Dentition.*—We may better appreciate the nature of these morbid processes and their adequacy to the excitation of reflex nervous phenomena by recalling some of the abnormal conditions occasioning them.

Any unusual obstacle to the eruption of the first teeth is capable of leading to morbid local processes. Among these obstacles may be mentioned narrowing of the dental furrow and alveoli by the approximation of the labial and lingual borders of the alveolar process. This may be occasioned by the compression of these comparatively yielding structures, especially in rachitic children, by the constant activity of the tongue and lip muscles. The gum may also be abnormally thick and of cartilaginous density. In either case, the growing tooth, encountering an unnatural obstruction, exerts abnormal pressure upon the exquisitely sensitive branches of the fifth nerve, in its matrix, and occasions odontalgia, which may become exceedingly severe. Inflammation of the follicle, resulting from congestion in the matrix, is also produced by the abnormal pressure of the tooth, and may result in gingivitis, ending in ulceration and complicated by severe stomatitis. In mild cases the inflammation does not reach so extreme a degree, and results only in slight exaggeration of the normal local inflammatory changes elsewhere enumerated, and often incident to the simultaneous eruption of several teeth, with, possibly, otalgia, fever, and some of the milder reflex phenomena soon to be described. In the worst cases, however, alveolar periostitis, even of sufficient gravity to occasion necrosis of the alveoli and destruction of the teeth, and submaxillary and cervical adenitis and abscess of the cheek may be observed. The ordinarily mild local phenomena then give place to those characteristic of the above-mentioned inflammatory process. The gums are swollen and tense, or ulcerated and sloughing, the tongue and buccal mucous membrane are swollen and hyperemic, or sometimes aphthous and ulcerated, the cheeks are red and tumefied, the saliva is abundant and ropy. The child has a remittent form of fever attended by jactitation, insomnia, and anorexia, or by somnolency and asthenia.

B. *Sympathetic Disorders of the First Dentition.*—The principal diseases usually embraced under this title are enteritis, gastro-enteritis, entero-colitis, otitis, conjunctivitis, coryza, bronchitis, cutaneous eruptions, such as urticaria, herpes, eczema, and prurigo, retention or incontinence of urine, dysuria, nervous cough, laryngismus stridulus,¹¹ subsultus tendinum, and eclampsia. Many authors deny that dentition plays any essential rôle in the production of the disorders just enumerated, unless there exist a predisposition to their development. The nature and cause of this predisposition are not generally more closely defined, but are inferentially stated to consist in a dyscrasia, or diseased constitutional state. West says, in this connection:¹² "The period of teething, like that of puberty, constitutes one of the great epochs of