A Thesis
on some Diatheses and their Bearing upon Practical Medicine

by
Charles Edward Walker,
M.B. 1878.
On some Diatheses, and their bearing upon
Practical Medicine.

The word Diathesis is derived from the two Greek words *Dia* and *the* or *the* place or *the* disease. It is a term or expression used to signify that there is a peculiar predisposition to certain diseases, or that a morbid leaning or tendency to particular diseases exists which are consequently called diatheses. A diathesis is considered to be the form or type of constitution inherited from the parents, and it has been defined by Dr. W. Achille (Pract. of Med.), as 'that character of the constitution which tends to the repeated expression of the same form of ill-health always in the same way,' and by Dr. Enfaste Smith, as 'a constitutional predisposition to repeated manifestations of a certain invariable form of disease.' A diathesis is therefore an inherited or congenital disposition, and is consequently to be looked upon as being quite distinct and separate from a Cachexia which is an acquired modification. Nevertheless the two states may be combined, or may even co-exist as in gout, where the gouty diathesis and the gouty cachexia are not unfrequently to be found associated. Much attention has been
paid at all times to the acquiring of a knowledge of the constitutions of persons, and to the importance of the medical practitioner making himself thoroughly acquainted with the peculiarities of the constitution of the families and individuals who he may be called upon to attend to in his professional capacity. Many well defined examples of such diastatic predispositions are to be noted and recognized in almost every day practice, and should not be overlooked on account of their important bearing upon practical medicine. The observant practitioner therefore will not fail to notice, and indeed learns by experience that amongst his patients, there are to be found many families and individuals who do often present very decided tendencies and idiosyncrasies, that their diseases assume certain peculiarities and similarities, and moreover he observes that they are attacked with kinds of recurring ailments, and also further notices that the gradual recovery of their health and strength after illnesses is liable to variation. Sir I. Watson writes in his Lectures, the tendency is sometimes strong and evident, sometimes feebly and faintly marked; sometimes it displays itself in the midst of circumstances the most favourable to health, sometimes it requires for its development conditions the most adverse and trying. By well directed and systematic efforts have been made by the late Prof. Laycock and others to
arrange the different diatheses into separate classes or groups, and to specify the distinguishing features of each, so that the special tendencies and diathetic predispositions of individuals may be the more readily and easily recognized in practice. Quite a number of diatheses have been enumerated by the various writers upon the subject and such as may be comprised under the headings of the Strumous, Tubercular, or Scorbutous; the Gouty; the Nervous, the Bilious; the lymphatic or Phlegmatic; the Rheumatic; the Syphilitic; the Venous, or Haemorrhagic; the Hysterical; and the Daunou diathesis mentioned in France, with other varieties. Some of these mentioned are perhaps more strictly speaking cachexias, and that great caudex of physiological diagnosis, the late Prof. Bayeux, used to place the Haemorrhagic in the cachexia category. Syphilis too is very frequently found as an inherited diathesis, but it is nevertheless a most marked illustration of a cachexia. The diathesis, which are under consideration now, will be arranged into five large groups, following the late Dr. Miller Fostergill's classification, and therefor will be called:—

1. The Gouty.
2. The Nervous.
3. The Strumous.
4. The Bilious.
5. The Lymphatic or Phlegmatic.
Two or more some of the forms that have been mentioned may be found blended, and these are then in consequence recognized as mixed forms. The nervous diathesis is commonly found blended with the others excepting the lymphatic. In some of the examples met with, the main characteristics of the mixed forms are so distinct, so separate, and well defined, that there can be no real difficulty in distinguishing them, but in other forms again there may be so much blending as to make it hard to say which one of the groups predominates, and in fact every stage of blending may be found, but yet distinct and typical instances of each form are very frequently to be met with in practice. Exceptions to the rule may be encountered even in the purest specimens.

The Gouty Diathesis.

Gout has derived its name from the French goutte, a drop, as it was thought to be produced by a liquid which fell goutte à goutte in the joints. Persons of this diathesis are generally (according to Cullen) men of robust and large bodies, men of large heads, of full and impetuous habits, and men whose skins are covered with a thicker, rubeous mucous which gives a coarser surface. Those persons who are of the typical diathesis are usually broad, and well-made, with strong and well-developed muscular systems; the heart is large and strong, and has great power of action; the circulatory system is also in a high state of
development, and the blood vessels are numerous. Such individuals are as a rule robust-looking, and have a decided inclination to become plethoric or, to present a very obvious full-blooded appearance, more especially toward the middle period of life, with a tendency to become stout; this also in a great number of instances. These latter tendencies are no doubt greatly aided, if not altogether accounted for, by the very vigorous and active state of the digestive which is usually to be found in those persons who possess this diasthetic predisposition, and also by the somewhat free living which they prefer, and are generally disposed to indulge in if allowed to diet themselves. The bony frame is remarkably well developed with strong and large bones. The teeth of the gouty are good, sound, and hard as a rule, and do not easily decay, in fact they are frequently found to remain undecayed in advanced life. I have also very often noticed in persons of this diathesis, the large, massive, heavily-enamelled front teeth which Dr. Foster calls conducive to be of such special diagnostic value in persons of this particular predisposition. The reproductive organs are usually active. Individuals of the gouty habit of body are generally very clear headed when in good health, and have very stable nervous systems, which are not easily thrown out of order, but if disturbed they readily become very passionate, still they are nevertheless
good and firm friends. They are usually quick and active, in all their movements, ways, and thoughts, and are good but not ha{t}-tempered. The skin is very active doubtless from its congestive nature, and persons of this diathetic habit generally perceive very readily upon the slightest excitation. Gouty persons are generally very healthy individuals, and usually enjoy very robust health until after the middle period of life is passed. As life advances however they are especially prone to develop some acute disease which may prove rapidly fatal, or leave them in greatly impaired health. The Rilce of the fact in persons of this diathesis often shows a gouty deposit quite early in life.

The Nervous Diathesis.

The physical conformation of persons belonging to this diathetic predisposition is usually spare and slender. They are very rarely to be found large, although almost perfect symmetry of development is generally to be observed so far as the muscular and bodily systems are concerned. The apparent smallness of these individuals is however no criterion or indication of the power and energy which they usually possess even for although small in build and make they will generally be found to be unruly, very active, irritable, and restless. The nervous system in subjects of this diathesis is especially well
developed, in fact it surpasses, in development that of any other part. The cranium will generally be noticed to be large, vaulted, and well shaped. All the senses are consequently, very acute and appreciative, the thoughts quick, and the imagination lively. The eyes appear light and sparkling, the hair fair. The features are often delicate in appearance, and the complexion is pale or slightly reddish. The pulse is usually small and quick, and readily accelerated by any agitation of the mind. They are very energetic persons, and hardly ever seem to be at rest, and they put their whole heart and soul so to speak into all their actions and thoughts, they can do a surprisingly large amount of work, and moreover always appear to be capable of doing a great deal more than they are actually doing. They are usually impatient, restless, and very indefatigable when anything of importance has to be done, and they moreover stimulate others to work themselves. Individuals of this temperament can as a rule do with very little sleep, and they are able even to over-exert themselves considerably without the necessity of being compelled to take stimulants. As Dr. Forthgill aptly writes: 'The highly-developed nervous system tyrannizes over the body in exalted demands. While the chylopoietic viscera are not rarely unequal to supplying the calls upon the nutritive processes.'
The Strumous Diathesis.

This highly important diathesis, which has long been recognized and described as a state of constitutional debility under the definition of Struma, Struma, or the Goitre, will therefore be considered with the Strumpulous, and will also include its many modifications, as they appear to be capable of being grouped in the same class, although some writers affirm they belong to distinct and separate classes, and in this latter respect, Dr. E. Smith (New Diseases of Children) writes "these two types of body are very distinct but they are not antagonistic," but on the other hand, Prof. Charteris (Prof.of Medicine) says "the strumpulous diathesis cannot be considered to be distinct from the tuberculose, it is simply a coarser expression of the same picture," and Sir J. Paget writes "the strumpulous constitution is peculiarly liable to tubercular disease."

This diathesis will considered a twofold, heading first as noticed in children, and secondly as seen in the adult.

(a) The Diathesis as observed in Children.

In children who present this diathetic predisposition, the general character of the constitution often shows itself in the physical conformation which is usually strikingly unattractive. Bigness may be noticed in the build of the child's body, and more particularly it is to be observed in the shape of the chest which generally appears to be small, narrow, and ill-shaped.
such children usually appear to be slight and slender in make, but are almost invariably above the average height of children of the same age. The face is generally oval, the complexion clear, and semi-transparent looking, with the superficial veins easily seen, and it often presents a rosy tint, with in fact the most brilliant contrast of red and white, and the face is not unfrequently covered with freckles according to Digea. The eyes are usually large and bright, often light-blue, and intelligent-looking, with long eyelashes, and the hair is soft and silky. The skin is generally remarkably fair and thin, and the blue veins are readily seen through it, yet according to Mago (Philosophy of Living), the skin may be dark and transparent, and the eyes dark also, but still with the same general characteristic of delicacy and vivacity. The head is large posteriorly, but with a low forehead, and the fontanelles close early and before the second year of life. The teeth are cut soon, but are however very early subject to caries. Children belonging to this diathetic tendency are frequently very nice-looking, are lively and precocious; they talk soon, and walk early, and generally have straight limbs with small ankles and wrists. Some examples of this diathetic predisposition however present a round face which is dark, dull, or pasty-looking, and often expressionless, and they may present defective bodily symmetry, and thus have a tendency to hare-lip which may often be found in such subject (Border).
They moreover frequently have enlarged joints from the ends of the long bones being full, while their shafts are thick. The countenance is large, with a full, and thick upper lip; the nostrils are dilated, and the alae nasi are thick, which make the nose look broad; the tongue is bulky. The skin which is thick, usually presents a muddy or opalescent appearance, and is also unusually hairy; in fact, there is often to be found a remarkable growth of hair upon the forehead, ears, cheeks, shoulders, and about the spine and nose. The skin too is often rough and scaly, and prone to crack more especially about the lips, which become chapped. The eye are generally weak-looking and there is often a constant secretion from the nose. The fingers may be clubbed. The hair is frequently dark and coarse, and the eyes, which may be greenish or hazel in appearance, have generally dilated pupils. The belly is usually soft, tumid, and prominent; and enlarged glands may be apparent in various parts of the body. The features are by no means so pleasing as in those children of the former type, but as a rule the whole aspect - dull, unpromising, and heavy, and the disposition to outward appearance, is apathetic and listless. In short, the features usually presented are those of a clumsy mould and form. These facts, along with all these objective manifestations, there should be no difficulty in concluding, by observation, that children who present such appearances are what are clinically designated...
"Dusky" or "Sulphur-looking." Children of this diathetic do not perspire readily, but the epithelial structures, however, such as the skin, hair, and nails, are very productive. Those children who are of the tubercular tendency, will often be found to possess highly developed nervous systems, and to have their general organization refined.

(a) The Diathesis as observed in Adults. In adult subjects who present this diathetic predisposition, the osseous system will often be found to be somewhat imperfectly developed, and according to Prof. Laycock is, if a retrogressive type, either towards the infantile or a lower ethnic form both as to the cranium and other bones. The ends of the long bones are apt to remain large and ugly, and the small joints of the hands and feet often appear large and are moreover readily subject to disease. The imperfect development of the osseous system predisposes to the formation of a badly shaped chest which will often be found to be flattened or narrow, or the thorax is not unfrequently of the pronged or pterygoid variety, and may thus partake of the pigeon-breasted form. A difference of opinion has long existed about the complexion of persons who possess this diathetic tendency, but there seems to be a preponderance of writers in favour of light complexion. Lugot (Recherches et observations sur les causes des maladies tuberculeuses, 1844) says that more than half his patients had dark hair, and dull brown complexion, whereas Lloyd (Essay on
Scedula) affirms that indorfula complexion is altogether a matter of indifference; and Dr. Glover (on Scedula) writes, if in Edinburgh and Berlin light hair and complications are more common, and dark persons predominate in Paris, it may well happen that the disease is more frequent in persons of one complexion in the two former places, and in those of a different complexion at the other. The habit of body is weak, and the constitution weak; the muscles are consequently soft and flabby, and their fat said to be deficient in healthy constitutions. The circulation is languid and feeble, and easily liable to functional derangement, and the respiration is often defective. In persons of this predisposition the vitality is weak, the appetite usually uncertain, and the assimilation is bad and particularly so of fatty materials. The skin is generally thin and soft, and its blue veins are prominent, especially in those individuals who bear the tubercular stamp, and the nails of the hands are often filbert shaped or clubbed. The nervous system is usually imperfectly developed, and persons of this pattern of body frequently show the chronophagean or lymphatic temperament being listless, languid, or inactive, and mental faulty in intellect. When they are bright and quick intellectually their mental powers are soon apt to be tried out. Dr. Glover also observes, in very few of the patients, whom we have examined, have we found the bodily or intellectual power fairly developed in a degree
proportionate to the age and circumstances of the patient, a general retardation of development occurs one of the most constant features of this peculiarity of constitution?

The Biliary Diathesis.

Persons of this predisposition show a marked predilection to functional derangements of the liver and biliary secretions from causes which are usually very slight, and which would not affect those individuals who are not disposed to this particular diathetic tendency. It is however not so separate a diathesis as the other forms, but is frequently to be found blended with one of the former temperaments. The complexion is generally dark or earthy-looking, and the skin is dull or dirty in appearance. The features are often strongly marked, and are very expressive. The outlines of the individual are rough and harsh, and the pulse is generally full and firm, and also of moderate frequency. The muscles are hard, and there is marked fineness of the flesh. The superficial veins may appear prominent. Persons of this diathesis have usually much energy of character and endurance, as well as being possessed of great powers of physical and mental strain, and also have permanence of impression. The subjects of this predisposition are not usually disposed to become stout, but they nevertheless frequently become stout after the biliousness ceases. The eyes and hair are as a rule dark brown, or black, and the conjunctiva
often present a yellowish tinge. The spirits are variable, and in some persons there is marked irritability of temper, and even despondency, in which the mind is unusually serious and sad, and this state used to be named the melancholic temperament, but at other times the same person may appear in excellent spirits and be very amiable and agreeable even. Bilious people are often known to live to long ages.

The Sanguine or Phlegmatic Diathesis.

In subjects who present this diathetic predisposition, the face usually appears to be wanting in character, and it is generally broad and countenansless. The complexion is dull, the skin pale, the hair fair, the lips large, the eyes are light blue, gray, or even hazel. These individuals are as a rule large, often very large, and are frequently corpulent, and are also very wanting in energy. They are generally apathetic and listless persons, and in truth they stand out in very marked contrast to those individuals who are of the nervous diathesis. The muscles are usually large, soft, and flabby. The circulation is very languid, and the pulse slow. All the bodily and mental functions are performed very torpidly and sluggishly, and in short, those persons who belong to this diathetic habit of both are of low vitality and are very wanting in tone generally. This diathesis is most frequently to be found in women. All the secretions
are usually abundant. Persons of the lymphatic diathesis are generally good-natured, have no sudden outbursts of the mind, but are generally unchangeable and often constant friends. This diathesis is frequently blended with the strumous and Parthey and Pilkiet have even observed that the fact of the lymphatic diathesis pre-dominating in a lifetime, would lead us to suspect scrofula to be more common in lymphatic persons.

Their bearing upon Practical Medicine.

This is a comprehensive subject but still nevertheless one of great and of everyday importance to the practitioners of medicine, and is therefore a topic upon which only a very brief sketch can now be offered of some of the salient points to indicate the bearing of the casual diathetic predispositions upon Practical Medicine. It is a subject of the greatest importance to the medical practitioner not only from its therapeutic but also from its practical standpoint, both in its medical as well as its surgical bearing upon practice, for if he be able to read correctly the constitutional leaning, and to thoroughly understand his patient's disposition or predispositions, he will be in a very much better position to combat successfully with diseased conditions as they may arise. The diathetic tendency, combined with the full medical and family histories, must ever
have a highly important bearing in enabling the medical attendant to understand the constitution so to speak, of his several patients, and thus to give him a thorough indication as to the correct line of treatment to be adopted for each patient. In truth, it is imperative upon the family medical attendant to use his best endeavours to educate his powers of observation, to be able to rightly comprehend the diathetic peculiarity of his patients when they exist, be they typical or be they blended examples, as quickly as possible, so as to enable him to guard against the diathetic disease or diseases as they threaten, as well as to enable him to cope satisfactorily and successfully with the special diseases when they may arise, and even with the object of preventing their occurrence or development altogether. A careful inspection of the face, features, form, and contour of the patient as to height, build, and probable weight, will often point to some special type of constitution inherited from the parents or grandparents, which the observant practitioner will not overlook knowing as he does that each diathetic predisposition comes with it certain special tendencies, and special leavings, which are of the utmost possible practical importance both as to treatment and prognosis. Prof. Baycock writes very forcibly on this subject when he says, "Study well the physiognomy of disease — that is to say, all those external characteristics in the patient that reach the unaided senses, and which are associated with merit or state, whether
They be sounds or odours, or visible and tangible modifications of form, complexion, respiration, and modes of functional activity, taking cognisance of minute modifications as well as of the more obvious, for they are only minute in a popular sense. Technically, a shade of that of the skin, a quickly passing change of expression, an almost imperceptible modification in the breathing or mode of speaking, the ring of a cough, a local, and in itself trivial development of a capillary network, a slight twitching of a muscle, or a tremor, may be as clearly significant of structural disease as the most characteristic and understood physical signs. Sometimes the hereditary traits are most strikingly pronounced and well illustrated in their transmission from parent to offspring, the very temperament may even be as it were reproduced, but more generally it is limited to some strongly marked peculiarity, and this again may even be transmitted through many generations. In some individuals the tendency to diastatic disease is not so marked, and other persons are quite free from such a tendency, and may not even be susceptible to them. Gout may be acquired by the mode of living in those persons who are capable of it; whereas it may be prevented, may, entirely stopped, by the opposite mode of living, but there are many again who would never develop gout even if they followed a luxurious and indolent manner of life. Bryant (Pract. of Surgery) in speaking of diathesis says, the subject of Diathesia claims the attention of the surgeon, for its bearing on practical
surgery is undoubtedly. In the strumous, scarfulous, and tuberculous diathesis, all of which appear to be closely-allied, there is, no doubt, a tendency to glandular enlargements, the formation of caseous deposits, and a low kind of inflammatory action, whether in the bones, joints, skin, or lungs; and that Disease in subjects who have these diathesis is precisely identical in its essential nature with the same disease in others who have them not. It may be modified in its course by the diathesis, but it is the same disease; and further, note, that in the scarfulous diathesis local inflammatory affections of a chronic nature are specially prone to be followed by tuberculous disease. In Diseases of Children in particular, must the constitutional predisposition ever be borne in mind and carefully attended to, for in such subjects pre-eminently, may diathetic diseases be averted by due care and forethought on the part of the medical practitioner. In them, for example, it is of the utmost importance to discover the first signs of defective nutrition. Acute disease in children, is frequently a starting point for mal-nutrition, by awaking a dormant diathetic tendency (Emcke's limit) and this is not sufficiently noticed in measles where a previously hid tubercular predisposition may be brought into manifestation by the attack, and the remote danger therefore which is apt to be overlooked and has a highly important bearing upon the convalescent state, should be guarded against. The diathetic signs in children should not be allowed to pass unnoticed as they aid very much in the successful
treatment—so much to be desired. Dr. Day did, in his lectures
are all ages and in both sexes, it is my belief that we never
are likely to be so successful in controlling disease as
when we mainly direct our treatment to the constitutional
state, and adds, if the life the child leads is conducive to
sound health, the morbid trait may never show itself.
It seems therefore very necessary that the constitutional
predispositions of early life receive a most attentive consideration
for if unrecognized, or ill understood, the mind-high may
be allowed to take too deep a root. The general constitutional
state and hereditary predisposition are more valuable signs
of disease in children than are physical signs in many
instances. In each diathesis there is a special inclination
to the development of certain symptoms and certain compli-
cations during illness, which have always to be borne
in mind in considering the proper treatment, for to be
able to discriminate which remedies are adapted
to the disease in question, and to determine how these
are to be varied according to the particular diathesis
or diatheses of the patient, is the test of the true physician,
and "to know the cause of a disease is sometimes to be
able to cure, often to be able to prevent it." Further in
order that our remedies may be successful in the treat-
ment, it is most necessary that the case be understood
in its entirety, both in its objective, as well as in its
subjective phenomena, and that the diagnosis be as
complete as possible from a diathetic point of view,
especially embracing the family history of both parents.
which will perhaps supply some useful hints as to the prognosis. And thus by a careful, painstaking, and minute investigation of all the outward indications, and symptoms presented, to us in each case, and a thorough physical diagnosis, combined with a correct knowledge of the several diathetic predispositions and of the family history, we may endeavour to approach to a fair knowledge of the constitution of our patients. Dr. Walsh (Med. Times (Gazette June 1855) in a lecture on this subject says, 'in diathetic diseases the constitution, at large, is involved from the first, but there is a marked tendency in the great majority to local morbid developments, fixed or various, affecting either certain tissues, special organs or apparatus of organs—local development, which constitute the anatomical character of the several diseases. The local morbid developments are frequently well illustrated in the diseases which affect those who belong to the strumous diathesis. Marriage is a very important factor in its connection with the propagation of diathetic diseases, and really seems to call for some intervention if possible, at the hands of medical practitioners, with the object of preventing at least some of the marriages which take place, and which are the means of procreating unhealthy types of humanity. When both the parents possess unfavourable diathetic tendencies the probability of the offspring being diseased would be doubled and medical men should endeavour to prevent such marriages if possible. On this subject Dr. Briston
writes, (Med. Times. Gazette Nov. 1879) that a large number of
diseases are inherited, or that a proclivity to these inherited,
are beyond dispute, and that the tendency to transmit
such diseases is largely increased when families in whom
the same affections prevail amalgamate in marriage, and
especially when the members of a diseased family intermarry,
is a universally admitted fact, and further adds still
we have reason to hope that as knowledge increases,
and as the laws which determine the inherent healthi-
ness or unhealthiness of offspring become more thoroughly
understood and appreciated, marriages of consanguinity,
and marriages between persons who, are manifestly un-
suitable for one another will become more and more rare.
On this same topic Sir J. Watson writes, "it would be well
indeed for society if the multiplication and diffusion of
the alarming diathesis could be checked, by a prudent
avoidance of ill-assorted marriages." It must always
be remembered too as pointed out by Duchenne and others
that bodily peculiarities and hereditary tendencies to
disease, coacting in a family may pass over one or even
two generations and still make their reappearance in the
next, or may after remaining dormant break out amongst
some collateral branch of the family tree, so that one
is at all not necessarily from the disposition to gland or
tuberculosis because these diseases have not shown them-
selves in the parents. Sir H. Holland (Med. Repic) also writes;
"if one generation escapes in the transmission of an hereditary
disease, we often find some strongly marked feature of
face or figure lost in one of a family but reappearing in his children. Some children in consequence may present a different diathetic predisposition from that of their parent who may even appear to be of a healthy type, and therefore to be able to solve the apparent paradox we must fall back upon the ancestors, and then we are often even able to conjecture with some degree of certainty the predisposition of the grandparent where the history has not been forthcoming. The tendency however exists in various degrees, and Sir T. Watson writes, "It may be so strong that no care, no favourable combination of circumstances, will prevent its local manifestation; and it may be so faint that it will never break out into actual mischief if the exciting causes of scrofulous and tubercular diseases could be warded off.

Fortunately from our having a good knowledge now of the exciting causes of scrofula we are often able to guard against its development in patients who consult us early enough. If therefore the case be dependent upon a diathetic condition it is necessary to insist upon the cessation of all factors which would permit the confirmation of the diathesis and its perpetuation must consequently be thoroughly avoided. A trivial or what would be a very slight ailment in the great majority of individuals and which would give rise to no unanswerable apprehension as to a favourable and speedy recovery would in the case of a subject of an ill-disposed diathetic disposition, run a very unfavourable course, and
perhaps be attended with very disastrous consequences, and might even lead to an impaired recovery. The progress to recovery, however, might be slow, but still nevertheless it the medical adviser bears in mind his patient's special diathetic predisposition, he will be able to prophesicate with almost certainty, and also be able to guard against the future. Therefore it seems to be highly important that the medical practitioner be capable of recognizing the family or individual characteristics of his patients as revealed by the diathetic tendencies, and as Dr. J. Watson puts it, "if it be known that in any family any hereditary sickness exists—say, for instance, or to consumption—the knowledge ought to warner every individual of that family, and to avoid the causes which foster and develop these diseases; and medical men, possessed of the requisite information, may give most valuable advice and instruction on these points?"

Persons of the Gouty diathesis are as a rule so robust, strong, and healthy, in the early part of their lives, that they do not so often come under the observation of the medical practitioners sufficiently early for him to suggest any preventive measures, but when they do apply to him for advice the gouty habit of body may be very pronounced, and advanced even to organic stage of mischief. Generally they are a healthy class of individuals, until after the middle period of life is passed, and may never even have required any medical
treatment in their lives, but after this period they are liable to be attacked with some acute inflammatory affection which may speedily terminate fatally, or leave the subject of this diathetic predisposition in a much impaired state of health. They are moreover very subject to disease in advanced life, and that too of the most varied and even different character. Of the diatheses the gouty plays a highly important part in practice and especially so among the well-to-do and perhaps the living patients, although so far as my experience has gone, the old-fashioned type of the 'arthritis' or 'high gout' is not so often to be met with now-a-days and this may very possibly be due to the better knowledge which obtains at the present time both as to feeding and drinking, so well as perhaps to what Sir E. Christian termed in his lectures 'the changed constitution'—but irregular forms of gout or gouty symptoms do frequently come before one and these cases may prove to be perplexing or even puzzling in the treatment, if the constitutional state or predisposition be not recognized. The discovery of the gouty factor is sometimes the more difficult from the fact that this tendency is particularly liable to be dormant, or to skip over one or more generations, and the knowledge of this makes it imperative that we should go back into the history of parents and grandparents even. In the gouty diathesis it is very necessary to always bear in mind the cardinal defect viz: that there is defective elimination of nitrogenous waste, and whatever this
disease in its probable connection with uric acid must not be forgotten, and therefore all efforts directed to these gouty attacks, to be successful, must aim at obviating this defective elimination. The young subjects of the diathetic tendency have usually very vigorous digestive organs both as to appetite and digestion, and some may perhaps be inclined to indulge in over-feasting. They are however subject in early life to functional derangement of the digestive organs and liver, and I have frequently noticed that the young subjects of this disposition are especially prone to chills, boils, and skin eruptions, and to tonsillitis of an acute form. They are liable to lithiasis in its different forms, and the formation of uric acid met with in gouty individuals, does not necessarily depend upon very high living, although it can be so originated, and is doubtless brought into existence in this way very frequently. Since the researches of Dr. E. Garrod and authors appear to agree with him in thinking that active gout consists in irritation or inflammation induced by the presence of uric acid or waste of sodium in the structures affected, and therefore from this knowledge of the causation of the gouty attacks, it is incumbent upon the medical attendant when consulted by patients of this diathesis, to endeavor to prevent the formation of this acid in excess, and if it be found to be in excess, to get rid of it as quickly as possible. The adherent usually partake of the ethereal type in the gouty, and keeping in view the uric acid association, it behoves well that the practitioner
should always bear in mind the variable nature of
the symptoms and attacks which are clearly referable
to the gouty habit, and which has gained for it the
distinction of the bovine malady, as no organ or part
hardly appears to be exempt from attacks of a
gouty nature. The subjects of this diathesis are very
liable to suffer from skin diseases such as eczema and
psoriasis in adult life, and to arthritis; and in more
advanced life to bronchitis and affections of the respiratory
organs, the organs of the circulation, the kidneys, and to
affections of the brain and nervous system including the
organs of sense. Consequently, the recognition of the diasthetic
tendency or habit, is of prime importance for successful
treatment, and any attempt therefore to treat such an
attack of bronchitis without reference to the diathesis
would prove futile. Dyspepsia too, which occurs often in
individuals of this class must be treated by the ingestion
of suitable alkalis. The attacks of dyspepsia due to bronchial
spasm, of palpitation with intermittent pulse, the change
in the circulation met with where renal mischief exists,
the verticle headache, the aciner and irritable brain
with its subsequent depression, the neuralgic found in
advanced life, and the inflamed serum, and mucous membranes,
are all highly suggestive and are well known symptoms
and ailments connected with the gouty state. D'Gaudens,
in alluding to the gouty diathesis says in this habit of
body without gout showing itself symptomatically, flying
pains are prevalent e.g. the body, which are sometimes
considered neuralgic, and treated accordingly; whereas they are of a gouty nature, and can only be cured by colchicum and remedies serviceable in gout. Some more recent investigations into the chronic anomalies of metabolism in the uric acid diathesis, have thrown much additional light on the nature of the malady from the theoretical and experimental standpoint; but as to its dietetic and medicinal treatment, they appear to furnish us with less that is new. Those who are of the gouty diathesis suffer very acute pain when affected with tooth-ache, and they also appear to feel the pain more acutely than others do, when attacked with the different neuralgic affections, as well as in other painful ailments, and I have particularly noticed this to be the case in the repeated attacks of tonsilitis occurring in such subjects, and which appear to make the throat extremely sensitive. In winter the proneuses choosy to bronchial affections by the gouty is very notable, and seems to point to the secretory nature of the affection. For from the coldness of the weather, then the respiratory action of the skin must necessarily be checked. This diathesis is not so often met with in women, although more frequently than some writers would have us suppose, and I have met with a most obdurate attack of neuralgia and arthritis in a female patient, which only yielded to remedies serviceable in gout, and after other drugs had failed to do any good. In gouty subjects, the kidney secretion should be carefully watched, Garrod has shown that, was it the lighter forms and early stages of
gout, the renal organs sometimes become seriously implicated; and that in advanced gout he noticed the constant occurrence of a morbid state of the kidneys, and the same authority also thinks the gouty are especially sensitive to lead. The contracting type of kidney occurring in gout is less common in females than males, and Dr. Samuday (Lect on Bright Disease) writes, "the relative frequency of this form of Bright's disease in females is an incontestable clinical fact. Male and old are believed in the existence of a diathesis in this form of Bright's disease allied to gouty. Electric thinks the kidneys may be perfectly sound when the articular affection exists in a decided form, or be unprepared with uric acid deposits and be in a state of chronic atrophy or even these may be deposited uric acid in the caliculai or in necrotic foci. In the gouty state, cases of colic, farinolgia, and arthritis, are apt to be met with, and their association must be remembered—\(\text{which} \) are neither more nor less than a part of the walls of the intestinal tubes, and that a knowledge of their true pathology places us at once in a position to effect a complete and satisfactory cure, by the use of the same drug which gives the best results in cases of arthritis due to uric acid." Dr. H. (ed.) (The Practitioner) says, "wecolic, tympanitic distension, farinolgia, and diarrhoea are sometimes distinctly referable to gouty disorder." Dr. Drummond (Peripheral Paralysis 1888) says the joints show a peculiar tendency to become stiff, in many cases of neuritis and especially in this noticable in cases arising from gout. Even cases of inflammation of the verruciform
appended, met with in children with the pure acid diathesis, have been recorded by Dr. Sutherland quite recently (Brit. med. Journ. 19 Feb. p. 236). In persons of the gouty tendency it is incumbent upon the medical attendant to make some regulation of the diet, scale, and especially in this the case with the younger members of this diathesis who are perhaps inclined to indulge in over-eating, if not habitually at least casually, and particularly in the excessive use of nitrogenous food. Sir H. Thompson (Dr. i. Relation to age. Activity) says, 'a young fellow in the fulness of health, and habituated to daily active life in the open air, may, under the stimulus of appetite, and of enjoyment in gratifying it, often largely exceed, both in quantity and variety of food, what is necessary to supply all the demands of his system without paying a very exorbitant price for the indulgence. If this be long continued, the sustained muscular activity, with its necessary hyperaemia and over-loading of the circulation with effete fluids, must tend to set up organic mischief, and so Dr. Chambers aptly puts it, 'in those who daily consume a large amount of nutritious food than those bodies require, or than can by the assimilative powers they possess, be converted into useful muscle; there is an accumulation of oxidizable matter which fail to attain the end of their chemical transformations, and which do not become urea.' Sir H. Thompson also writes, after saying in the first half of life the excess of food may be got rid of by periodic attacks of goutiness, or the storage of fat, when therefore, this process cannot take place, and in many instances, also, when it is in action, the over-supply
of nutritional elements injected must go somewhere, more or less directly, to produce disease in some other form, probably at first interfering with the action of the liver, and next appearing as gout or rheumatism, or as the cause of fluxus and obstructions of various kinds. These recurring attacks of gout perform the same duty, or nearly so, at this period of life that the bilious attacks accomplish in youth, only the former process is far more damaging to the constitution and materially injures it. The medical advisor must therefore cautiously and finely suggest some restriction in the consumption of nitrogeneous foods, and peremptorily insist upon it as life advances on account of the necessarily greater difficulty of eliminating the excess. Sir H. Thompson says as age increases, if he continues to consume the same abundant breakfasts, substantial lunches, and hearty dinners, which at the summit of his power he could dispose of almost with impunity, he will certainly either accumulate fat or become acquainted with gout. . . . . Dr. C. de G. (Food and Health i Disease 1873 p. 451) wrote, that one of the most important dietetic indications in the treatment of the gouty is to maintain the normal alkalinity of the fluids, and to maintain or augment their actual powers; and it is a well-established fact that a highly nitrogenized animal diet, increases the acidity of the fluids of the body, and especially of the urine; it is equally well known that a vegetable diet, increases their alkalinity. The success of uric acid, noticed in the blood of the gouty, may be due as thought by some, to a deficient alkalinity and diminished solubility power of the fluids, and this takes a wider view than that
which ascribes this state of the blood to a low form of oxidation of the nitrogenous waste, and that when such foods are taken in excess they fail to be completely oxidised into the soluble and easily eliminated aura. Young children are of the gouty tendency often suffer from neuralgias, headaches, attacks of asthma, and skin diseases of a chronic nature, doubtless due to an abnormal state of the and regulated by morbid disturbance in the metabolism of nitrogenous food and waste, which may be remedied and relieved by suitable diet. Geoaius’ (Du Puy’s Alimentation p.429) mentions that of 200 gouty individuals he observed 30.5% who were under the age of 20 years. Possibly also some of the obscure and troublesome affections of the nervous system met with in young women, and commonly called Hysteria, will be found to be of gouty origin, and in fact some of these affections are amenable to remedies which are serviceable in gouty ailments. In laying down the dietary for the gouty, we must bear in mind the digestive peculiarities often met with in such persons, and also take into consideration their occupation, age, and habits of life. In all cases moderation in the consumption of animal food must be enjoined, fat should be reduced to a minimum, especially in the well-nourished albuminates and saccharine articles of diet should also be limited. The diet should not be made in any case, but full regard should be paid to the due nutrition of the body and if possible this may be done by substituting the easily digested and nutritious vegetables in place of some of the animal food usually taken. Potatoes, green vegetables,
and fresh fruits may be allowed, and the latter are known to render the urine alkaline. Chicken, rabbit, fresh game, and white flesh, may be eaten of more freely than before. Mutton. Cheese must not be allowed, and some of the richer fish, so also all forms of salt and dried meats or fish, together with rich made dishes, and strong soups, of the vegetables, all may be allowed except perhaps sorrel, tomatoes, and asparagus; and very sweet fruits must be eaten sparingly. Bread too suits such persons better if toasted, and dry beans should scarcely be permitted. With respect to alcoholic drinks, for the gouty, it is well as a rule, if they can do without them in any form, at least during the early and middle periods of life, but afterwards it may be found necessary, to allow some alcohol, as well as to the subjects of this diasthetic tendency who come to require it, to keep them up to the proper standard of health. Strong beers, stout, and port, should not be allowed, and all strong and saccharious wines, and those containing tannic and fixed acid, also must be prohibited. Cider is allowed by some physicians and not by others, but my experience agrees with the former. Some light Bordeaux and Hungarian wines of the best quality may be permitted in small quantities, and those are made more suitable if taken with alkaline waters. Good Bovril and whisky may be allowed well diluted with water or alkaline water. Of the beverages, tea and coffee if weak and while they agree are suitable and helpful if taken without sugar, or with saccharine. Milk is a good article of diet, and I have often found
it is liked and well digested especially if diluted, but
some persons cannot tolerate it, and then perhaps the way
of taking this beverage suggested by Dr. Boys (Ford's Health
Disease) may be found agreeable, he says, we are in the habit of
advising our gouty patients, and those who have shown any
inclination to the deposition of uric-acid gravel, to drink, about
five minutes before their first meal, a breakfast-cupful of
hot water and milk, to which a small level salt-spoonful of
bicarbonate of soda and the same quantity of table salt
should be added. Water to drink, may be freely allowed
and especially hot water in considerable quantities, Dr. Boy-
Thompson considers rice and eago puddings, the last degree
unobjectionable for uric-acid-making gouty patients.
Instead of lowering the amount of animal albuminates eaten,
Cautane allows fairly liberal quantities of them to the gouty,
but endeavors to obtain their perfect combustion in the system
and moreover he keeps out of the diet all those articles
of diet which are capable of checking their oxidation or interfering with their metabolism. He recommends large
quantities of neutral waters and of fluids. In persons of
this constitution who find the restricted diet prescribed for
the gouty intolerable, I have allowed a more liberal dieting
somewhat on the Cautane plan, in the younger subjects, and up
to the middle period of life occasionally, with a moderate amount
of alcohol, and rejoined active muscular exercise as long
as it can be adopted with safety. I have also permitted
copious draughts of suitable alkaline mineral waters, and in
addition the skin has been well acted upon and its
eliminating surface put into greater activity by occasional Turkish bath, with the administration of sharp periodical purges, and sometimes a course of purgative waters have been taken. These measures combined with a more liberal dietary than that usually permitted, I have found to act satisfactorily. At the same time, however, we must exercise very great care and watch attentively as life advances, to become in time of the overloading of the circulation with highly charged nitrogeneous waste, remunerating the high arterial tension which it leads to, with the subsequent changes in the vessels, heart, and kidneys, and also bear in mind what Parker showed that a non-nitrogeneous diet is followed by a lowered blood pressure, and therefore, whilst considering our patients' feelings, we must always endeavor to act judiciously in the matter of feeding them. The sanitary surroundings of these persons of this diathesis should be good and healthful, the air pure and bracing, the living rooms large and airy, and not too hot, and a regular amount of exercise should be taken daily but proportionate to the age and peculiarities of the individual, and too luxurious habits should not be indulged in. The mental surroundings should be as pleasant and as little depressing as possible and they should avoid nervous worry. The clothing should be warm—not too warm—and the underclothing of wool for the winter, which however should be of lighter material for the summer, and must not be cast by those persons of this habit, who perspire freely on the slightest exertion. They should not keep late hours for going to bed, and should
rise between in the morning. They should not be allowed
to lead an over-stimulated or a too sedentary life, and any
incipient dyspepsia or other derangement of the general
health should be attended to without delay. Injuries to
the constitution in these subjects are apt to become affected
by gouty changes in the future, and such persons should avoid
chills as garned points onto that chilling the skin increases
the formation of uric acid, and it probably gives rise to other
changes in the blood by diminishing elimination. So on preventive
measures we must ever keep before us the likelihood of the kidney
action becoming impaired, and strive to keep those organs
acting healthily, and also the skin and other eliminating parts.
Legrand in a long article (op. cit) sums up with some propositions
and concludes them with saying the treatment of gout consists
in re-establishing, by all possible means the renal function.
As diseases of this class are usually accompanied with
increased vascular tension, and a strong and incontrollable
pulse, lowering remedies have generally to be resorted to at an
early stage, and sometimes throughout the entire treatment of the
acute attacks. Recovery of strength is usually very rapid in the
convalescent period. I have frequently found susceptible to some
drugs of the narcotic type, and especially to sweets of potash which
many of them cannot tolerate. The diaphresis when blended
is generally found with the nerves or with the bilious.
Of the mineral spas visited in this country, Harrogate, and
Bath, or Buxton, are frequently resorted to by persons of
the gouty habit for preventive treatment, and for general
hydros-therapeutic treatment when gout has developed.
Dr. Oliver (Harrogate Waters page 186) writes about the value of the sulphur waters in symptoms suggestive of gout in those in whom there is a family history of the disease, or in whom it has long been suspected, such as flying pain, and tenderness through the small joints, which are now and then slight, painful, and puffed; a liability to irritative states of the mucous membranes, e.g., bronchial attacks, to diverse neuralgic affections, etc., such symptoms are often met with in women; and sometimes in rather delicate men, in whom they rarely bloom into an attack of gout.

In persons of the nervous diathesis there is as Dr. M. Fosterhill writes, a distinct leaning towards complicated diseases connected with the nervous system, requiring special care and watchfulness. In these subjects, where the nervous system is unusually well developed, and out of proportion to the general bulk, mental ills, even under unfavourable surroundings is much more possible than in the case with other diatheses. The Indians, and a large number of the residents of India, who are well known to be very active both physically as well as mentally, are largely composed of this diathesis, and are capable of undergoing great mental and physical ills in hot climates. Prof. Laycock said this class predisposed to insanity, chorea, epilepsy, mania, and to hysteria, and to these many more nervous disorders may now be added. It seems highly important that the medical world recognize the nervous factor in the constitution of his patients as early as possible, and particularly so now that cases of
network, and of over taxation of the nervous system are
becoming so common in this trying age, as it has been
frowned on by Dr. W. Richardson in his work on "Physical
Disease from Mental Strain". The recognition of the nervous element
moreover gives a clue to disease, and is consequently an
important help towards successful treatment, as well as
by being very helpful in the prevention of the diseases peculiar
to individuals of this class. The brain performs its function
by the decay of very highly organized matter. Prof. Maudsley
(The Physiology of the Mind) says, "It's constituents are of a very
complex character, easily undergo decomposition, and being
compounded largely of carbon and hydrogen have a high
oxidation value. It is probable that a chemical synthesis
is effected in the substance of nerves, through which the
nutrient material brought by the blood is finally
converted into highly complex and unstable albuminoid
compounds; these representing a great value of potential
energy, which becomes actual through their decomposition
during function. It is very important in persons of
this diathetic tendency to beware of and to try and guard
against the nervous exhaustion or break-down which
will almost certainly accede to those who go on
increasingly studying, and in otherwise unnecessary and
increasingly over-taxing their mental capabilities for years,
and who are perhaps all the time living on too little
food, and that also of an unwholesome nature for persons
of their peculiar diathesis, with doubtful a too liberal
supply of tea or coffee, or may be more alcohol than
food, and with little rest, insufficient for their requirements - or asleep. Such a state of affairs is very apt to result in some organic change in the highly-strung nervous system or brain-failure which has been so well depicted by Winslow in "Obscur Diseases of the Mind and Brain," in which he says, "the intellect often presents evidences of general prostration and debility long anteriorly to any serious disorder of the brain being diagnosed, or even suspected. This condition of cerebral lassitude, mental sluggishness, psychical weakness and impairment, is, in many of its features, analogous to the turmoil of mind that so frequently supervenes upon certain acute forms of bodily disease, particularly those of a febrile character, implicating the nervous functions. In this state of mental ill-health, the patient is conscious of a want of brain. The sluggish action of mind, and of a deviation from his normal condition of intellectual acuteness, activity, and vigour. He is painfully sensible of feeling mentally below par and recognizes his inability to use efficiently his power of mind. He suffers from a torpid state of the intellect, a psychical malaise well-fitting him for any kind of degree of cerebral work. The effort to think is intense and painful, causing it renounced in, vertigo, headache, painful confusion of thought, and acute mental depression. Yet it is perhaps surprising how long such individuals do go on overworking themselves without breaking down completely in a number of cases, but when they do eventually give way, as many of them do, they are usually found to be
very much shattered so far as their nervous system is concerned. Indeed the man of this diathesis who after 45 or 50 years, or perhaps 60 years, has so unheedingly undermined his constitution for a long term of years, often presents a woefully wrecked and strikingly altered appearance. If taken in time this state of affairs can be remedied and a normal state of health be regained, but if neglected it will pass on to actual organic mischief. It is therefore of vital moment that the practitioners should endeavor to arrest such morbid progress if possible. The successful management and treatment of the female patients of this diathetic tendency is often a matter of great difficulty for they frequently require a large amount of prudence, kind handling, forbearance, and above all tact, and a very large proportion of them show a decided tendency to peculiarities or idiosyncrasies which make them a most troublesome and difficult class of patients to treat. They often suffer from ailments, but perhaps more frequently imagine they are ill, and therefore it is the most necessary that the medical practitioners should always be on their guard with such subjects, and he should pay strict attention to all their aches and pains, and other symptoms, while at the same time he must endeavor to arrive at a correct diagnosis for his own guidance and successful treatment. Still nevertheless he should not neglect their minor and often unimportant symptoms, nor make light of these, or he will assuredly fall very much in their estimation and confidence. The dark-haired, pallid, but
on the whole, well-liking children of nervous habit, (Goodhart), Disease of Childe

and all the young persons of this diathetic tendency require
to be kept back in their education, to be kindly dealt with,
and allowed a full amount of sleep, but at the same
time their physical development should be encouraged.
Excitement of too great a nature should be avoided, and
they should never be dealt with harshly or severely. Dr.
Beale (Eight-iemente) writes, children are likely to suffer
from chorea, and many more severe functional disturbances
of the nervous system, and further adds, the nervous state
is often associated with a type of organism, and frequently
it will be found that cardiac disease, affecting either
the mitral or aortic orifice, or both also exists, or if not
is likely to be developed before the period of adolescence.
We moreover constantly meet with perturbed nervous action
with disorders of the circulatory, respiratory, and digestive
systems, in the different visceral and of the reflex nerves
which arise in phrenes of the diathesis. The nervous diathesis
is nearly always found blended with others but chiefly
is it to be found associated with the sthenous. It is
as before mentioned often found with the gouty or with
the bilious, but never with the lymphatic. It is amongst
the nervo-bilious, and nervo-gouty, that some of the most
troublesome drunkards are to be met with, and I have
observed that persons of the nervo-gouty habit are heavy
drinkers at times, but that the nervo-bilious is perhaps
the most obstinate and intractable of all. The nervo-gouty also
appears to proceed more determination of character which
enables them to resolve to give up the propensity, as several
I have known of this breed have done and to remain
steak, abstainers, whereas on the other hand the neuroticas
do not often appear to be capable of existing very long
without giving way to drinking bouts, and they do not
seem to be able to restrain with the same steadfast purpose
of character, as their neurotic brethren; but if they are in
apartment and left uncontrolled they will run an almost-
unchecked downward career. Dr. L. Herbert says, usually
whether the diathesis prefers tea to alcohol but if
once drinking habits become formed, they grow, and many
of the most hopeless inwitted drinking are punished by
members of this group. In fact, neurotic individuals usually
indulge very largely in tea which is taken strong
and often, and tends very much towards disturbing their
already highly-strung nervous system. In diseases of this
class which are chiefly connected with over-exaction
rest is principally indicated, and as a rule the require
much more rest than they usually allow themselves for
they really often require a good nights rest of from
eight to nine hours sleep impossible. Of the blended
varieties perhaps that of the neuro-gouty type approaches
the most nearly to that of the typical neuroticas,
and particularly so in young subjects. This breed produces
an active, energetic, restless, go-ahead type of person who
is however periodically held in check by some form of
neurotic outburst which is however by no means always so
sanguine of diagnosis. In the neuro-gouty male after the
middle period of life so passed, we are often consulted about
attacks of a painful nature in muscles or nerves, and usually
of a superficial character, or of sudden and acute attacks of
pain in a joint, and of these appear to cause very intense
pain to the sufferers, yet one is apt to feel surprised at
the almost magically, curative effect produced in many cases
by the rubbing into the part affected of some simple liniment
containing aconite, belladonna, or chloroform, which often cures after
one application. If the nervous-gouty be found commingled
with the bilious the medical attendant will have a most
troublesome and unsatisfactory patient to attend as they so shrewdly
upset our best planned efforts to treat them. In persons
of this habit it is clearly our duty to be on the look-out for all symptoms or signs which point to changes
taking place in the brain and nervous system, so as to
endeavour to prevent the development of any incurable or
organic condition. Some nervous individuals must be restrained
from overtaxing their nervous systems and be advised to
sleep more and encourage their muscular development and
if they still persist in overworking themselves to the
detriment of their health, then they must be told to re-
linquish their duties for a period and have an entire
change so as to regain their normal standard of health.
Rest therefore and tosso such as phosphorus are specially
indicated in this diathesis with a judicious administration
of sedatives in some cases. It is of great importance
to attend to the due nutrition of the nervous system
and to keep the assimilative organs acting properly.
In treating this tendency and the maladies arising in such subjects it must ever be borne in mind that the brain and nervous system contain largely of highly phosphorised fat, in the shape of lecithin. Prof. H. Dale (Text Book of Physiology) says:—The element phosphorus seems no less important from a biological point of view than carbon or nitrogen. We find it playing an important part as the conspicuous constituent of lecithin. It appears by the oxidation of this complex fat that the brain becomes active, and that nervous power is manifested. Prof. Maudsley (The Physiology of the Mind) says:—In the performance of an idea as in the performance of a movement, there is a retrograde metamorphosis of organic elements: the display of energy is at the cost of highly organised matter, which undergoes degeneration or passes from a higher to a lower grade of being; and the final retrograde products are, as far as is at present known, somewhat similar to muscle and nerve. An excess of brain-labour is consequently followed by an increase in these waste products. Fat therefore should be a constituent of food for these processes of the diathermic, and phosphorus, too, is essential, and when the digestive organs are sound this may be extracted from the phosphates of cereals, such as oatmeal which is also rich in fats, and from other foods. If the digestive organs are injured, or the cells of the brain and nervous system should prove to be beyond the power of the assimilative organs to break up the phosphatic, or even to supply a due amount of free phosphorus for
Their composition, then, it appears necessary, to administer some less constant mixture than that which is contained in the earthy phosphates. This is to be found in the phosphates or perhaps better in the hyposphosphates, where the phosphorus appears to be capable of easy dissolution, so that the assimilative organs can readily obtain the free phosphorus which is so necessary for the building up of the brain and nerves. In all cases where the calls upon the body-stores of lecithin are greater than the power of the system to build it up, then neurasthenia must necessarily follow. To prevent this nervous breakdown it is necessary to effect a reduction of the demand upon the brain and nerves such as will lead to the accumulation of lecithin again, and also to give to the blood, by means of good food and a free amount of phosphorus, a better supply of lecithin. Phosphorus, according to Aschbolton Thompson, if freely given, effects a sharpening of the mental faculties and produces a more acute tactile sensibility, and it is a remedy which is indicated in many of the maladies and conditions of the nervous system. For the proper diet and general management of the cases of neurasthenia where the general nutrition is so seriously involved that very remarkable conditions of emaciation and muscular prostration are apparent, therewith, we are largely obliged to Dr. W. Mitchell. Such cases will not be restored to health by suitable food alone, but other healing means have to be used methodically and at the same time. These measures are comple
incorporation, rest in bed, and the systematic and regular application of electricity and massage. As Dr. W. Mitchell expressis, it (Fat and Blood, an essay on the treatment of certain forms of neurotonic and hysteria) his plan consists of "a combination of entire rest and of exclusive feeding, made possible by passive exercise obtained through the steady use of massage and electricity. It is well for the medical attendant to inculcate upon regular meals with persons of this class (so I find they are apt to shirk them) and order them to take a proper amount of suitable nourishment, in each meal. As to stimulants, it seems better, as a rule to avoid the encouraging the use of them for the great majority of this class appear to be capable of existing comfortably and in good health without alcohol in any shape, but some however may require a moderate amount with meals, still the possibility for liking too much stimulant which a certain number of the persons of this habit may develop must be remembered. Some individuals with the predisposition bear narcotic drugs well, and may even require very large doses, and to procure sleep, whereas others again are very easily acted upon by even small doses of the same kind of drugs.

Of all the diathetic predispositions perhaps none is of greater significance in its practical bearings than that of the strumous or scrofulous, with its several modifications, and therefore the very early recognition of the morbif tendency, which is so often apparent and very frequently to be met with in young persons, is a subject of the
highest importance to the medical practitioner. It is equally necessary to discover the tendency as early as possible both in the object of being able to take proper preventative measures sooner for it plays sad havoc amongst children, and often leaves its mark indelibly impressed upon its victims, as well as by cutting down in early adult age many who succumb to its frequent and numerous modes of attack, and with the object of giving us a correct line to the treatment of illnesses in such individuals from the commencement. In the typically stonewash looking child with its pretty face and neat form, but perhaps with a narrow and often ill-shaped chest, and with a strong family fault to phthisis and allied diseases, we can often do much to prevent the development of the dire results, which are so much dreaded, although we may not perhaps be able to alter the shape of the chest to any great extent, yet we may and can often do a great deal towards rebanding or even warding off disease, by placing such subjects at the earliest date in very good sanitary surroundings, and allowing them a full supply of suitable and easily digested food, with warm clothing, and also by paying very careful and frequent attention to the state of their general health. Here however, the medical attendant will frequently meet with many obstructions and difficulties as the assimilative powers in persons of this diathesis are often found to be very imperfect, feeble, or even defective, and especially in this the case with the assimilation of fatty materials. The appetite is moreover
uncertain or capricious, and there is often an utter distaste for fatty foods with frequently an inability to digest them, and the mesenteric and abdominal glands are early subject to change and they may soon become morbidly affected. More fortunately our efforts are much helped by the different peptonized and digested foods which are available, and also by the administration of the maltose preparations. But again, it is frequently found to be impossible in practice to improve the diet much in many cases, or even to place such patients in as favorable sanitary surroundings as we desire and hence our efforts to improve the nutrition and to carry out proper preventive measures are frequently thwarted and nullified. Still every effort should be made to improve the general health, and also to make the hygienic surroundings as satisfactory as possible. We must be always on the lookout for those strumous looking children who will frequently be found to have very unformed teeth, soft and enlarged abdomen, cold extremities with early liability to chills, and who are also subject to swollen glands in the neck which in spite of treatment will often remain enlarged and usually run a chronic course generally ending in suppuration, and the abscess bursts if it is not opened and it leaves an unhealthy looking ulcer which ultimately heals but an unhealthly scar results. If the disease be still unchecked then the deeper seated glands may become implicated, and afterwards in young adults if not ending pulmonary consumption or some other tubercular condition
supernumerary, which will usually be found to run a rapidly fatal course in such constitutions. After scarlatina and the other fevers such subjects are most liable to suffer from sequelae which are often very protracted and usually most troublesome to treat successfully. After measles, in particular, is something apt to be left behind, and this something consists in a tendency to chronic lung changes, or to glandular enlargements, and is very marked in many cases, and especially in strumous subjects, where a general condition of malnutrition soon sets in. If left to themselves after measles these children pass into a condition of impoverished general health, which not infrequently ends in death. Unfortunately, measles is not regarded as an illness of a fatal character; the same care is not exercised with it as with scarlatina, yet in most cases such a condition as described, can certainly be avoided by watchfulness and appropriate measures; therefore as soon as the acute symptoms have passed away, it is as well to commence with suitable remedies without losing time in waiting to see what nature may do. The strumous diseases of bone and of the joints in children are well recognized and understood at the present time, and these very troublesome affections are justly dreaded by surgeons both from their slow progress, as well as from their general unsatisfactory nature both as to treatment and repair. Hilton in Pest and Paul argues that diseases of the joints in children are the results of accident or over-work, and that they are not simply selected by Nature for the development of the constitutional or scrophulous diathesis but...
write, I will admit that the outward consequences or results of such cases, originating as they do, in slight local injury, or over-excitation, are in some measure owing to the unhealthy constitution of the patient, and that the same amount of injury in persons perfectly healthy would, in all probability, have caused no such prolonged condition of disease. The same author also considers scrofulous or tubercular disease seldom the cause of spinal disease. Bryant writes that, there can be little the expectations from any disease and scrofulous disease, have an injurious influence upon the practice of surgery. They have too often led the surgeon (and misled the public) to regard a local affection in a strumous or scrofulous subject as incurable, as depending on some general condition, and not on a local cause. In disease of the joints this evil has been much felt, and should be corrected, and continued. I have occasionally acted upon the principle of dealing actively with chronic local affections, with the best results, and in more than one case, in which there was progressive lung mischief associated with a disorganized base, have found the lung affection speedily subside after amputation. The surgeon too, should always remember some 'golden rule' in surgical practice viz: The must not forget that the foot may be required for supported strumous disease of the torso while after all the affection might have been proved after careful examination to be confined to one of the bones only, and the patient might therefore have been cured by a less severe operation. He should never neglect to put all strumous joint affections at rest which should
be persisted in for quite three months after all signs of
disease have disappeared, and active exercise must then
only be permitted very gradually. Early movement should
never be allowed in sthenic arthritis, and the patient should
be warned of the likelihood of stiffness or amyloids of
joints after sthenic disease. In treating tubercular joints
he must beware of employing a Pericranium force as many
cases have occurred where the measure has been followed
in a few days by general miliary tuberculosis and a rapid
death. He must also beware of the incisions over tubercular
arthritis. He should in no manner apply an
excruciating bandage if tuberculosis is present. He must not
forget to eliminate the sthenic element in treating fictile
in ano. He should also remember that potassium iodide and
mercury are not well borne by syphilitic subjects who are
of the scrophulous type of constitution. In children of the
fissure form of the skin diseases we are apt to meet with
tubercular meningitis, but the common type show a very
decided leaning to glandular affections and tuberculous
childhood seems to favour the development of tubercle in
the brain, glands, and bones, instead of selecting the lungs,
and after puberty is reached the lungs are especially liable
to be attacked with tubercle. Some pathologists, and
amongst them Hilics and Moxon, assert that after puberty,
on the little under fifteen, tubercle is not met with elabo-
where without also being present in the lungs as well.
It is however a well ascertained fact that the locality
selected for tubercle varies at different periods of life.
It was held by Dr. Barlow that its locality depended upon the activity of the organ, and he suggested that the brain was usually selected in infancy, the abdominal glands up to puberty, and afterwards the lungs would be found to be much more liable to become affected. When manhood is reached, the glands of the breasts seem to be specially selected for tuberculous changes. Consolidation of the apex of the lung met with in young subjects, where the chest measurements are all deficient, and who have at the same time cough, night perspirations which are profuse towards the morning, with wasting, loss of appetite and strength, and withal who present the alarming predisposition, are almost certain of becoming tuberculous, as Himayser expresses it. The defective nutrition of the tissues in the struma encourages tubercular changes in the lungs and other parts and the proliferation of the loosely connective-tissue-corporcles (in chow) which cannot ascend into higher tissue development but shows a tendined tendency to descend and undergoes decay by softening and necrosis. In these cases we must use every means to encourage the absorption of the new growth, and if the constitutional powers be good we may look forward with a fair hope of ameliorating the destructive changes, if not altogether arresting them, by appropriate medicinal, dietetic and hygienic treatment. Subjects of this diathesis are liable to suffer from many diseases of the skin, and in children of this predisposition, the recurrent nature of diathetic disease is well exemplified, for if the general health becomes
impaired the mischief is sure to recur, and especially is this
the case with tubercular ulceration in human children where
it is hard to say when the cicatrisation may be complete
and perfect. Two such conditions appear to be met with
in the skin, namely lupus vulgaris and scrofuloderma,
and where the cutaneous manifestations predominate the
ulceration and destruction are noticed to be the most striking
features. In these two skin affections we have two different
manifestations of the action of the tubercle bacilli upon the skin
prevented to us. Lupus vulgaris is distinguished by new growth
in the form of semi-transparent brownish-red papules, which
enlarge and unite into nodules and patches, and then spread
in the skin to atrophy or ulcerate, ultimately leaving scars
on the lower portion, while new growths are forming at the
periphery. Frequently this is the only manifestation disclosed
apart from the familial history of the presence of tubercle bacilli.
In scrofuloderma (Dr. Cecil: The Clinical J. Dec. 192) the process
is different, consisting of various forms of supplicative skin
changes with new growth, and it is almost invariably found
associated with other manifestations or symptoms which make
up the so-called struma, such as enlarged carotid and
suppurating glands, keratitis, heart or lung, lymphadenitis,
rhinorrhea, or otitis, and joint or bone disease. These
two tubercular processes — lupus vulgaris and scrofuloderma — may
exist separately or they may also be combined in various
proportions and then the neoplastic or the destructive processes
predominate accordingly. The ulceration which takes place
so early may perhaps be to some extent explained by
supporting that the tubercles of strumous subjects are particularly partial to the early development and proliferation of the pus-cocci, and that therefore in the attacked spots, the tubercules and pus organisms, Dr. Crocker thinks, may partly act in combination and so very materially hasten the ulcerative processes. If the appetite be improved in such cases, and if the secondary or tissue digestion can be raised, then the neoplasm may be removed from a downward cause, and we may reasonably expect the cicatrization to be complete. Children of this diathesis are liable to a special form of oph-thalmia in early life, and to sarcoidosis sclerotics. Pathology (Diseases of the Eye) writes "The strumous condition is a fruitful source of superficial eye diseases, which are for the most part tuberculous and relapsing, are often accompanied by chronic irritative symptoms, but, as a rule, do not lead to serious damage. The best types are: (1) the different varieties of ophthalmia turci; (2) all forms of phlyctenular oph-thalmia ("tubercular" or "herpetic" disease of the cornea and conjunctiva); (3) many superficial relapsing ulcers of cornea in children and adolescents, though not distinctly phlyctenular in origin, are certainly strumous; (4) many of the less common, but more serious, varieties of cyclo-keratitis in adults occur in connection with lowered health, susceptibility to cold, and sluggish but inevitable circulation, if not with decidedly sarcoideal manifestations. Persons of the strumous diathesis are very subject to acute inflammatory attacks of the serous membranes, and also of the lungs after the age of puberty, which are liable to merge into chronic disease of a tuberculous nature.
The eruptive fevers, although of a mild character in each person, are very apt to be followed by illness of a low type and also of a chronic nature, and they will often be found to be very troublesome and tedious in treatment, and especially so in the case of measles. Dyspepsia too is very common in individuals of this class, and rheumatic fever unless very carefully managed and treated with tonics, pure air, and cod-liver oil during the early convalescent stage, is likely to pass on to rheumatic arthritis. This diathesis may apparently lie latent throughout a vigorous manhood and then come show itself in a decrepit old age. Dr. Forthill says in each subject, there is a marked inclination to the formation of uric acid, and vesical calculi is the not infrequent result. They are liable to occur, uti in stone, to catarrh of the throat, and also to catarrh or to inflammation of a more serious nature of the alimentary or respiratory mucous tracts, which are common, and they may also develop cystitis, pyelitis, or even have far-traveled inflammation of the vagina. In children of the strumous diathesis, discharges from mucous membranes are very common, and such discharges are found to be most debilitating. Syphilis most often shows itself as a congenital disease in subjects of this diathesis and then the diathesis as the syphilo-strumous form. Scrofulous children more often present the pellagrinae weakness. In all diseases of the strumous type there is a marked tendency for them to become chronic and to assume an indolent character, with a superfluous proliferation of cells, possessing
a very low type of existence. This predisposition is much more frequently met with in urban districts, and stenous effects are far more intractable in towns, and in children who are badly fed and clothed, and who at the same time live in bad sanitary neighbourhoods. M. Ananui (Raford, Medical Annual 1893) writes the question as to whether scarfula and tubercle are one and the same disease, i.e. which is as old as the history of scarfula itself. The symptoms of Koch, Léger, and others, seemed to show that the same bacillus may act as the cause of scarfula and of tuberculosis. Nevertheless, it would appear from the latest researches of Arlonig that there is some difference of degree, but not of kind between the viruses of tuberculosis and scarfula. And with reference to scarfula, Cohn has said, "everything which transmitted experimentally causes the appearance of tuberculous bilious to this disease, and everything transmitted in the same manner which does not produce tuberculous, does not belong to that disease."

The indications to counteract this predisposition are to improve the general nutrition, and to endeavour to keep it up. Apparemly, therefore, the important point to be carefully kept before us, is the so-called tissue-nutrition, and clearly we must use every endeavour to raise it. Then this has been thoroughly accomplished, and the system grows out of the impending danger, and, if everything then proceeds satisfactorily, then the consumptive threatening to have been defeated. Infants with this tendency, especially if the children of tubercular or scarfulous parents, should be inoculated at once,
and fed upon milk which is beyond the suspicion of tubercular taint. As a means to attain this end, a good healthy wet-nurse may have to be selected, and here as in other states of constitutional debility of the mother, or otherwise as may happen when mothers do not nurse their children, we may be called upon to choose a wet-nurse. In providing such a substitute, we must be very careful not to select one who presents any of the signs of the tuberculous or scrofulous predisposition, or any other unfavorable diathetic tendency in her appearance or even in her family history. Still bearing upon this point of tuberculous and lactation, Dr. Fede at the Pediatric Congress held recently at Naples, said he had made experiments as to the transmissible nature of Tuberculosis by means of milk, by inoculating with tuberculous pustules, rabbits and guinea-pigs with the milk of tuberculous women, and in no single instance did the animals show signs of tuberculosis, and he said also, that however far advanced the phthisical condition was the milk did not contain bacilli. Dr. Rios from experiments made by himself had come to the same conclusions. Some form of pure sterilized milk might even be given to such infants, and they should be brought up under conditions as favorable as possible to health in every way. Where there is any recognized tendency to affections of a chronic nature it is well to bear in mind that "to be forewarned is to be forearmed" and the practitioner should use every endeavor to prevent the development of the well known scrofulous malady if possible, and if disease actually exists he must do his best to obviate the tendency there is in such subjects to chronic disease.
Our preventive measures must be directed to the diet, the clothing, the general well-being, the sanitary surroundings, and to the medicinal treatment. The diet of older children should be so arranged that they may take as much as they can easily digest, but no more. Dr. B. Yeo (Food in Health and Disease, p. 496) writes: "When a child shows the well-known signs of a constitution, or when he is known to inherit a tendency thereto, it becomes a matter of great importance that he should be well and carefully fed; and again there can be no doubt that an insufficient or inappropriate diet in the early years of life predisposes to the development of scrofula, not only in those who have a hereditary tendency thereto, but in others also; and adds: "A sound and rational diet in infancy and early life acts as a most efficient prophylactic against the development of this disease. All indigestible food should be carefully avoided, but the diet must be abundant, nutritious, and digestible. Children should have a full amount of good milk and at the same time the supply of this article of diet must be very carefully, considered for it has been abundantly proved over and over again that the milk from tuberculous animals, especially when such animals suffer from tuberculous disease of the udder, is nearly always infectious." M. Armand Raffet (Méd. Ann. 193, p. 92). Whole-meat bread with a plentiful supply of butter should likewise, with fresh well roasted or baked meat once a day, which may, however, be slightly underdone if it can be taken this way. Fats which can be readily digested are to be allowed, and generally those found that bread dipped in warm bacon dripping is
well liked, and some appreciate and can digest cream which
by the way should be added to milk if possible. Jam and
bread, and jam with farinaceous puddings, or with sweet-
puddings are very suitable in such cases, and are also the
means of adding a certain amount of fat to the dietary
in an agreeable form. Mutton custard may be added to学校
and milk after being boiled, and it seems to be well liked
by a number of children. Eggs lightly boiled are good, and
meat mixed with potatoes fairly mashed and gravy are
necessary for the mid-day meals, and as children advance in
age a more liberal but equally nutritious and building
up tissue-forming dietary must be allowed. I find it
necessary to insist upon very thorough mastication of the
food in young adults, and to see that a diet too exclusively
farinaceous is not administered to children. Green vegetable
of a digestible nature may be permitted, and in young
adults. I have often found great benefit from a limited
quantity of lean or light meats, which seems to promote
digestion in a number of cases. The clothing should be
warm but loose, and the extremities should be well covered
so as to encourage the circulation in the skin and with the
view of preventing congestion in the chest and abdomen.
Flannel should be worn both in summer and winter next
to the skin for warmth in winter, and in order to obviate
any accidental changes of temperature in summer.
Light stays in girls are not to be permitted and anything
which arrests the free play of the chest must not be
allowed, so undue pressure upon the chest prevents the
proper expansion of the thorax besides being very likely to displace important abdominal organs. Dr. Underwood unite the only way in which we can assist in forming a really fine figure, is, to remove all restraint, and secure, as far as possible, so free an action to the muscles as will lead to their perfect development. By such a course we shall best promote the acquirement of a good carriage, which is infinitely more likely to be the result of a perfect balance of the muscles, than of any mechanical support whatever. Dr. D. Smith considers it to be highly important for each child to wear an abdominal belt properly applied until three years old. The general well-being or general management must receive full attention, and precisely it is very important to pay considerable attention to the digestive organs, and to act at once if there are any signs of impaired digestion or mal-accumulation. Salutary with cod-liver oil or olive oil will frequently be found to be beneficial. Such individuals require a large amount of oxygen in the shape of respirating food, and for this purpose they should be told to have free exercise of the muscles and lungs in pure open air, but they must avoid over-exertion, but indulge in gymnastics and outdoor games to be regulated according to their ages. Under exposure to cold winds and damp air must be avoided. Where the shape of the chest is contracted and defective means should be taken by properly regulated exercise to enlarge the capacity of the chest and to strengthen the respiratory muscles. This can be done by general exercise, and by
systematic drilling, fasting, and other practices, which can undoubtedly increase the chest capacity to some extent, and with it the expansion of the lungs. The sanitary surroundings should be well attended to, and should be as perfect as possible. The air should be pure, dry, and bracing, and the water used for drinking purposes good and wholesome. The rooms should be large and well ventilated if possible, and they should avoid houses which are situated in damp localities.

In the winter months the best residence for consumptive subjects is the one that is warm but not damp, and cool and bracing in the summer, and the seaside in the autumn or on the moors. Such persons should make the most use of the sunlight and of the pure air which is so necessary for the production of healthy blood and a healthy complexion. The skin must be kept scrupulously clean by cold or tepid sponging at least twice a day if possible, and the skin should be soaked to act by means of friction and especially where eczema cannot be taken. Cold sea-bathing in suitable cases is very beneficial and should be indulged in from July to September, and where a vigorous reaction can be induced it acts well. The skin must be warm and not over-heated at the time of bathing and generally for weakly children between breakfast and the midday meal is the best time and on a warm morning. If the child become cold and numb after a short immersion then it must be dried up, and warm salt baths may then be tried. Dr. Buchanan has pointed out that phthisis is more prevalent amongst populations living on low-lying imperfect soils, than at localities more highly situated.
and where the soil is pervious. Sometimes great benefit follows removal to a bracing locality, or a visit to the high valleys of the Alps, or a sea voyage to Australia, or even the dry, mild air of some locality like that to be found in South California, when the disease is established. The bright, precocious child should not be allowed to see much of society, and it is necessary to take measures on their behalf to remove all causes of brain over-excitement and the like. The medicinal treatment—such as the measures thought to be adopted in these cases—should be carried out with the express object of improving the assimilation and state of the general health. Tonics are specially called for and particularly preparations of iron. It nearly always agrees with the pale, flabby, and clear-complexioned children if their liver and bowels are kept in regular order. It does not agree well with dark-complexioned individuals. Iron should be given in small doses with a weeks occasional interval, and be continued for a long time, but a careful watch should be kept over the condition of the digestive functions and the state of the bowels. The occasional administration of a small dose of grey powder with rhubarb will sometimes be required and will often improve the digestion and appetite much. Of the preparations of iron I have found the syrup of the hypophosphate the most servicable generally. The phosphorus is readily assimilated, and the potassium contained in it has been considered very efficacious in the treatment of asthmatic tendencies since the time of Brandish and Hugel, and combined as it is with the blood-building iron, and
other nervous tonics, it will be found to act well in all
cases and conditions of bodily ill-health due to suffering,
and is moreover, peculiarly fit for the requirements of
sensitive children. In fact in all cases where young
subjects are threatened in this respect I have found the
continued administration of this syrup most beneficial.
In actual disease the great matter is to maintain the
flagging appetite at all times with the view of securing
a sufficiency of food being taken. As an anti-stomachic remedy
iodine has always been considered in high repute, in
combination with potassium, but more especially when administered
as the whole of iron. Cod liver oil is of immense value
when given in such cases, but due care must be taken
to see that the digestive organs be fit for it and also
that the dose be correctly proportioned. Some subjects
unfortunately cannot tolerate it at all. Its beneficial action
in asthma has been supposed to be due to the presence of
volatile iodides in small quantities, but M. M. Gautier and
Monagas have demonstrated the presence of animal alkaloids,
which possess markedly stimulating powers on the general
nutrition, and improve the appetite, accelerating the circulation
and also act upon the kidneys. The same results followed when
the alkaloids were given and apparently without inducing much pain
or gastric disturbance, since they were introduced by M. Chaptoent
under the name of Norrhoul. Since then M. Chaptoent has
combined the Norrhoul with Oresote which is said to be
readily assimilated and to possess very valuable therapeutic
properties. Where the power of digesting fats is limited
a dose of cod liver oil may be administered in Barney & House's pancreative wine. Sometimes cod liver oil is best retained if given just as the patient is lying down in bed. The maltose preparations are very helpful and most convenient and are of special value and can as a rule be readily administered to children. Maltose with phosphate of lime, quinine, and atropin acts as a powerful tonic and is of great value in scrofula. In scrofula occurring in such a constitution Duhning writes, "if the patient possesses a debilitated constitution, manifesting signs of imperfect nutrition, or the so-called scrofulous disposition, cod liver oil will prove a valuable remedy." In cases where the digestive organs are weak with signs of imperfect digestive action, I have found great good following the administration of the peptonised foods which sometimes require to be given for a long period so as to assist in digesting the food, and enabling the stomach to rest and recuperate its relaxed energies. Paget in his Clinical lectures says: "in old age, iron, cod liver oil, sea air, and the like are of little potency. Rest, warmth, and good food are more important." In growing children with this predication our best endeavors must were be directed to the state of their general health and bear in mind constantly the necessity there is of trying to improve the assimilation of
the food, and we must not neglect to attend to the state of
the bowels, and try to keep the skin active. The hours of
study must be short, and the schoolrooms airy and well
ventilated. The holidays should be spent at the sea-side,
and these young people should indulge much in the pure
fresh air, and have some sea-bathing if possible. In truth,
over-study should be peremptorily discouraged until after the
general health has been improved and thoroughly established,
and when the brain in consequence becomes better nourished,
then the education will be found to proceed in a more thorough,
rapid, and satisfactory manner, and with fewer drawbacks.
Every cause which is calculated to lead to lung-affections
must be carefully avoided, and it is usually as well to
examine the chest from time to time, and to attend to
the slightest cold affecting the pulmonary organs, immediately.
Perhaps no other diastatic predisposition will the old
adage 'prevention is better than cure' be found to be more
applicable in practice than it is with reference to the
stomach diathesis.

Persons of the Biliary Diathesis are generally long
lived, and this fact appears to be well recognized by
physicians, who have much to do with life insurance. This
is by no means so separate and distinct a form as the other
being frequently found blended with the rheumatism, the goitre,
the ephemeral, or even the lymphatic diatheses. The bilious
are usually troubled more or less with an over-loaded state
of bile products in their portal circulation. They suffer
much and often from functional derangements of the liver and digestive organs. In fact, most trivial causes tend to disturb the biliary detentions in individuals who possess this predisposition, and they suffer in this way easily from reasons not which to other persons, would be considered very slight. The biliary attacks may possibly be due to congestion of the liver, in some or in all cases, but the attacks very rarely appear to leave that organ in a morbid condition from our clinical knowledge of such cases, at any rate whatever may be the true character of this disposition, it is not fatal. This diathetic predisposition is a most unpleasant one, and for a time, they who suffer from the repeated biliary derangements, are rendered quite unfit for ordinary business, but nevertheless such subjects may usually be well recommended for many kinds of occupation whose great powers of undergoing prolonged exertion are required. Of this class, the Poale (alight alman.) writes: - 'The capacity for steadily going on for a long period of time is in truth often associated with a biliary habit of body, and add, I fancy, a very large share of the best work of the world is performed by the bilious. Powers of this diathetic tendency are usually stamped with the habit of being resolved to labour in spite of their predisposition, and do so too, with great power and effect, and these qualities especially characterize them, although they are perhaps apt to be misconceived by despondency or by irritability of temper, still there is generally a large amount of patience, obstinacy, and power of endurance, possessed
by such individuals for continued energy and sustained work. People of the bilious habit of body are not as a rule disposed to become chronic, still occasionally corpulent persons of this tendency are to be met with, and some may do become chronic when the biliousness ceases, as may be the case in some of them after the middle period of life is passed. Possibly this may be explained to some extent by these being the habit not interfere with the sugar and fat-producing power of the liver, after such individuals have ceased to become bilious. The interference with the full carrying out of the hepatic functions which appears to take place during the bilious attacks, and also the stopping or limit placed upon the taking of a full amount of food during the occurrence of these repeated attacks, may also very possibly serve to explain the very rapidly fatal course which is almost invariably noticed to be the case, when tuberculosis itself amongst the unfortunate beings who possess the bilious-stomach-blend. Persons of this diathesis are very common patients and especially the nervous-bilious type of female, in whom the attacks generally commence after the age of puberty. The attacks often develop without the slightest cause or indiscretion in diet or many occasions, and may recur throughout a long life, and sometimes they are of much less frequent occurrence after the middle period of life, and also less severe the attacks
may come on without the slightest warning or indication. Some bilious subjects will sometimes be found to be very irritable and out of temper, but at other times very pleasant and agreeable, but they are liable to fits of despairing, or to become melancholy for a time. Confirmed bilious persons show a yellow tinge of the conjunctiva very commonly, and a variable, harsh, and dry skin; and they often feel a sense of weight in the right side, and during the attacks, have pain in the muscles at the back of the neck, which is almost invariable noticed. There is usually some disturbed action of the hepatico-pancreatic glands which is fairly constant. All these seem to indicate there is something wrong with the bile and fat-forming functions of the liver in individuals of this disposition. In treating acute as well as chronic diseases in members of this group, it is always necessary to bear in mind the unusually sensitive and irritable state of the stomach and liver, with the tendency there is to an accumulation of the bile products in the circulation, and therefore especial attention must now be paid to the state of the liver and digestive organs, and the liver should be period-ically relieved or unloaded by the judicious use of cathartics, remedies, and at the same time the diet must be conserved and specially mapped out for each patient as a rule. The amount of mental work need not be curtailed, for these persons can usually bear it well, and seem to have a surprising capacity for brain occupation when they are disposed to follow in
such a live, and they are usually very indefatigable and 
determined in their actions in this respect. Persons 
of this diathesis are often forgetful about their diet, and in 
this way come redresses to hard off attacks by increasing 
the amount of the bile products in their portal circulation. 
It is not wise for such individuals to indulge in too 
rich foods, or much meat; a certain amount of fatty 
foods may be allowed but these are to be partaken 
of in moderate proportions. Bread may be taken freely, 
but milk and cream are apt to disagree, still light 
puddings, with milk and eggs in moderate proportions, 
made of etoachy materials, may be permitted, and 
also fruits and vegetables. lemon juice is very 
useful and apparently helpful in many cases of this 
tendency, and cider and perry in small quantities are 
agreeable, and also well borne by some members of 
this group. As a rule alcohol does not suit in any 
shape or form, but if taken in quantity will undoubtedly 
disagree and aggravate the predisposition. Persons of this 
diathesis are as a rule small eaters, and this state 
of affairs gives rest to the digestive organs, and 
may perhaps to some extent account for the fact that 
bilious people is often live to great ages. Sometimes 
cephalic draughts of fluids are recommended, such as 
three to five pints or even more of soda or apollinaris 
waters, to be taken in the twenty four hours, and these 
large quantities afford much relief in many cases, 
by acting freely upon the kidneys. Bilious people are
not adapted for residence in a low-lying, damp, or relaxing situation, but a bracing, airy, in a higher locality, suits them much better. The seaside appears to aggravate the liver condition, and a long sojourn at the sea is almost sure to have an unfavourable effect upon members of this class. It will perhaps be felt more after they return home if the sea visit has been of short duration. Members of this group should avoid a chill, and be particularly careful about encountering a cold east wind too lightly clad, as a wind blowing from this direction is specially liable to derange the action of the liver. It is very necessary therefore that they should wear flannel and warm clothing, and particularly so if the wind be blowing from the east quarter. In fact, with some, after the middle period of life, it is not altogether wise to be too venturesome with a strong east wind blowing. It is generally found necessary to resort to medicinal treatment with all diseases met with in persons of this diathesis, and to pay particular attention in this respect to the blended forms which are so frequently presented to us for treatment in practice. Some preparation of mercury such as blue pill or colonel, is as a rule necessary in successfully treating such cases, or some of the vegetable hepatic stimulants recommended by Prof. Rushford as being active chologogues. When the bilious habit is very severe, colonel and blue pill are often found to afford much relief, and colonel often relieves the headache which sometimes accompanies the attacks and is generally so severe.
In all such cases the state of the general health had better be carefully attended to, with the intention of enabling the liver to perform its functions more healthily, and if possible with the express object of improving the nutrition as a whole. On the subject of nutrition in persons of this diathesis Dr. M. Fothergill writes: Bilious persons can assimilate more nutrition, and more thoroughly too, if they are kept on liberal supplies of food combined with proper exercise than if they attempt to avoid biliousness by starvation. This should never be forgotten in the treatment of persons of a bilious diathesis.

There is a large amount of waste in their furnace, no matter how small the quantity of fuel, and the only effective plan of treatment is to keep the fires scorching, and at the same time to be liberal with the fuel. I have over and over again found this observation to be true, and very successful in treating some of the sufferers of this diathetic predisposition.

In some of the more active sufferers of this class who are too much incapacitated from carrying out any work for a time, by too often repeated attacks, benefit will follow from an entire change of scene with perhaps cheerful society for several weeks to a bracing locality such as Harrogate, where a course of natural mineral water can be taken with sometimes a beneficial effect upon this troublesome condition. It is well to try and keep the skin of these persons in a fairly active state if possible.

Individuals of the Lymphatic or Phlegmatic diathesis are usually large, stout, and in active beings, and
are chiefly to be met with amongst persons of the female sex. In this class, all the functions of the body are carried on very sluggishly and languidly, and there is generally great want of tone in the whole system. The muscles, although often apparently large, are generally very soft and flabby at an extreme degree, and are moreover quite incapable of enduring any very prolonged or sustained exertion, and consequently it is not surprising to notice in practice that nearly all of the ailments attacking persons belonging to this diasthete tendency are found to be of an atomic nature. In corpulent children who show the phlegmatic blend, the mind and body are usually inactive and languid, besides being backward in intellect; which is apparent in their countenance. Lymphatic individuals are very prone to suffer from subacute inflammatory mischief and to experience congestive conditions, and in this latter respect the female members will often consult me about uterine troubles which will often be found to be due to congestion with pressure hemorrhage, which is unusually free during the menstrual period, and between that time they generally have troublesome leukorrhea, with much general debility. They will require as a rule, medicinal tonics with astringents, and good general tonic treatment combined with stimulants, in many cases. The severe menorrhagia may be due to subinvolution in one of this habit, who will perhaps be found to have menstruated freely always, and especially if walking exercise or active exertion be indulged in during the flow. If such an one becomes
pregnant, and imprudently takes a long and fatiguing walk abortion is very likely to result. I have known this to occur repeatedly, and then the subsequent menstrual periods are profuse and the state of affairs with the great weakness and general debility, brings the sufferer to consult a medical practitioner who finds out that the menorrhagia is due to subinvolution, and that the treatment directed to the uterus must be accompanied by tonics and good general tonic treatment to be successful. There is a very marked disposition too, with this class of patients to uterine displacements which I have found most difficult and unsatisfactory to treat successfully, from the very nature of the subject we have to deal with. Some young girls of this habit live menstruates very freely, and women after confinement generally have considerable losses which may continue to be very free for the first two or three weeks after, and if these patients are not very carefully looked after, they are undoubtedly liable to suffer afterwise from imperfect involution of the uterus. Those females of the phlegmatic habit who are cured with the bilious are usually the most unsatisfactory patients, for their ailments are generally chronic, their appetite is most peculiar, precocious and uncertain, and they often tell me they live on very little and this too is taken at long intervals; and with many of them this appears to be perfectly true; they are apt to give way very much and to lead an indolent life if left to themselves too much, and are moreover unfortunately easily disposed to drift into
secret drinking habits, which will often be most difficult to prove and to bring home to them, and will more difficult to control, and are usually most difficult patients to treat satisfactorily. The treatment will require to be conducted with very great firmness, kindness, no little tact, and very careful judicious handling, if we are to do them good and retain them as patients, for the withdrawal of the stimulant is not an easy task, as the female topic generally finds a means of indulging her tastes; and not uncommonly a servant, or some friend even who has been in the secret, and may perhaps have helped in the consummation, will continue to defy one's orders. So even with great tact and kindness shown, some of them will lose faith and consult another practitioner with the special object of being allowed to continue their drinking propensities. In females also, after the middle period of life and especially about the time of the change of life, palpitation is often met with as a troublesome and distressing symptom; and this is frequently accompanied with dilatation of the heart, in cases which I have had under observation subsequent fatty change I believe, of that organ. But females again, the symptoms presented often prove very perplexing and are puzzling, but they have reference to pain or situated in different parts of the body and are mainly of a muscular or neuralgic nature, and will often be found to be associated with uterine trouble in patients of this habit of body. Because of this distresses move very slowly, are insensate, and labored in their actions, their physiognomy, and all their other elevation
are free; in fact, the sudoriferous glands often secrete excessively. In all their diseases, the treatment should be prompt, and must often be of a tonic stimulant kind, but certainly not of a lowering nature, so as to thral the life of such a patient, might be seriously jeopardized, and if favourable were taken, the convalescent period which is generally slow, would be unnecessarily prolonged. Even at the best they are very frail invalids, subject to contracted debility after illness, and we must be on our guard to prevent their ailments from passing on to chronic confirmed mischief. Many-sided occurs in persons of this diathesis, Dr Aquiri (Diseases of the Skin) says: "Acne indurata" is observed, and adds the variety as well as the oily, waxy, and horny varieties of Acne, may with greater propriety be referred to the influence of temperament, as being affections that are almost constantly associated with the lymphatic temperament. Also writing of "dry than a mummy" says: it is almost peculiar to young people, especially those of the lymphatic temperament, and if hystigical that they are found generally in persons of the lymphatic temperament. All maladies met with here find the subject has very feeble resisting capabilities, and therefore to counteract their low resisting powers a very active and stimulating line of treatment must be adopted, especially in attacks of acute disease, from the commencement, to enable such constitutions to tide over the illness, and also with the object of shortening the time of convalescence. The liver and digestive organs require careful attention, and particularly where the
lymphatic is combined with the bilious diathesis, and
generally, with this class of people a course of some
natural aperient mineral water, which is not too low-salt-
will help very much towards correcting the too-fast state
of the gastro-intestinal tract, and so help to restore the
individual to a better state of health. Afterwards a suitable
course of tonic treatment should be carried out and per-
curred with for some time. The lymphatic diathesis is
not found as often with the gouty. The indications for the
treatment to be carried out in persons of this predisposition
point clearly to those of a tonic nature. The individual
must if possible be roused up, and told to lead a
fairly active life, and also placed in a high and at any
rate bracing locality, and be permitted to have the
choice of a good nutritious and easily digested food,
which however should be partaken of moderately and at
stated intervals, and generally a moderate amount of
some suitable form of stimulant may be permitted.
It is better I find to state precisely the amount of stimulant
to be taken, and also the time when to take it; sometimes
are better without any. They should be encouraged to take
a fair quantity of walking exercise daily, and not lead an
over sedentary existence, and always endeavor to keep
their integumentary surface in a good sanitary condition,
and in short everything should be done which will tend
to impart more tone to the unfortunate persons of this
most depressing and recurring of diathetic predispositions.