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Dissertation on Gout.

Andrew M. Porteous.
March 30th, 1856.
The term gout is derived from the French "la goutte", which is from the Latin "gutta", drops, and owes its origin to an old pathological notion, that a peculiar liquid matter - on which it was supposed the disease depended - fell drop by drop into the affected joint. Gout was well known to, well observed by the ancient physicians; and particular names were given to it, according to the part attacked, such as podagra when the foot, and chniaga when the hand was affected. Bellin gave it the name of Arthritis; but as arthritis would signify inflammation of all or any of the joints, he afterwards adopted the ancient name "podagra" (foot pain).

Gout is not generally looked on as a very dangerous disease. Many who suffer from it, console themselves with the reflection, that it serves to guard the system against other more dangerous
than itself, and there is no doubt an amount of truth in this impression. In gouty persons, the causes which ordinarily produce internal inflammation may be directed by the peculiar tenderness of the constitution to an external and comparatively safe position. As a general rule the gout in the held gout has of the constitution, the gout will be its tendency to show itself in its own legitimate part, the foot. However, it is not unfrequently fatal. In the earlier stages of the disease, the greatest danger is from internal sequestration whether original or by translation. Very snow and thin are fear of a victim to gout in the stomach, the brain, or the heart. It is from the slow wearing influence of the disease, every year extending its sway more and more over the constitution, which after every attack becomes less able to adjust itself. That the gout danger arises it is seldom a fit of the gout shows itself without the patient previous to
The attacks, having suffered from some preliminary symptoms, and these are, for the most part, either simply, curious, or such as indicate some disorder of function, all of which arise from the same cause as the well-marked paroxysms, including in their pale disorders in the functions of the digestive organs, of the heart, lungs, brain, nerves. These paroxysmal symptoms being, in character, degree, duration exceedingly diversified. Sometimes they are so mild as hardly to attract attention, while in other instances they are very distressing, occasionally lasting only a few days; again, persisting, with some or less remission for months, even for years. The most common of these paroxysmal symptoms is inflammation with its usual attendant of lassitude, imparity of appetite, restlessness, vomiting, flatulence, heartburn, acid eructations, gastodynia, 
Drops and cramps are experienced in many parts of the trunk, resort into the upper extremity, being relieved by the extraction
of wind from the stomach. The bowels are irregular; diarrhea being, sometimes present, but more generally constipation. The patient is apt to be excessively depressed and hypochondriacal, morbidly attentive to every bodily feeling, inclined to exaggerate his ailments, and apprehensive of the worst event. These dyspeptic arrangements are one doubt traceable, in a great degree to the luxurious living, and consequent mutation of stomach habitual with those who chiefly suffer from the disease. But this is not the sole and only cause, for independently of the various excitation to which the stomach is subjected, the direct effect of plethora, which always precedes absolutely or relatively, by every attack of the gout is to induce a congestive state of the capillaries of the mucous membrane of both stomach and intestines, and an increase of its appropriate secretion, a condition which is the source of gastric and intestinal melachy of various kinds. In the less rigorous & more temperate and correspondingly state arises, when from diminished

appropriation
appropriation of blood, through sedentary life, inactive habits or from any other reason, the relative quantity of nutritive matter become greater than can be healthfully disposed of. This also, in some way assists, in showing us, how a state of plethora, or of phlegm production so often occurs in habits naturally spare. Such an obvious intermixture has been practiced. When great is the quantity in the system, it becomes to its having shown itself externally, we have many diseases simulated by it. For instance when the thorax is affected, we may have moderate action of the heart, great throbbing, palpitation, slight at first, but when neglected or overlooked it may increase to such a degree as to become exceedingly distressing and to interfere with the comfort and wellbeing of the individual. Of difficulty of respiration and feeling of stifling, sometimes accompany the signs of disturbed circulation. Along with these, there are, for the most part, tachypnoea and
and impeded action of the liver.
In the head occur giddiness, transient
affections of the vision and hearing, with
threatenings of palsy and apoplexy.
People of a gouty constitution are exceedingly
liable to sudden pains or twitches in the
limbs, in the vicinity of the joints, or even
in all parts of the body, which last only
for a few minutes or even seconds.
The feet and ankles are more frequently affected
than other parts, in some cases the feet
get so terribly painful as to occasion
difficulty in walking. Along with this
terrible state of the system, foot, appears
a general febrile condition of the system,
an increase of the dyspeptic symptoms,
and an abundant cutaneous deposit in the
urine. The lower of the ear is not uncommonly
affected by intense neuralgic pains, which
last for a short period and depend on congestion
of that part. The gouty twitches spoken
of above as occurring in various parts of
the body in a gouty individual also been
to depend on a momentary congestion of
The affected part or parts.

In those suffering from the gouty diathesis, the cutaneous circulation becomes impeded, the skin is hot and dry, and with this unnatural dryness there is heat, itching, eruptions, chiefly of the scaly class appear, but by no means always—nevar eczema may be met with, and urticaria is by far the most common, it may be so moderate as to continue for months, it may cease. In those individuals in whom the gouty diathesis is strongly marked, hemorrhages may occur. It must not be supposed that all of those symptoms or affections as alarming, premonitory to a fit of the gout are to be found in every case, far from it. Some cases will indeed, occur in which one may have the most or all of them present, but they are comparatively rare.

It has been often said that persons, in perfect health, without any premonitory symptoms, have been attacked by a fit of the gout: now, this never or almost never occurs. This is entirely erroneous.
difficulty in meeting with gout in its premonitory stage, for patients seldom attach any importance or value to those signs of disorderly health which are the forerunners of gout, and in this way said to have been seized with it, in health. A condition of system, however, in which the seeds of a serious harassing disease, can scarcely be acknowledged to be in a state of health. This is a remarkable peculiarity, in an attack of gout, in this, that the supposition of the local inflammation gives relief to the constitutional disturbance; and that having affected this, it quickly and spontaneously subsides, at least, in the earlier attacks of the disease, leaving the part so lately the seat of a formidable derangement, somewhat weakened indeed, but otherwise in its ordinary condition. Gout has been divided into a great number of species by Physiologists; most of which have merely had in view the part affected. Dr. Bullen seeing the absurdity of a division.
division of this nature, reduced the number of species to S. VII. Regular, atomic, misplaced and retrocedent goat. This arrangement of Gallenius has been very much followed since time outstands the test as well as any new arrangement proposed. The regular and atomic species, however, alone deserve a separate consideration. First then we will speak of the true or regular species, then of the irregular form, afterwards giving a few separate remarks on the nervous form of the disease. And first, as to the.

Regular Goat.
A paroxysm of the goat consists of a peculiar constitutional disturbance, terminating in a local inflammation, the occurrence of which paroxysm calls in, so far as the simple paroxysm is concerned, seems the natural remedy of the preceding disturbance. In acute cases, the fit comes on without any very particular warning; but when the diathesis is well developed, it is almost always
always preceded by dyspepsia. The urine is diminished in quantity and deposits the urate. The patient complains of a tightness in the feet, or pain in his fingers or wrists. On the occurrence of these local pains, the dyspepsia vanishes, for the most part. The attack almost always commences during the night. The patient having gone to bed in his usual health, is awakened about the middle of the night, by a feeling of pain in one of his feet, mostly in the first joint or ball of the great toe, but sometimes in the heel, instep, or the ankle. And here we may remark that the disease shows a singular predilection for the metatarsal bone of the great toe. But in 183 cases noted by Dr. Charles Biddulph, it began in the foot. At the commencement of the fit, there is generally a cold shivering, which disappears on the increase of pain, and is succeeded by a paroxysm of heat. The pain increases in violence and severity until it becomes perfectly intolerable, and is accompanied with much restlessness.
It is described by those who have suffered it as a tearing, grinding, searing pain, resembling the feeling as if a cork-screw were driven into the joint; some patients say it felt as if a hot iron were pressed into the joint. The part is at the same time exquisitely tender, and the patient not tolerating even the weight of the bed clothes, or a heavy footstool in the chamber. He is perpetually tossing about in the bed, after a vain search for relief: The pain towards the following evening, having attained its acme ceases as midnight approaches, sometimes quickly, but more generally gradually, the patient falls asleep in a gentle perspiration. On awaking the following morning, he finds the part formerly so painful to be red, swollen, tense, taut, the parts around edematous, the vessels dilated. The patient is feverish, restless, irritable, and depressed: the tongue furled, viscid, of a high colour, acid and loaded with fetid breath.
The fit does not end here. Both the inflammation and the pain undergo an exacerbation towards evening, which continues more or less through the night, only to abate again in the morning; and this daily alternation goes on for a length of time varying greatly in different cases, but in the earlier stages of the complaint generally not exceeding a week or ten days, and not infrequently falling short of the first mentioned period. In the most part the pain from leave the patient before the swelling, sometimes, but not always, this disappearance is attended by a slight diarrhoea. As the oedema subsides, the redness fades, the cuticle of the part that has been inflamed pales off; and this desquamation is in general attended with troublesome itching. Such is a picture of an attack of the gout, taking place for the first time from the most regular course. After the disease has repeatedly occurred, it will often deviate from its original course.
course, and the paroxysm may commence in any one of the parts of the body, or even in an interior organ; though it still shows a preference for the parts primarily affected. As a general rule the greater the strength of the disease in the system, the greater will be its tendency to seize on its own legitimate part—indeed, and that consequently whatever tends to weaken the system, renders the occurrence of retrocedent and misplaced great more frequent. After the fit is over the patient may not have another attack of it for two or three years; sometimes there is even a still longer interval; but, in all likelihood it will recur sooner or later, and that in spite of all care to prevent it. With each renewed attack the interval will shorten, happening perhaps annually and about the same season of the year. As the disease advances the fit increase in frequency; they do not leave so readily as they did at first. The fits by this may come so close upon each other that the patient
The patient will have little respite from them, except for a few weeks during the summer months. At first, the disease confines its attacks, in general, to one joint; but after successive attacks it extends first to both feet simultaneously, or in succession, then to the hands, and at length no joint of the body is exempt from it. These subsequent attacks are attended with less pain, but with more constitutional disturbance than the former ones. Also, after the earlier attacks, the joints usually recover entirely, their former strength and flexibility, and the patient may often express a feeling of being in better health and spirits than he had been for a long while previously. Often, however, the disorder has returned and many times, the joints are not so quickly nor so completely restored to their previously healthy condition, but remain in a weak and stiff state until at length they may lose their capacity of motion altogether. The liquid matter which is effused in and around
Around the affected joint during an attack, as often the disease has repeatedly
recurred, in general when it has become of a once chronic nature – but imperfectly
absorbed, leaving the solid material behind, which hardens & forms bony excrescences
on and around the extremities of the bones. When the deposition has once commenced,
a new quantity will be deposited at each fresh attack, till at length the tumour
may attain an enormous size; & by the increase of size, the stone becomes detached
and the earthy mass and often elevates.
In some rare instances the execution of this matter takes place continually; in these cases
the chalk stones have formed alone, and the secretion of the chalky material goes on
from the bottom of these alone. Sometimes
the matter will form a complete case around
the affected joint, thereby, depriving it
entirely of motion. It is remarkable that
these deposits occur much more frequently
in the hands than in the feet. The situations
at which the elimination of this substance
takes
take place, are these; the articular surface of the bones; the exterior of the synovial membrane, as well articular, as bursal; tendons and ligaments; the subcutaneous tissue immediately around joints; the subcutaneous tissue over the cartilage of the ear, those of the nose. The skin itself is believed to be affected similarly. These depositions when once formed are never absorbed, may give rise to intense pain, requiring the application of soft poultices to assist in their extraction. We will not meet with those concretions in every case of gout; for there are many persons who have suffered from it long and terribly in whom nothing of the kind can be found. They are incidental to the more chronic forms of the disorder, in which the pain though of long duration and frequent recurrence are comparatively slight in degree. These gouty concretions, or chalk stones as they have been named are found in their chemical composition to consist mostly of uric acid combined with soda, in the form of the tithate of soda.
The stone of gouty subjects is often in a very molten state, depositing large quantities of the ethereal of soda, of which Dr. Priest observed "he has been it so very copiously secreted as to block up the urethra in its passage outwards."

Of the Irregular Varieties of the Gout.

Gout is called regular or irregular according as it pursues or deviates from its ordinary course. The irregular varieties comprehend atomic gout, sometimes called mixed or lurking, gout: retrocedent or metamorphic gout, and misplaced gout. And first as to:

Atomic Gout.

When the gouty diathesis prevails in the system, but from certain causes does not produce the usual inflammatory affection of the joints, it will often appear in the form of an affection of some internal organ. This may happen from the influence of causes calculated to fix an irritation in any one of the viscera.
and thus to invite as it were the morbid
tendencies of the system to concentrate themselves
there. The term atomic has been given to this
variety of gas, on a very questionable theory
that the atomic system has not strength to
throw out the disease.
We will now turn to the disease as it occurs in
the more important organs. The organs
most frequently and prominently affected
are probably the stomach and kidneys.
In the stomach it occurs in two distinct forms:
the inflammatory and the nervous or functional.
In the first the symptoms are those of acute
gastritis. If the pulse be not depressed by
the state of nausea, which often accompanies
the inflammatory form, it may have considerable
duration and strength; but, if it be affected
by the nausea, it may be slender and feeble,
with a cold, pale, damp surface which
may be mistaken for evidence of debility.
In the nervous or functional form there will
be either violent spasm, or great distress,
nausea and vomiting, according as the muscular
a mucous coat to the seat of the irritation. There may be great prostration, with an alarming paleness of the face and cold clammy sweats.

The Bowels are sometimes seized, in the form of a diarrhoea or colic. The Kidneys are probably more frequently affected than any other internal organ. Gravelly symptoms are not uncommon during the paroxysm, consequent upon the excess of uric acid in the urine.

The Pain is less frequently inflamed than functionally denanaged. Deficient, depraved or supernumerant secretion of bile is among the most common internal derangements of the system in gout, so common indeed, that some there are who have supposed the disease to be essentially connected with hepatic disorder. Hence the clay coloured, soap-like, or green offensive stools, of the bilious vomiting and purging, which oft attend the gravelly paroxysm.

When the lungs are affected, we have symptoms of intense bronchial congestion sometimes appearing with difficult breathing, great anxiety and distress; a fush of a livid hue of the face, hands, face, pulse and coolness of the surface.
When the heart is affected we have precordial oppression, dyspnea, sharp pains and syncope more or less complete may be produced.

The diaphragm is sometimes affected giving rise to the symptoms of hemorrhage of the same organ. The brain is attacked, with the production of stupor, and occasionally of complete apoplexy or paralysis.

The eye has been affected with a most intense phthisia. In none no one part of the system possessed of a capacity for the inflammatory process is entirely exempt.

Misplaced gout is nothing more nor less than atomic gout, and in no sense deserves a separate notice.

Retrocedent gout.

Gout at all stages of its progress, not infrequently proceeds from the extremities to fix itself on some internal organ, or as has been seen it may attack one of those organs without having appeared externally. Retrocession may be caused by anything which tends to extinguish the external inflammation, without at the same time correcting the general distemper.
as for example the application of cold to the affected joint or part. Fatal metastases has often taken place from this cause. Incisive of seeing an account of two young gentlemen sometime, who had both been seized by an attack of true, regular gout, in the agony of the fit plunged their affected foot into cold water, with the immediate effect of the destruction of the disease in the foot; but in a short time, they were attacked with a most intense central inflammation which shortly proved fatal.

Nervous Gout.

This form of gout is sometimes quite distinct from the others, but it is in general more or less mingled with the constitutional cases which have been described. It is various names, as irregular, atomic, movable, chronic gout 

Pancreatic to affect persons who have inherited a gouty cachexia, but from original temperament or abominable habits, are little liable to inflammation. Women, and individuals generally of nervous temperament, who have descended from gouty ancestors, are very liable to it. There is reason to believe that it is much more common than formerly.
probably in consequence of a greater temperance in the modern habits of life. It may be asked how the disease so known to be of a gouty nature. It may reasonably be expected to be so, when the persons affected have had gouty parents or grandparents, or some other cause can be detected. Its frequent intermissions or alternation with slight attacks, or abortive efforts of extreme inflammatory gout, raises the suspicion almost to certainty. I know a person who had been affected for a considerable time with pains in the head and lores of ear, which were entirely removed by an attack of gout in the stomach, but which returned again on the disappearance of the disease.

Nervous gout shows itself either in the form of simple neuralgic pains, or functional disorder. The pains may be dull and constant, or sharp, lancinating, and intermittent. They may occur in any part of the body. They attack one part and shift to another without showing any regularity in their course. The right side of the head, the precordial region extending to the left arm, the right side of the chest, the scalp are not infrequent seats of it. Numbness is one of the forms which the disease often assumes. The severe shooting, neuralgic pains are most especially apt to occur in the temples, cheeks, or front part of the upper and lower
though they may also attack the extremities, particularly the smaller joints, the generative organs, the anus, and any one of the viscera. Not infrequently the muscles are attacked, causing them to be exquisitely painful on contraction.

Diagnosis of Gout.
Sometimes it is often impossible, in relation to the attacks of misplaced gout, to determine whether the inflammation is of the common kind or of gouty origin. But, one or these attacks occurring in a gouty person, or often of the he suspected to be of the gouty latent and treated accordingly. The recurrence of a regular paroxysm of the disease in its irregular character or the alternation of the two affections is the best diagnostic sign. Gout has been confounded with arthritis, which, with proper care sought not to be. The chief diagnostic marks of the two affections are the following. In gout the limitation of the inflammatory redness to one foot, the stiffness, stiffness of the gout patient, greatly contrast with the helpless and motionless condition of the rheumatic who is fixed in several limbs. A first assault of gout can hardly can he confounded with an attack of acute arthritis, but when the disease has become advanced much
many joints have become involved, there will be some room for doubt. We may generally decide, however, by getting the history of the patient, and learning the circumstances of his earlier attacks. In gout, previous to an attack there are chymopeptic symptoms not generally; not as in rheumatism.

In gout the pains attack the smaller joints, in rheumatism the larger. The inflammation of gout is attended with more edema than in rheumatism. It is followed in the greater number of instances by desquamation. Vehemence, the phenomena which usually does not notice at the close of rheumatic inflammation. Gout usually affects one joint only, at a time, whereas inflammation often several at once. In the gout, the joint affected is of a more intense red colour; the pains are more frequent than in rheumatism. In gout, there are none of these profuse acid sweats which we find in rheumatism. Gout is hereditary: acute rheumatism rarely so. Gout is very rare before puberty, whilst acute rheumatism is not uncommon in childhood. The heart affections so exceedingly common in acute rheumatism are comparatively rare in gout.
Progress of the Gout.

Little need be said on this point here as its prognosis may be gathered from what we have said.

That which is generally called gout in the extremities is not a dangerous disease, provided no metastases take place: the inflammation which attacks the joints leaving red sore tendons, than the thickening, or perhaps the chalk-like deposit which it produces. But as gout so far from being constantly confined to the extremities, the life of a gouty individual is very properly considered insecure. When it does prove fatal, it does so by extension of the disease to some vital part, such as the stomach, the heart, lungs, & brain. All instances of those individuals, who have had the gout, are saddled with a large premium than other persons who have not.

Causes of Gout.

The most frequent cause of gout is inebriation. This not only gives a predisposition, but is sufficient of itself, wholly without aid from other causes, down in opposition to whatever influence can...
can be brought against it, to give rise to the disease. It does not follow that all the children of gouty parents must inherit the diathesis: on the contrary, many cases of gouty parents, concerning whom Dr. Charles A. Darmon collected information, 832 could trace their disease to the father, mother, grandfather, grandmother, uncle or aunt. Thus we see that the proportion of those affected is so great as to offer a strong warning to all who are thus descended, to use every possible preventive measure. Although the disease is so often hereditary, yet there is no doubt that the diathesis can be created. It is in general believed, that the most efficient causes in generating the gouty diathesis, and consequently in promoting it when inherited, are the use of animal food in undue proportion, especially of high seasoned meats and soups, indulgence in alcoholic drinks and sedentary habits. Men who eat much meat generally indulge themselves in drinking also: the two causes go together. It is difficult to estimate their separate influence.
Batches, so to live fully upon animal diet, are said to be rarely affected by gout, but then they necessarily take a great deal of exercise. Vigorous exercise may, to a considerable extent, obviate the effects of high living, by using up the excess of blood in the support of the functions. From the nature of the causes of gout, the disease would naturally be looked for among the wealthy and luxurious, or their descendants, and it certainly is much more common among the higher than the humble ranks of life. We almost never hear of the gout among agricultural laborers. Persons in the lowest classes of society are found to be attacked by gout when they imitate the conduct of their superiors, e.g., instance the servants of wealthy families, who often live more luxurious than their masters.

As to the influence of alcoholic drinks, though there is no difference of opinion as to the general fact, yet medical men are by no means agreed as to the varieties most affect...
to produce the effect. Some have supposed that the light ascendant comes peculiarly predisposed to the disease. It is most probable that the use of them will bring on a paroxysm in those who have the diathesis, more quickly than the strong wines, perhaps by irritating the stomach; but it is certainly not the fact that they are more apt to generate the diathesis, for the agricultural classes of France, who use the light wines often as their common drink, are said to be almost wholly exempt from the disease. Thus we see that the light wines may do act, as an exciting cause, but will not produce the predisposition. It appears that the use of malt liquors, fosters the disposition to quit much more than the abuse of distilled spirits. The frequency of gouty patients among the gin-drinkers of London suffices to show this. Distilled liquors, when freely indulged in, though they sometimes contribute to the production of gout, appear generally to exhaust the irritability of the system below the point requisite for the development of that disease. It conduces rather to internal vesical disorders.
disorder, with a tendency to the mania of
drunkenness. Much and more excessive in persons
who use strong drinks to great excess is so
far from warding off the disease as they
would do in moderate drinkers. Have rather
a tendency to generate it, by sustaining a certain
degree of energy in the system, which seems
necessary for the right development of the
diseases. In some persons, the induced opium
tendency may be so strong as not to be kept in
check by the greatest abstinence

Guat is found to attack more especially the
male sex. Women, when attacked by it are
generally of a strong, robust and plethoric
habit.

Guat in the most part occurs between the ages
to and 40. Its occurrence before the age of
fifty is rare, but by no means unexampled,
and many instances are recorded.

The exciting causes of a paroxysm of guat are
exceedingly numerous. An unusually severe
depravity, strong mental emotion, especially
of a depressing nature; excessive fatigue &c.
are all liable to bring on an attack.

Another
Our moral education of the little boys in the relation to their own physical functions,

and their opportunities to make use of them.

Understanding and control of their bodies are vital parts of their education.

It would seem necessary to at least consider the physiological aspects of these topics.

However, even as we consider these matters, significant questions arise.

What is the proper role of education in promoting health and personal responsibility?

And how can we ensure that our educational efforts are truly empowering for all children?
Another exciting cause, which frequently operates in external injuries, such as falls, sprains, bruises &c. A stone from a river often leaves behind it a condition of the joint, which long after determines it as the seat of an attack of gout, in a gouty individual. A first attack of gout often follows on the seat of an old hurt.

In fine, whatever disturbs the condition of health, whether it be of an excitant or debilitating character, is capable of bringing on an attack.

Pathology of Gout.

Gout is now generally considered as a disease of the Blood, and depending on a peculiar material material circulating in that fluid. This is the now generally received opinion and all research seems clearly to tend to it.

It may not be wrong for us here, shortly to state what we mean by blood diseases.
In them, a mobile material is generated by an abnormal chemical action in the blood itself. This mobile element may be formed either primarily in the blood, in consequence of some check given to one or more of the ordinary excretions, or from the supply of nutrient material to the blood being too great for the rate at which excretion is carried on; or it may have been introduced into the blood as a poison, which continually alters the normal change which are continually going on within it.

In truth, it seems quite impossible to explain the phenomena of gout upon any other hypothesis than that which supposes the existence of a peculiar mobile material in the blood. We cannot regard it as a local affection: such a supposition will not explain its sudden shifting from one place to another, nor the simultaneous affection of several joints, nor the constitutional disturbance which precedes a gouty attack; still less will it account for the
train of morbid symptoms, the aggregate of which constitute the gouty diathesis. In short, all tissues and all parts which the blood visits are liable to be attacked by gout. A fact, in favor of this doctrine is this, that gout is always at first connected with defective assimilation, and imperfect excretion; two conditions eminently calculated to impair the quality of the blood. By introducing into it some morbid element on the one hand, and obstructing the elimination of some principle which is usually excreted from it, on the other. In a person of a gouty habit of body, as long as the molecular changes in which nutrition and excretion consist go on rigorously, a paroxysm is most likely to occur. An inflammatory or pithonic state of the system, such as may be brought on by too high living is unfavorable to perspiration, and a depressed state of system is equally adverse to both nutrition and excretion. Hence, in either of these states, the conditions may exist which would favor the accumulation of a morbid matter in the blood.
Belief in a matrix or ambulance, which, whatever its nature is, capable of accumulation in the system, of change of place within the body, of removal from it.

Patients of a gouty habit often pass large quantities of uric acid in the urine. And this frequent concomitance of a lithic acid diathesis with a gouty one, has long attracted the attention of pathologists. There can be no doubt, that the same causes which will favour the development of the lithic acid diathesis will also promote the gouty one. Indolence, good living, want of exercise, deficient cutaneous action, are equally favourable to the production of both states of constitution. And it is also certain, that the lithic acid diathesis is that which passes most readily into the gout. The presence of an undue quantity of lithic acid in the system, even though accompanied with the formation of a free acid, is not sufficient to account for the phenomena of gout. In many men we meet with many instances in which these conditions are present, even for a considerable period, without giving rise to any symptoms of gout. Rich Sudanese sediments are among the most common that found in the slight cholulina
of the digestive process on a febrile cold, being sufficient to increase the quantity of urea acid.
Dr. Janosch has demonstrated the existence of uric acid in the blood of gouty patients.
It seems most probable that this substance is produced at the expense of the area, in which from the greater part of the effete orthochromic tissues of the body are in the normal state thrown out of the system. The increased formation of uric acid in gout is important in many points of view. In the first place, it forms in conjunction with soda (mete of soda) a great proportion of certain concretions, which, under the name of cholelith stones, have long been known to attend the ultimate disorganization of gouty joints. It also constitutes one form of gravel in urinary calculi; an affection to which the gouty are especially subject, which often leads to most distressing symptoms. We cannot yet state with certainty what is the true cause a maternal mode of gout. But it appears probable, that the peculiar gouty matter is in the first instance derived from the stomach or duodenum, inasmuch as the distin-
a accompaniment of the gout. And as such
austmoments are generally accompanied with an
undue development of lactic acid, it seems fair
to conclude that it may be the primary distempering
agent. Also, the habits of life of those, in whom the
gout, diathesis occurs, are such as to favour the
generation of lactic acid. And as the liver in those
cases performs its function imperfectly it is possible
that the body may not be properly evacuated from
the blood, but accumulate in that fluid to unite
with the lactic acid. The chemist Berthollet,
found, that the skin of a part affected with gout
inflammation, communicated instantly to limes
paper a deep red colour; a large quantity of acid
was evidently passing off by exhalation from the
inflamed surface. When a paroxysm occurs, if the
poison be too copious to expand itself on one joint,
it attacks another, or several at once.
The selection of the disorder on a particular joint
is often determined by a recent blow or strain, or
by the chronic weakness consequent of a previous
injury. If the inflammation, he in any way drawn
from the foot, the poison is sent again into the
blood, and may begin on some vital organ, placing
the patient's life in great danger.
Treatment of the Gout.

The treatment of a gouty patient naturally divides itself into that necessary during the paroxysm and that between the intervals.

The mode of treatment best suited for the paroxysm of gout is easily understood; our object being to relieve the patient’s sufferings as speedily as we can, without interfering with the proper elimination of the gouty matter.

We must remember that the natural course of the gouty paroxysm tends to a spontaneous cure in the vast majority of cases, and that it is itself a means for the elimination of the gouty matter from the system. We have for the paroxysm of gout a certain remedy in Colchicum. There are various preparations of this drug; but the one commonly in use for gout is the common colchicin. The mode of administering it is in the following way. At bedtime, 40 or 60 minims of the same, in a saline gargle, should be taken.
and half a draught more, in a warm black coat, the following morning. If the gout continue, this should be repeated in the same manner. In this way the pain is calmed, the swelling reduced in a few days; or even in a few hours. In the intervals, those emunctories, through which we would direct the elimination of the gouty matter, should be promoted.

In the use of purgatives, care should be taken to employ only mild ones. Practice should never be given, as, by excessively irritating the intestinal canal, the gouty matter might be extracted from the extremest parts.

The local treatment of an acute gouty fit is simply to keep the part warm, rolling it in flannel or cotton wool. After the acute stage has subsided, much care and comfort will often follow the application of warm fomentations to the part, and sometimes the lotion, recommended by Sir Charles Badeau, consisting of alcohol and camphor, may be applied warm with much benefit. Cold applications and leeching are never to be employed, being liable to the production of the very worst consequences. Stimulants are
to be avoided; and solid food, whether animal or vegetable, should be taken in very sparing quantities.

The treatment of the gouty diathesis resolves itself into—how we are to prevent the return of gout in a patient who has once had it; how we are to prevent a paroxysm from taking place in an individual predisposed to it. The same treatment of course does for both. That the gouty diathesis may be greatly modified, or even altogether removed, experience affords abundant proof, in opposition to the opinion of the celebrated Bellon. This wise disease in which the patient can do so much for himself, or in which the prescriptions of the Physician are of so little avail without the full and complete co-operation of the patient, as gout. Those persons who have once had an attack of gout, or who are predisposed to it, must absolutely abstain from rich living, and from some of the drinks of all kinds; and in this way, if ever they have an attack of gout, it will be comparatively slight and feeble. The patient must also partake sparingly of animal food.
But starving the disease won't cure it. An animal and vegetable diet should be used; the point being to take good care that, both as regards quantity and quality, the stomach can digest. I can consequently extract healthy chyle from the materials put into it. Spirits & after beer & heavy wines, especially port, are injurious. It should be abstained from.

And as to exercise: the young vigorous can scarcely take too much; but the old & feeble, if one act of over-exertion, may bring the penalty of an attack. The exercise should never be violent, but it should be daily. No mode of exercise is so good as that of walking; with this may be beneficially combined riding on horseback. All severe mental application should be avoided, and the observance of early and regular hours are of much importance.

When gout attacks the stomach, either by accession or primarily, it often proves rapidly & suddenly fatal. The attack is not, in general, of an inflammatory nature. The symptoms consist of a violent pain, a sense of weight or constriction in the epigastric, with stiffness, vomiting,
and a disposition to paint.
It will always be well when symptoms like these occur, to inquire whether any indigestible food has been taken, if so to get rid of it. The treatment consists in the use of tannin, starch or snuffpens to the epigastrium, with the internal use of antacids, magnesia in full doses combined with rhubarb.
If there fail opium may be given, with a little sulphuric ether. If the opium be vomited opiate enemata may be thrown up the bowel. In some cases, a little brandy, to act as a stimulant, will instantly relieve the symptoms.
As a general rule whenever quirt fees itself an internal organ, we will find it our duty to endeavours to cure the disease, in the foot. To this end as it were the disease from the interior. For this purpose, the application of snuffpens to the foot, is all that is necessary.