1862.

In reference to author quoted
Cullen quoted of back pain 1st 55, probly other
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Temperature and stated from Cullen 1st 15-
Preparation of the fever 36, what has it to do with
Acidity?

Nature and Treatment
By means them falcons 74, 77
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Acute Gout

By Richard Tobey Veale

March 31st 1862.
"Gout"

The word gout is derived from the French word "goutte" the origin of which, Dr. Good states, is almost forgotten; but we find in the works of some authors on gout that this word appears to have been introduced into medicine about the end of the 13th century by Rabelais, and it probably owed its origin to the idea, which has been very prevalent in all ages, that the disease was caused by the presence of some peculiar humour in the blood, which was thrown out, or, as it were, distilled into the joints drop by drop.

Dr. Good observes that most diseases attended by discomfiture were ascribed by the ancients to a flow of some mortifying fluid or humour to the affected part, which was called a Rheum or Defluxion. And the Rheum or Defluxion was
denominated hot, cold, acid, saline, or saline, according to the nature of the symptoms. The Arabian writers ascribed even this cause to various diseases of the eyes, which were called "gutta serena" and "gutta obscura"—clear or cloudy drops, or defluxions, according to the external appearance.

Hence, "gutta," "gout," or "gout," with the ancients, meant a defluxion of morbid humours to the exterior; but what the term "gout" now means, I shall enquire into, when I treat of the Pathology.

Gout is a disease familiarly entitled to boast of its great antiquity, for it was probably one of the first maladies to which flesh became heir when the human race began to participate in the luxuries of civilized life. It is a disease also which can lay claim to having had
Among its victims some of the most renowned of mankind. Lydcham, the English Hippocrates, himself unfortunately a martyr to gout, alludes thus to the subject most liable to be affected by it. For humble individuals like myself there is one poor comfort, i.e., that gout, unlike any other disease, kills more rich men than poor; more wise than simple. Great kings, emperors, generals, admirals, and philosophers have all died of gout. Surely Nature shows her impartiality, since those whom she favours in one way she afflicts in another—a mixture of good and evil pre-eminent adapted to our frail mortality: "Vill y et ab omni parte bestiatis!"

From the writings of the ancients we must infer that they were fully cognizant of the phenomena of gout, and in fact, it is one of those diseases the nature and treatment of which were best known to them.
Undoubtedly, the Greek physicians often confounded Gout & Rheumatism with each other, but this should not surprise us when we consider their total ignorance of even the rudiments of some of those sciences which are essential to clear understanding and separation of different pathological conditions of the body, and the more so since some pathological of the present day also confound these diseases with each other.

Although, however, we find that the same general term was often applied to both diseases, yet it will be at once manifest to us, if we make a careful perusal of their more important works, that true Gout was generally separated from other joint affections, its peculiar phenomena sprang clearly defined, its various causes ascertainment, and its treatment, dietic and medicinal, carefully laid down.
350 years before Christ, has shown by his writings that he was by no means ignorant of this disease, and many of his aphorisms indicate that he possessed a considerable knowledge of the cause & nature of gout. For example, we find it stated that all gouty diseases were most prevalent in spring & autumn — that women are not affected until the catarrh has disappeared — that young men are free from this malady till they have indulged in luxuriousness & intemperance — & that consumptives are exempt from gouty affections.

He considered that the disorder depended upon a retention of the morbid humours, therefore his treatment consisted chiefly in the administration of purgatives and the drinking of cold milk; in order to alleviate pain, he advised the application of cooling agents, such as the affusion of cold water to the parts. "Celos" observed that bleeding
was very beneficial at the commencement of the attack; it sometimes, he says, retains the patient for a year sometimes for life; he also recommends cold steam orffusons, but this depending upon the amount of inflammatory action. Lastly, he pointed out the importance of hot exercise to be to avoid corpulence. "Galen" supposed that gout was caused by an unnatural accumulation of matter in the parts affected, thus he believed to be of one or other of the four humours, viz., blood, bile, phlegm, black bile, or a mixture of them; and tophi, or chalk stones, he considered to be formed by such becoming solidified; he remarks on the aforesaid of "whores" that although in the time of the latter cases who were not afflicted with gout, "yet they are now," in consequence of too much sloth and intemperance, the treatment conceived principally in
Bleeding, purging, the application of repellents to blisters, as well as in paying great attention to diet & exercise.

Indeed the Cappadocian, who probably was a contemporary of Galen, classified, like Hippocrates, all joint affections under the term Arthritis, yet subdivided them according to the parts attached into Pedagra, Chiragra, &c. This evidence from his account of the manner in which Gout makes its invasion that he had formed a very clear idea of its symptoms was familiar with most of its phenomena, but as to the nature of the Disease, he says that none but the gods can truly understand, but men may know the probable cause. He employed as his great remedy the White Balsam, as local applications, the fresh thorn ansceded wool from the sheep, fomentations with oil of poppy, laurel; poultices to other warm spots. "Galenus Aurelianus" looked upon
goat as an hereditary disease. It was considered that indigestion, intemperance, cold, debauchery, debility were the principal causes. He believed that the tendons and ligaments were the chief seat of the disease, and for treatment advised, the abstraction of blood from the affected parts by paracentesis, plunge, or carum, or arthrometer, or insensate fenugreek. He also paid great attention to diet, recommending exercise to be at first gentle, but afterwards to be gradually increased.

Doctors who lived about the beginning of the sixth century also considered goat hereditary and dependent on local debility combined with an superabundance of humours. His treatment was at first bleeding, purging to evacuate the superfluity of humours, but afterwards he employed those means requisite for strengthening the system. So friction he attributed great efficacy but that only
When the inflammation had to a great extent abated.

"Osmundus Pepagomenos," who wrote about the 13th century, a treatise in part dedicated to the "Emperor Michael Palaeologus" considered that this disease was occasioned by a collection of morbid humours taking place in the affected joints, arising from imperfect digestion. Deficient secretion from the system. He supposed the preceding causes to be excess of food; debility; indigestion; alteration of natural secretions; debilitating causes at, over exercise; fatigue, too great indulgence in venery. His treatment was both dietic and medicinal, the former consisting in avoiding those causes which promote indigestion to and the latter chiefly of an evacuant nature. Generically be recommended in the early stage especially when the patient was phthisic.

During the seventeenth and eighteenth
centuries several views were held as to
the nature of the material matter existing
in the system in gout. For some
time the prevailing opinion was that it
was of a Tartaraceous character in many
respects resembling the Tartar which con-
creted in the wine casks; others suppose
it to be a mixture of a visceral secretion
liberal humour different in their qualita-
tive cases; others again have thought it to
be a collection of diverse foreign fluid
matters altogether heterogeneous by their
union capable of producing the malady;
a fourth thinks it merely the perspiration
arrested & decomposed; a fifth that it is
a mucilaginous extract derived from
the solid sluggish elements taken into
the system; lastly, that it is a combination
of many subtle penetrating salts.
Hoffman supported the views that it
was either a salt of Tartar or Tartaceous
acids, which exist in the blood constituents.
The principal cause of the disease.

W. Cole contends that Hoffman’s opinion must be incorrect as gout is not uncommon among those who never drink wine, who never drink tea, and their indisposition.

There were other important writers during these few centuries, such as Hippocrates, Willis, Baerbaen, Van Swieten, Heberden, etc. But neither space nor time will permit of my devoting more attention to their respective views at present. I must content myself with merely mentioning their names. Perhaps, in a future part of this paper, endeavours to expound some of their opinions. Having given this sketchy imperfect sketch of the history of this disease, I will now proceed on to the consideration of the disease itself. I will divide it into the following order: ‘Causes,’ ‘Symptoms,’ ‘Diagnosis,’ ‘Prognosis,’ ‘Pathology,’ and ‘Treatment.’

The cause of this disease may be
Arranged under two very distinct heads, viz., The Preceding, & Exciting.

1. The Preceding cause either may or may not depend on constitutional peculiarities inherent in the individual; or are produced by external influences.

Influence of Hereditary Precedition

Nearly all authors are agreed that this influence is by far the most potent in inducing guilt. Cluverius, however, others even went the length of stating that they considered the affection to be purely hereditary; others, on the other hand, assert that it is not, but by referring to Sir E. Pindar's Table, the results of which I shall take the liberty of quoting, we have found a sufficient proof to convince us that these two last assertions are incorrect; for out of 522 cases which came under his notice, 331 could be clearly traced to hereditary predisposition, but the remaining number, viz., could not be traced either to the father or mother's.
we must therefore conclude that in those
the disease was attributable to other causes,
and all writers and observers of the present day
do, I believe, admit that gout may be acquired
in many instances. It was the opinion
that when there exists an hereditary predis-
position, the disease has a greater tendency
to show itself at an earlier period than
when it is otherwise acquired, but it was
although holding this same view, put it
to the test of careful investigation &
arri ved at the conclusion that though the
effect of hereditary predisposition was well
marked yet it was by no means so strong as
had been previously supposed—

Influence of Age

Shane before mentioned that Hippocrates
states that young men are not affected
with this disease unless they indulge in
vices; his aphorism “Ther podagra non
labet, ante veneris istimen” implies that
gout does not occur before puberty.
"Hydrophobia" also states that he never saw either guilty minors, or guilty children, & "Seberden" never knew a case of true guilty to occur before puberty. On the other hand there are some authors who declare that they have seen instances in very young children. I must beg to be allowed to give at full length one of Sir C. Liddamore's tables to decide this point. —

In 515 cases the following results are given:

<table>
<thead>
<tr>
<th>At the age of</th>
<th></th>
<th>Between 20 &amp; 30 years age</th>
<th>85</th>
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<tbody>
<tr>
<td>8</td>
<td>1</td>
<td>30 &amp; 35</td>
<td>105</td>
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<td>12</td>
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<td>35 &amp; 40</td>
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<td>17</td>
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<td>50 &amp; 55</td>
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<td>60 &amp; 65</td>
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<tr>
<td>Between 20 &amp; 25 years age</td>
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| At the age of | 66 | —— | 2. |

| 70 |

Total 515

From this table we must conclude...
Although there is a very great anxiety among children, yet they are not totally exempt from it. We also arrive at the fact that between the ages of 25 and 45, or after the growth of the body is complete before the powers begin to decline, in by far the greater number of cases gout makes its appearance.

Influence of Temperament

When treating of the history of this disease I mentioned the opinion of Galen that gout depended upon an unusual accumulation of one or more of the four humours, or a mixture of them. Palsey says that the ancients supposed that whether one or other of these was in excess so it gave rise to the 

Rheumdermatos, belches melancholic, or phlegmatic temperament.

In this subject Cullen thus expressed himself: "If with the ancients we might ascertain by certain terms the temperaments of men, I could say, that the gout attacks..."
especially men of a choleric, sanguine, temperament, and that it seldom attacks the "pure sanguine or melancholic." In another place he says: "It attacks especially men of robust, large bodies, men of large heads, of full temperate habits, men whose skins are covered with a thick rete mucosum, which gives a common surface.

Influence of fermented & distilled liquors.

The influence of fermented or distilled liquors as predisposing causes of gout is exceedingly well established. It is strongly maintained by all authors, indeed, so powerful is their influence that some have questioned whether the human race would have ever become cognizant of this disease had such beverages never been indulged in.

It has been observed that a considerable difference exists between the fermented & distilled liquors in their power of inducing gout. It shall endeavor to prove that the former do predispose to gout much more.
nally than the latter. In Scotland, especially where Whiskey is the chief most common spirituous drink with nearly all classes, instances of gout are very rare, when compared with the frequency of it in England where Wine, Porter, Stout, Beer, &c. are the chief drinks. In the Royal Infirmary Edinburgh, we find that both Dr. Gregory & Christieon during the long period of years they were physicians to it, had only two cases each, which occurred in jet labour.

In Aberdeen, Glasgow, & other Scotch towns we find the same result. Again, in Russia, Poland, & Denmark, where distilled liquors are also generally drunk, the inhabitants enjoy a comparative immunity. Dr. Fliedner says that in Holland the disease was but little known until the introduction of wines as a substitute for Beer—

From this statement of Van Swieten one might be led to suppose that Beer possessed no influence as a predisposing
cause of guilt, but I think it merely shows that wine is more powerful in its influence than the beer which was drunk in those countries, because, according to the observation of Dr. Beattie's father, the malt liquors of this country, more especially the stronger varieties, are most potent predisposing agents, for Dr. Beattie states, "There is a body of men employed on the Thames whose occupation it is to raise ballast from the bottom of the river; at this can only be done when the tide is ebbing, then hours of labour are regulated by this circumstance, every three or four periods of night and day. They work under great exposure to inclemencies of weather; their occupation requires great bodily exertion, occasioning profligate drinking, much excitement. In consideration of this their allowance of liquor is very large, each man drinks from two to three gallons of porter daily, generally a considerable quantity of spirits besides. This immoderate consumption..."
of lepers forms the only exception, as far as relates to port, where these men offer to the general habits of the lower classes, it, although not a numerous body, many of them are yearly admitted to the seamen's Hospital ship infected with that disease (gast). This is a very interesting fact, seems to show that no amount of bodily exertion is adequate to counteract the influences of such large doses of porter; the exposure of ballasters to wet and moisture seems to favour its operation. These men are almost all deriving from the peasantry of Ireland, they can rarely therefore inherit a disposition to gast.

In the London Hospitals, also, gast is of rather frequent occurrence, especially among the coachmen, brewers, porters, such like men who daily consume a great quantity of beer. The predisposing influence of tomes in inducing gast is, believe, generally considered by far the most potent of all the fermented liquors in their operation.
A few years liberal indulgence in Port will often produce gout where no trace can be discovered in any family branch. Even among the labouring classes this fact is occasionally observed, where from the peculiar nature of their occupation, men have opportunity of taking wine in considerable quantities, & wine bottles to others similarly engaged. At times, however, occurs, that the individual who has freely indulged in this liquor does not merely fall a victim to this disease, but Michael Demiuni all probably will, in the least exciting cause, become martyrs to it, although they may be of temperate habits. And when such happens, well might they say, 'My father drank the Port & have got the gout.'

Now take the fermented liquors much more readily than the distilled preposses to gout? We doubt none. Does our knowledge regarding the composition of the different kinds of alcoholic liquors throw...
any light upon their varying powers of inducing this disease? We cannot say that it does. Because it is not the quantitative amount of alcohol in the fluid which determines the result, for whichever distillery在家 spirits have but little power in inducing this malady, but beer, which contains only little alcohol, possesses a strong specific action in this influence, not so strong, however, as wine, which contains more alcohol than beer, to much less than spirit.

Neither can we assign it to the presence of acidity in alcoholic fluids, seeing that port & sherry are among the last acid; strong malmsey, which are usually greener from acidity than wines, possesses much power; and on the other hand, the more acid wines, as claret & port, are comparatively harmless in this respect. Nor can sugar be considered to exercise much effect, since it exists in large quantities in some of the most potent graft inducing
liquors and, in small proportions, with others. The same might be said with regard to the other properties contained in them.

The science of Chemistry is not as yet sufficiently advanced to be able to add to us in ascertaining to which property or properties in the alcoholic fluids we can assign the cause of gout, I until the means of necessity remain in absolute ignorance, except being aware of the facts already published.

Influence of Mental Anxiety to All causes tending to produce either an excited or depressed state of the mind have, we well know, a very powerful influence upon the manner in which the functions of the body are performed. This is at once made evident by watching their effects upon the digestive and renal organs. Prolonged sleep, which is almost necessarily combined with a sedentary life, comprising almost only a part of exercise,
Latency, irregulation in the hours of steady sleep, but also its consequences, such as the stomach, the paroxysm of the powers of secretion, as well as at the same time greatly diminishing the tone of the secretory organs, especially of the pancreas. Must then be free that form of insensibility which increases the susceptibility of the frame to become consequently to gastralgia be the predisposition of the individual. Because should the powers of secretion be impaired by the above causes, the natural evaporation of some of the excretory principles is not only diminished but their formation is increased, which circumstances are very powerful in engendering an impure condition of the blood. Many instances of very eminent men might be brought forward in proof of the influence of mental labour both in causing the development of jaundice exciting its attacks. Lydham in his
Letter to Dr. Short says "Whenever returned
do my studies your returned home."

It is also a well known fact that our
Cabinet Ministers and Members of parliament
most distinguished for their talents and
abilities are frequently severe martyrs
to the disease. It may be supposed
indeed argues that the sedentary life
which men undertaking great mental
exertion are subject to is the sole cause
of their suffering, and that it contributes
either. It do not doubt but that
it is ever the chief cause of your in these
persons. I cannot at all believe, and as
proof of it we see the Weaver at Hilsom,
the Cobbler at Neil Hall, the tailor on his
board, to these we might add many more,
all happy and cheerful creatures, yet not
so.

Influence of Animal Food. Indigestion

When animal food is taken in excess
it not only weakens the stomach's action
By over distension but also overstimulation it oppresses the whole digestive process beyond its healthy power. If this over distension or overstimulation of the stomach be continued, indigestion is generally the primary, and then assimilation, together with defective excretion, the secondary result. And as an excess of food, more especially when highly starchised, tends to an increased formation of urine acid (which should endeavours hereafter to shun) plays a very important part in the production of gout, and also, at the secretory function be impaired, we can easily understand why animal food in this way should be a gout-inducing agent. Cullen observes that gout seldom attacked men employed in constant bodily labour, or those who live chiefly upon vegetable diet. This is very evident to us since it is exceedingly rare to find gout amongst the rural population where the people generally endure much toil to consume comparatively a small quantity of animal food.
Influence of Climate

The Influence of Climate appears upon the development of man as a very difficult task to investigate, as there are usually so many other influences connected with them. There are nevertheless certain facts which appear to be well established of much interest, that deserve of importance.

Dr. Livingstone informs us that this idea as well as calculus is unknown among the natives in the interior of Africa. There are others informing us that it is not prevalent in the outer depths being found as the East and West Indies, Turkey, China. We accept among certain European races.

We must, however, draw the inference that this immunity is due to the effect of climate alone, for the native inhabitants of these countries lead a life totally distinct to that in Europe. Their maintenance contains less nitrogen due to less nutrition, they consume a very small quantity of animal
They seldom partake of alcoholic liquors. With regard to the seasons during which gout chiefly makes its appearance, we learn that even from the remotest periods down to our own, the spring season is the most painful and distressing, as well as that attacks are more prevalent then, than at any other time. Pindar, in his famous Lyric poem called the "Igazapodape," gives the following with reference to it:

(Translated from the Greek)

"But when the flowery elms declare the spring,
And the shrill blackbirds on the boughs singing,
Then through our limits her pointed arrow glides,
Entwining unseen, and in the joints resides."

In autumn gout is less frequent than in spring, but more so than either in winter or summer.

**Influence of Lead Poisoning**

Plumbers and Painters are in London according to Dr. Jarvis' peculiar preoccupation.
In this city we rarely ever see a case of it. During the whole time Dr. Christian was physician to the Royal Infirmary (a period of about 30 years) he never saw one single instance; this was supposed to be owing to the fact that in this city all labourers who either work with lead or are exposed to its influence are never so far from home as to be prevented from going whether at the usual hours for their meals, that they therefore change their working clothes & probably wash their hands before doing so. Whereas in London, they are generally working to get from home, or their master's establishment, that they cannot return for breakfast or dinner & therefore they probably take their meals in their workshop without, possibly, either changing their clothes or washing their hands.

The reason why men of this class are so predisposed to fract "farded" knee.
endeavored to explain by some very ingenious and important and less ingenious experiments. He has observed that under the influence of lead, the blood is very apt to become loaded with urine acid, not due however to the increased formation of this principle in the system but to its imperfect excretion by the renal organs.

Influence of Sex

So everyone who has studied the causes of want and it at all acquainted with the present state of society, it will not be difficult for them to understand why the female sex enjoy a comparative freedom; for as a rule they are not so exposed to those influences which we have before alluded to; and besides, a most powerful counteracting influence exists in the presence of the catamenial discharge securing a considerable portion of their lives. Most of the cases which come under the notice of the profession
at the present time are chiefly inherited, and acquired, yet so very rare. But in the corrupt times of the Roman empire such was the fearful degeneracy of public morals that women had cast away the modesty of their nature. Publicly practiced all the worst corruptions of men. Scenec is of them, as it then surprising to catch the greatest and most helpful physicians in error, when we find so many women guilty of bad deeds? They have cast the benefit of their sex. They have cast off the woman, I am doomed to the decess of men. But when we read Scenec is account of their morals and habits, a little further on, in the same epoch, we can feel little surprise that they should have great on any other decess proceeding from such a decessory life. They are as lateletters as deep drinkers as men. They solicit men with oil and wine, like them renders up, by vomiting the last part on their unwilling stomachs, to be
again replenished by renewed clamour we hear too that women subject themselves to the same exposures as men they do not escape from being made familiar sufferers, and this being done would also take place if they encountered as much mental labour or anxiety.

II. The Exciting Causes of Gout

Most of the predisposing causes of gout which we have already considered will, if suddenly increased in intensity, act immediately exciting a fit of the disease.

But there are other causes which, although very powerful as exciting, are altogether powerless as predisposing agents.

The amount of an exciting cause necessary to produce an attack depends greatly on the fineness of the patient's system to take an gouty action; for frequently witness examples of an attack of gout apparently produced in the individual by certain causes as
irregularity, which would not in another
be postern of the slightest inconvenience,
and thus it is that exposure to cold, day
by day, shooting or walking, may produce
a very severe attack in some persons while
that in others it does not produce the least
effect; I again, after of indigestion, any
over exertion of the mental faculties or
some shock to the system will act very
powerfully in some cases but without
any inconvenience in others. As therefore
the exciting causes of gout are exceedingly
manifest, varying considerably in different
constitutions. I shall not attempt to point
the whole of them, but only those which
are most common.

Intemperance

When treating of the predisposing causes
of gout we found that the alcoholic beverage
were about the most powerful, perhaps
the most common cause inducing attacks
and they are undoubtedly also the most
Common exciting causes of this disease; for scarcely can any individual who is at all predisposed to gout partake of an unusually large amount of alcoholic fluid, especially of certain wines, at Champagnes part &c. without suffering from an attack of this malady.

Sir C. Loudonmore gives in his works several instances showing the power of these fluids in exciting gout. One gentleman, disposed to gout but never before attacked, during the summer season, succeeded a fit by taking several glasses of champagne. Another was sensible of gouty pains in his limbs before quitting the dinner table from partaking of the same wine. A third found the great toe, hot, throbbing, stiff & painful when he drank port wine, even during the course of Mental Anxiety.

Severe mental or bodily labour, or any sudden depression or shock to the nerves,
system, or anything equivalent, which leaves its traces, leads greatly to induce as it at the root. Some patients are peculiarly liable to these effects. Physical exertion, when combined with sitting or lack of mirth, will often occasion an attack.

There before noticed that Lydenham, when devoting more than usual attention to his studies, always induced an attack of gout.

Great bodily fatigue, as a long walk or hard day's shooting, hunting, etc., induces a fit in subjects predisposed.

The same may result from a severe blow, fall, or other injury. Many examples are on record in which congenital exertion in dancing, fractures of limbs, dislocations of joints, surgical operations, special occupations, etc., induced mechanical violence have proved exciting causes of a paroxysm. —

"Pyrexia"

This is also another very powerful exciting
cause of your gout frequently meet with patients who attribute their attacks to certain acids of diet which have induced disturbance to the digestive organs, I more especially those which lead to the production of acidity. Overloading the stomach with a menu of highly seasoned indestructible dishes, taking different varieties of alcoholic beverages at one meal, or in fact, anything which produces a fit of indigestion may be soon followed by a gouty paroxysm. 

Cold and Moisture

Although cold and moisture are incapa-
ble of inducing a gouty paroxysm by infection, in many subjects act power-
fully as exciting causes. Cold, with or without moisture applied to the body generally, or to the lower extremities only, especially when in concurrence with fatigue, proves in an equal degree exciting to the gout in an individual who is predis-
posed to the disease, like the phlegm in general.
The act of walking on their shoes on damp ground is always hazardous, the excreta is by itself a severe active agent.

It appears, however, that of all the formulas which cold acts upon the body, one with a penetrating cast or north cast, finds the most injurious. When calces the exciting cause of your the effect partly due to the directing the natural secretion of the skin by checking the escape of acidity which is in a great measure then eliminated. But it must also be remembered that a chill to the surface is necessarily accompanied by congestion of the internal organs, leading to functional derangement and alteration in the various secretions. Cold also acts occasionally by its depressing influence upon the nervous system, which of they frequently leads to a fit of the gods.

There are many other causes which, like cold moisture, possess no influence.
in predisposing to this disease, are never the less very powerful as exciting agents, but as they are already detailed much of my time in enquiries into the causes of this disease. I have already touched upon the most important of them, I trust the reader will excuse my not dwelling further upon this part of my subject, but before concluding it, however, I may remark, that all causes leading either to the increased formation of acidity and its accumulation in the lung, or to the suppression of the natural acid secretion by the shew, lastly all causes depressing the nervous energy, tending towards defective secretion, have a powerful in exciting an attack of jaundice; in subjects already predisposed to the disease.

"Symptoms"

The symptoms of a fit of the jaundice are well known, and, therefore, I may say that they have all followed that most elaborate article.
Description given by ‘Sydenham’ who was so well able to give an accurate account of it as he was not only one of the most acute observers, but also (as Shave before stated) he was himself a severe sufferer.

The acute attack is generally preceded by alimentary symptoms; though it sometimes happens that they are absent or are so slight as not to be noticed by the patient.

When present, the patient generally first complains of heartburn & flatulence & a dull pain in the left side of the chest, accompanied by inability to lie on that side, sometimes by fluttering, irregularity of the motion in the region of the heart.

If neglected these gradually increase & become very distressing, giving rise to throbbing or palpitation of that organ.

A difficulty of respiration & feeling of suffocation usually accompany the marks of disturbed circulation. If these symptoms are added a loss of appetite, acidity of the stomach,
confused bowels, oppression, headache, after taking food, looseness of spirits, a feeling of lassitude and coldness, high albuminuric. The next symptoms are signs of impeded cutaneous circulation. The cutaneous circulation which feeds the arms, legs, and interstices of the toes, et cetera, the skin becomes dry that sometimes affected with red, eruptions or with itching. Eruptions, pruritis, ulcers are very common but not so frequent as vesicaries. This latter eruption may plague its victim for many months before the vesicaries; some patients are also troubled with haw, chills, or irritability of the bladder; thus, often, are annoyed with vesicarious pains, neuralgic pains affecting the ears, eyeballs, teeth, face, and the lumbar regions. Sitting then, is the lower extremities muscular, twitchings in the hay, coldness of the feet, occasional chilliness are also premonitory.
which are commonly experienced in an attack of gout. It is of much importance to form a clear conception of them, I mark them distinctly for this is the best reason for remedies.

Symptoms of the Paroxysm

The individual in his ordinary state of health, goes to bed at his accustomed hour (say 11). About two o'clock in the morning (or between two o'clock) he is suddenly awakened by a pain more or less intense in the ball of the great toe, but sometimes, though more rarely, in the heel, instep, arch, or thumb. This is often accompanied with a slight shivering which gradually ceases as the pain increases and succeeds by heat. The pain in the foot is first attended with a sensation of burning throbbing together with great tension or stiffness; it then grows more and more violent, insufferable, almost amounting to torture. It is described as being gnawing, crushing, tearing, grating, or wrenching pain. Dr. Watson in his lectures on the
"Practice of Medicine" gives the description by a
renowned Frenchman of the distinction between
the pains in this disease and Rheumatism.
"Place (said he) your joint in a vice, turn
the vice up until you can endure it no longer
that may represent Rheumatism; then give
the instrument another twist, you will
obtain a notion of the joint.
During the height of the fit, the pain and
sensibility of the affected part is often most
intense, to such a degree, indeed, that it is
the case that the patient can neither bear
the weight of the bedclothes upon the affected
limbs, nor even the shivering of the bed
from the steps in the room. The sigh is
passed, in torture, sleeplessness, weariness,
with great restlessness and misery, the patient
is perpetually shifting his foot from place
to place and from place to place in a vain
search after comfort. At length, the pain
remits somewhat, enabling the patient
to obtain a little sleep in gentle portions.
commonly escapes. In awaking, the affected part is found to be swollen, red, tense, painful, exquisitely tender, surrounded by more or less edema. Very large veins; the sufferer is feverish, restless, very irritable. Touch fever.

his tongue is furred. His bowels are constipated. This urine will be found high-colored, acid, loaded with urates.

In this state the patient generally continues till evening, when the symptoms again increase the second night, and is a state of renewed restlessness and suffering, which abate only with the dawn of the day. Sometimes however the pain ceases suddenly during the day, though the patient

beginning a feverish disturbance. The next evening the same series of symptoms may reappear, subsiding the following morning. Thrice the patient often continues to suffer many days, occasionally even weeks. The duration of the attack depending greatly on the condition of the patient. Otherwise
of treatment adopted both as regards medicine and regimen. When the attack or series of attacks is about to terminate, the edema subsides, the capsule over the inflamed part begins to dissolve, and the patient regains his usual strength; but the joint, however, remaining more or less tender for a short time.

In the first fit of gout, sometimes for many attacks, one joint only may be affected, but as the disease continues to recur, the inflammation may suddenly leave the one attack the other, then after having ceased in the one secondly attacked may return again into the first joint affected. Perhaps the second turn also into the other leg or knee. It passes too into the joints both of the upper lower extremities, large as well as small, so that there appears a joint that may not at one time or another be spared them. As the fits become more numerous, the joints are commonly less violent than they were at first, but the
patient suffers more from sickness & a
disturbance in his general health. After the
clearer attacks, the joints usually recover
their former strength & flexibility, but when
the disease has returned again & again they
generally become weak & stiff. They lose
their capacity of motion altogether sometimes.
Deposits in the joints or stones are formed around
outside the joints, & a material resembling
moist chalk consisting of chalk & phial.
Small patches of a similar substance are
frequently seen beneath the skin of the
sacrum & the car. Having now given a
general sketch of the symptoms of a fit of
the gout & its termination. We will next
inquire a little more fully into the conside-
ration of some of the phenomena already
alluded to first with regard to the
rest of the affection.

There are before spoken that it is the ball
on metatarso-phalangeal joint of the
great toe which is most frequently attache
and by statistics it appears that true gout at
the first invasion seldom attacks any
other part, and even if another be first
affected, the ball of one great toe is pro-
tably as, likewise, for J. P. Madanor
were up a list of 376 cases of gout for the
purpose of determining this point. Upon
his table we find that one or both of the
great toes alone were affected in 341 cases,
the great toe with some other part in 373.

In point of frequency in being attacked,
the ankle seems to be second to the ball of
the great toe, afterwards, the instep, next the
outer side of the foot; then the ankle; the
toper extremities are seldom implicated
in the earlier attacks of the disease, but
taken they are the joints of the hand are the
most frequently affected, then the elbows
nearly the shoulders. Your why does
Gouty inflammation, in its earlier attacks
peculiarly select the ball of the great toe?
"D'Albany" says, "The feet are the gain.
seat of the present matter, which may without doubt fix itself on their parts, but in that case it is plain that either the progress of the diastemata, is inverted, or the patient's strength from repeated attacks is gradually impaired. 

Boerhaave's idea that the part which gives place to regular attacks is always the part richest in those tissues which the liquids have most difficulty in passing through as the pericardium, tendons, nerves, membranes, ligaments, veins as are most remote from the heart most press, especially upon injury. Rather "the pericardium" adds that the fat helps great presence from having to sustain the weight of the body, being far removed from the heart are subjected to the action of cold moisture; the blood brought to them through the arteries when returning through the veins has the force of gravitation to overcome. The feet more especially the great toe certainly do contain the
Tissues particularly prone to be affected are tissues either of little vascularity or nourished altogether independently of blood vessels: they are also the most remote from the heart where the circulation is at its minimum. Moreover, they are subject to great pressure of frequent injury. Lastly, we know that certain poisons are attracted to particular parts e.g. Digitalis acts on the heart; opium on the cerebrum; strychnine on the medulla oblongata.

The Character of the Inflammation

1) Pain. I have already mentioned that the pain is often most intense; it is of a burning or tearing character, it is said to differ considerably from that produced by an injury. Very much more severe, there are certain cases nevertheless in which there is not much pain although the inflammation may seem heavy; these, however, form the exception rather than the rule.

2) Edema. During the early stage of the attack when the inflammation is violent...
and the skin extended. Owing to the 
adenae cannot be readily observed on account 
of the tension, but when the inflammation 
is subsiding botting can be easily pro- 
duced and the presence of fluid made 
evident.

(3) Desquamation of the cuticle

This takes place after the complete sub-

sidence of the gouty paroxysms, and it 
seems to bear some relation to the amount 
of the previous adema and the consequent 
extension of the skin; it occurs most 
frequently on the feet, hands and rarely 
from the knees; there is often considerable 
itching accompanying the desquamation.

(4) Heat. The patients express this pheno-
momenon as being very considerable, but the 
thermometer shews no more increase of 
temperature, than is ordinarily found 
in many other forms of inflammatory 
disease; this extraordinary sensation 
of heat arises not only from increase
of temperature but also from a peculiar exaltation or perversion of the nervous function.

5. Redness This always occurs in the uncomplicated gouty inflammations. Lastly, I may remark that gouty inflammation seldom or never terminates in suppuration.

**Diagnosis**

The diagnosis of acute gout is in general simple enough. It is only likely to be confounded with Rheumatica's affection, allied with erysipelas.

From Rheumatica Gout usually attacks one joint only at a time, and the small joints are first chiefly affected, especially the joint of the great toe; Rheumatism affects many at once and generally the large joints. The redness of the gouty inflammation is more brisk and fiery than that of the rheumatic and the fluctuation between agony and ease is greater and more frequent in gout
There is more edema than in rheumatisms, and in the majority of instances, the former is followed by desquamating itching; phenomena which we do not notice at the close of the latter. Gout is not attended with those acid sweats which are so characteristic of acute rheumatism. Gout occurs rarely or never before the age of puberty, whereas rheumatism is not infrequent. The blood in gout is impregnated with uric acid in rheumatism this principle is absent.

Gouty inflammation is attended with the deposition of urate of soda in the affected tissues; but nothing of the kind occurs in rheumatism. Gout occurs chiefly in men; rheumatism in men and women equally. Lastly we must take into consideration the general history and the ascribed causes of the disease for it is said 'gout is the punishment (some have thought it the privilege)
of the rich, of persons who live fully, but
seriously, indolently. Rheumatism is
most frequently the appanage of the poor
and those who fail.

From Erysipelas. This only happens when
erysipelas affects parts also liable to gout.
The inflammation in this complaint
is more superficial than in gout affecting
primarily different structures usually now
proposed to gout. Erysipelas is marked
in by stronger constitutional symptoms
as fever, headache, severe pains to
and the heat of the affected part resembles
rather the stinging of nettles, than
the strong burning of gout.

Prognosis.

The inflammation which attacks
the joints has no worse event than the
thickening or perhaps the Asphaceous Physis
which it produces, so that gout in the
extremities is not a fatal disease. But as
it is not always confined to the extremities,
the life of a gouty person is greatly held to be insecure, especially when the brain, the lungs, the heart, or the stomach are the seats of the disease. Dr. Goutte articulaire (says a French author) est celle dont on est malade, et la goutte interne est celle dont on meurt." In this subject of prognosis I may mention that when the vesical organs are sound in structure and not materially disturbed in their functions, the tongue becoming moist, clear, the natural appetite returning, the gates recovering their healthy character, the urine ceasing to deposit sediment and at the same time losing its high specific gravity, the nervous system becoming tranquil, the local sensations readily yielding in their severity, tonics and the inflammation soon abating, that showing a disposition to quick transference from one part to another, or if it be fugitive, not giving severely or new pain,
we may then always expect a favourable termination, but in proportion as the opposite circumstances are observed to take place, we have the assurance of a tedious, intractable disease, and among the unfavorable signs we may look upon the worst as being, a quick transfERENCE of severe inflammation from one part to another, joined with violent sympathy of the stomach, or the head, with exquisite sensibility of the whole nervous system.

Pathology

Having discussed certain phenomena ordinarily presented by gouty subjects, as also by those labouring under the more typical forms of the disease, having also given the Diagnosis, & Prognosis, it now behoves me to enter upon an investigation of a very difficult character, that of attempting to determine the true nature or essence of gout. There had already occasion to observe that the ancient physicians
were well acquainted with most of the phenomena of gout and they likewise speculated to some extent on the intimate nature of the disease; but, being entirely ignorant of the peculiar changes in composition and structure which occur in the different fluids of the body, they had no opportunity of arriving at its true pathology.

The ancients were chiefly humoralists, but Paulus Galenus produced by some morbid condition of the blood, but the particular nature of the alteration was regarded differently by various writers—some considering it due to the frequency of phlegm, others to bile, others to a mixture of these fluids. In the latter half of last century Cullen became the great opponent of the ancient humoral doctrine of gout, brought forward many arguments which were, of themselves, powerful enough, and, still more so, from the weight of his opinion. The substance of these arguments
A very learned author thus sums up:

"In the first place, Callein argues that there is no evidence of any morbid matter being present in persons disposed to gout, other than there are no experiments or observations which show that the blood or phlegm of gouty persons are in any way different from those of other persons, that previous to attacks of gout there are no signs of any morbid state of the fluids, and the disease generally attacks those persons who enjoy the most perfect health and who even appear to be in that state when the disease comes on. Callein allows, however, that at certain periods of the disorder a peculiar matter appears in gouty patients, but that this occurs only in a few instances; then only after the disease has subsisted a long time, and relapses upon such an occurrence at the effect and not the cause of the malady. Furthermore, although he says that there are certain dires..."
Substances which seem to excite grief when taken into the body, yet he considers that they do not operate by affording the material cause of it, but in some other inexplicable manner. "From these considerations, Allen concludes, that there is no proof of any moral matter being the cause of grief. (2) As to the suppositions concerning the particular nature of the moral matter as to their contradictory, and many of them too inconsistent with chemical philosophy and the laws of the animal economy, to allow us to conclude that any such principle exists. (3) As regards the supposition of a moral matter being the cause of grief, it is not consistent with the phenomena of the disease, particularly with its frequent sudden transition from one part to another. (4) The regards the supposition as the more impossible from the circumstance that if any
Morbid matter does exist, its operation should be similar in the several parts which it attacks, whereas it seems to be very different, being stimulant exciting inflammation in the joints but sedative destroying tone in the stomach, which upon the supposition of a particular matter acting in both cases, is not to be explained by any difference in the part affected. (5) He looks upon the disease being non-contagious, as favouring the idea of its not being connected with the presence of a fecal catarrhal matter in the system. (6) He thinks that the fact of the disease being hereditary is no proof of its nervous origin, for he argues that most hereditary diseases do not depend upon the presence of any morbid matter but upon a particular conformation of the structure of the body transmitts from the parent to the offspring; this applies he says particularly to goats.
He also asserts that hereditary diseases, depending on a morbid poison, always appear earlier in life than in cases without gout. (7) He states that the humoral theory of the disease has hitherto not suggested any successful method of cure, but in fact has sometimes led to injurious treatment. (8) He looks up upon the idea of the presence of a morbid matter as altogether useless, that it explains nothing, without supposing that it produces a change in the moving powers, a change in the state of the moving powers explains every circumstance without the supposition of morbid matter. (9) Lastly he considers the acid suppuratives, thinking that without such suppuration the disease can be explained in a manner more consistent with the phenomena, with the laws of the human economy of the methods of cure which experience has ascertained. After having given Callens numerous objections against.
The humoral pathologist, I must next enumerates his own ideas of the nature of gout, a view which is in a somewhat modified form, has up to the present time found numerous supporters. He believes that gout depends on a peculiar conformation of moro, especially an affection of the nervous system in which the thought the primary moving powers of the whole system are lodged. He looks upon intemperance indulgence, depressing influences, which are acting directly upon the nervous system, the exciting causes of the disease, and therefore inclined to seek for an explanation of the disease in the law of the nervous system. He occurs on the Pathology of gout as thus expressed in his own words. In some persons there is a certain rigorous plethoric state of the system which, at a certain period of life, is liable to a loss of tone in the extremities. This is in some measure compensated by
the whole system, but affects more especially the functions of the stomach.

When this loss of tone occurs, while the energy of the brain still retains its vigour, the vis medica animae is excited to restore the tone of the parts, and accom-

plishes it by exciting an inflammatory affection in some parts of the extremities.

When this has subsided for some days, the tone of the extremities of the whole system is restored, and the patient returns to his ordinary state of health.

This is the course of things in the ordinary form of the disease, which we name the regular gout, but there are circumstances of the body, in which this course is interrupted or varied. Thus when the atony has taken place, if the reaction do not succeed, the atony continues in the stomach, or perhaps in other internal parts, it produces that state which we have for reasons now obvious named chronic gout.
A second case of variation in the course of the gout is, when, to the atony, the reaction and inflammation have to a certain degree succeeded, but, from causes either internal or external, the zone of the extremities (perhaps of the whole system, in weakness) is not that the inflammatory state, before it had either proceeded to the degree or continued for the time, requisite for restoring the zone of the system, suddenly entirely ceases. Hence the stomach, other internal parts relapse into the atony; atony thus caused may, perhaps have this increased by the atony communicated from the extremities, all which appears as what we have termed retrocedent gout. And it is, therefore, a third case of variation from the ordinary course of gout, when to the atony usually preceding an inflammatory reaction fully succeeds, but its usual determination to the joints by some circumstances prevented; and is, therefore, directed to an internal part, where it produces
an inflammatory affection, and that
state of things which we have named the
"misplaced goat." Cullen and others
Having now brought forward the
Conclusions Cullen arrived at with regard
to the humoral pathalogy, I also have
viewed the nature of goat; it might
seem necessary for me to adduce the argu-
ments which have been professed for
destroying the dogmas enunciated by
"Cullen," but as my time is so limited,
I also as shall have occasion to bring
forward other theories in support of the
humoral pathalogy in which many
proofs will be given, sufficient for
witnessing the erroneousness of Cullin's
views at present from so doing.

In 1737, Dr. Wallaston made the discovery
of the real composition of goaty deposits
which he found to consist of granule soda
Notwithstanding this discovery however,
the doctrines of Cullen continued to hold
 sway.
at least in a modified form, for in his work on fault was
favourable to the idea which attack
but to its descent to a species of plethoric
rather than to any alterations in the
calculation of the fluids, for he says:
In a fit of gout, the plethoric state
of the vessels, either absolute or relative,
affairs the predominant to the only
circumstances which can be detected
in the errors of the constitution. The
local inflammation, usually attacking
the bell of the great toe, appears to be an
effect of nature to relieve the fulness
of habit, partly in way of afflux of blood
to the extremities partly in the way of
counter-irritation. In the returns of
the disease, more or less irregularity
in the functions of the abdominal viscera
becomes conspicuous, and it gradually
assumes a more complicated character.
In a general statement of the facts,
it may be said that the plethora which exists is of a partial kind. That determination of blood to the extremities, which in the peculiar actions exhibits the phenomena of gout, becomes more and more obviously connected with congestion in the whole system of the vena portae, with a vitiated secretion of bile; cardiac deviation and unequal function of the kidneys. The stomach is truly the medium through which the gout is created. Excess of ingesta, beyond the powers of healthy assimilation, and the supply of blood demanded for the useful purposes of the body, is the material foundation of the disease." Further on, when speaking of the close connection between gout and a morbid state of the liver, he says: "I consider that the gout which appears to the eye as an external disease, is most essentially depending on that species of reflexion which belongs to the essence of
the abdominal region, chiefly of the liver. In its progress it manifests this connection most strongly; and so often that in every long established case of gout the functions of the liver are more or less unhealthy, in combination with a disordered condition of the intestinal canal, with evidences of error in the secretions derived from the kidneys and from the skin, and also in proportion as the disease becomes established, the nervous system partakes largely in the arrangement. The stomach chiefly, which at the earliest periods of gout is often little affected at all affected, now becomes disordered. Gaseous indigestion commonly prevails. "Por l'approche," however, confided to many difficulties in explaining the causative phenomena of gout on such an hypothesis. More especially the occurrence of chalk stones, which he allowed were never seen except in cases of true gout; at the same
times he says "they are so rare because confined to certain Aeolian habits, that the phenomenon cannot be assumed as a basis for the construction of a general theory of the disease, much less can this singular morbid process be considered as the principal cause." In 500 cases of gout, he remarks that he has not discovered any trace of this kind of concretion in more than 45, and in several of these many years had elapsed before any trace of such concretions manifested themselves.

He also considered that we had no proof of the existence of uric acid in the system independent of precipitation, and that even if it were present there is no different cause why it should not always be precipitated by the kidneys—glands obviously designed to separate saline matters or why it should be thrown on the secreting vessels of the joints or other distant parts. He failed to believe that in
These cases the capillary vessels of the part affected with gout, may at occasionally in a greater or less degree to the secreting vessels of the kidney. In several cases of extensive deposits in the tender fat, the found by repeated experiments a deficiency, some times almost total absence of uric acid in the urine by means of the nitric or muriatic acid tests. When this opinion was promulgated there was no proof of the production of uric acid in the system, independent of secretion the constant presence of urate deposits in the structures affected with gout, inflammation was likewise uncommon. "Dr. Barlowe," in his article on gout in the Cyclopaedia of Practical Medicine also supports the view of this because being connected with vascular plethora, it states that a paroxysm of gout can be regarded only as a constitutional disease of an inflammatory character.
attended with local inflammation of
peculiar kind in one or more joints,
rising a determinate cause, in the
earlier occasions terminating in death
for the most part within a few days.
"Dr. Sandnes" has advanced another
hypothesis in some respects resembling
those above enumerated, but goes a
step further than the authors before
quoted and thus describes his idea
of the pathlogy of the gouty disease.
"Veins congestion" considers the first
condition essential to the formation
of the gouty rheumatism. It is no new
observation; it is found interspersed
through the writings of all former
authors. Even those who adopt expla-
nations inconsistent with such a state
of things, notwithstanding admit it.
This state of the blood was first clearly
enunciated as the great cause of gout
by Galen, whose admirable hints

continued to influence the minds of
preceeding physicians, in a greater or
lesser degree, to the present day. The
truth of the fact, being undeniable,
unquestionable, it will always continue
to embarrass the doctrines of those who
advocate opinions with which it is in
compatible. But the great venous ends
of the body, as well as the larger arterial
deceler, are endowed with a resilience,
which enables them to struggle well
against the floods of returning blood.
This fluid, then, is compressed between
two opposing forces, that, namely what
it derives from the heart and arterial
system, urging it forward on its course;
and on the other hand, the antagonistic
resistance of the great veins leading
to the right auricle. Under this com-
pression, believe, that the vessels giving
to true hemorrhage is occasioned in the
first affected, of the selfsame intense
blow...
in a minute capillary carrying the porous portion of the blood only, edema is the
consequence, but if the minute vessel be one carrying red blood, a true ecchymosis
is formed." And again he says, "it
will surely be admitted that the capillary
and nutrient vessels distributed in the
extreme delicate fibrilla of the nerves
are affected in the same manner as the
larger venous trunks. I believe these
intended capillary vessels are the real
part cause of the principal phenomena
of gout. If it not credible that such vessels
bleded so as to admit fluids for which
they were not intended, I should regard
the single facies in which gout has its
seat, may give rise to much suffering?"

Having now brought under notice
the different theories of the proximate
cause or nature of gout, which have been
advocated in opposition to the medical
pathology, it now becomes me to
expound the views which support the doctrine of the humoralists. This task
will be more to perform in as succinct a manner as possible.

I have before stated that the ancient
looked upon gout as produced by some
marshy condition of the fluids, but that
they were totally unable to define or
even to explain its chief pathologiy.

Before the discovery of the real com-
position of gouty deposits by Dr. Walker
in 1797, Dr. Murray Forbes in 1793 asserted
that uric acid, which carried on the urine
must be present in the blood, although
he confessed his inability to discover it.

The frequent deposition of uric acid
in different parts of the body affords indis-
futable testimony of its being contained
in the general fluids; and as this phaenomenon
occurs in certain circumstances, it may be
especially in gout the more
whether that disease may or may not arise in
Consequence of the concreting matter being redundant or whether the coincidence is merely accidental." Since this time many physicians who advocate the humoral pathology have written upon this subject. Sir T. Holland in his Medical Notes Reflections considers that the greater part of that which is actually ascertainment or strongly presumed with regard to gout may be thus comprised. —

1. That there is some part of the body organisation depositing to gout because it is an hereditary disorder. (2) That there is a materia morbi whence in its nature, capable of accumulation in the system of change of place within the body to removal from it. —

3. That though identity be not without proved, there is a presumable relation between uric acid and its compounds to the matter of gout and connection with other forms of the calculous disease.
(1) That the accumulation of this matter of the disease may be presumed to be in the blood like retrocession or change of place, when occurring to be effected through the same medium.

(2) That an attack of gout, properly so-called, consists, or tends to produce the removal of this matter from the circulation, either by deposit into the parts affected by the secretions, or in another less obvious way through the veins of actions forming the secretions of the disorder.

(3) That there is an intimate relation between the condition of the gouty subject and the functions of the kidney. Either but in health or disease.

(4) That the same shade of habit or predisposition, which in some persons protects the acute attack of gout, or allows deposits about the joints, does in others, particularly in females, lead...
itself solely by disorder of internal parts including the nervous system as well as various secreting or secreting organs of the body." Such then were the views held by this learned author. In his elaborate work on gout Barnes has given several advances in his theory of this disease, and if I may be allowed to express my opinion on this subject, I must certainly say, that neither of the theories which have at yet been advanced answer the many of the phenomena of gout as this one. After having made several experiments and observations on the condition of the blood and urine; the results of which prove that urea acid somatra product of the action of the kidneys as was frequently supposed, but that it is merely excreted from the body by these organs, and that the excreting function of the kidneys, with regard to the saline portion of the urine, is not peculiar but
That urea and urine acids are separately eliminated; also that one of these functions may be accompanied by destroying the other remaining entire, and also as in all human beings it appears probable that the urea excreting function being chiefly employed, we find a occasional discharge of this body in external effects and in gout the urine acids excreting function being defective, chalk like deposits are produced by a similar occasional discharge of waste of body, the then advances his hypothesis which is as follows.

"Gout would then appear to depend on a loss of power (temporary or permanent) of the urine acids excreting function of the kidneys; the low moritor symptoms and those also which conduce the pain in gout, arising from an excess of this acid in the blood, and from the effort to expel the matters made from this system, whereby formation of this company"
would favour the occurrence of the disease and hence the connection between sour and uric acid, gravel, and calculi; and also the influence of high living, neglect of moderate quantity of exercise, etc., etc., etc., etc.

This hypothesis also explains two facts which have been regarded as militating against its humoral pathology, namely, the hereditary nature of the affection, and also its frequent occurrence in two states of the system; for we can understand that the peculiarity of the kidney, with reference to the excretion of uric acid, may be transmitted; and likewise, that when the function in question is permanently impaired, it will not require an excessive formation of this acid, but only its accumulation in the blood.

The above constitutes his theory of gout, but in addition to it, and in order to give a rational exposition of the disease, he also puts forth these propositions...
and discusses each separately. So the simple reason before given we want to know shall only quote them.

(1) In true gout, uric acid is invariably present in the blood in abnormal quantities in the form of urate of soda, both urinary and at the period of the disease, and is essential to its production, but it can be equally proved that this acid may occasionally exist largely in the circulating fluid without the development of inflammatory symptoms, as for example, in cases of lead poisoning, and a few other instances. Its mere presence, therefore, does not explain the occurrence of the gouty paroxysm.

(2) The investigations recently made in the modern anatomy of gout show uncontroversially that free gouty inflammation is always accompanied with a deposition of urate of soda in the inflamed parts.
(3) The deposit is crystalline and colorless, and when once the cartilage, ligaments, and structures become infarcted, such deposition remains for a lengthened time, perhaps during life.

(4) The deposited urate of soda may be soaked upon as the cause, and not the effect, of gouty inflammation.

(5) The inflammation of gout leads to the destruction of the urate of soda in the blood of the heart, consequently of the system generally.

(6) The kidneys are complicated in gout, probably in its early & certain encephalochromic forms, and this affection is not only functional but subsequently becomes structural. The urinary secretion is also altered in composition.

(7) An encephalochromic state of the blood arising principally from the presence of urate of soda is the probable cause of the disturbances which not unfrequently
precede the lecture, for many of the anomalous symptoms to which gouty subjects are liable.

8. The causes which predispose to gout, independently of those connected with individual peculiarity, are either such as produce an increased formation of uric acid in the system, or which lead to its retention in the blood.

9. The causes exciting a gouty fit are those which induce a less alkaline condition of the blood, or which greatly augment the formation of uric acid, or such as temporarily check the power of the kidneys for eliminating this principle.

These have brought under notice most of the varied ideas of the nature of gout which have been held both in ancient and modern times, and before myself arrive at any conclusion with regard to this disease, it is necessary...
that I should first examine briefly
the condition of the blood: Vaccination.

Blood

From investigations it has been found
that the normal constituents of this
fluid or gang are not necessarily modi-
Fier, for neither have the globules,
fibrin or serum, been found to present
any variation different from that
which is met with in other local
inflammations; for the globules are
neither increased, nor diminished, in number
nor altered in their character, the
fibrin in this, as in other inflammations,
decreases only becomes increased in quantity,
and the serum generally retains its
normal specific gravity, colour, consist
ence. Where then shall we dis-
cover the morbid changes of this fluid
which produce the peculiar alteration
of the blood in this disease? All the
most recent researches upon this subject
tend to prove that it depends upon the augmentation of those principles which exist in health in such minute traces as are here detected with difficulty (viz. uric acid). It was at one time supposed that uric acid in the form of urate of soda became a constituent of the blood only in gout, but from the delirium of the fevers which we now employ it can be clearly shown that these compounds are normal constituents of this fluid, and that in gout these substances exist in abnormal quantity.

Urine

The condition of the urine in gouty acute gout is of a deeper colour than natural, is secreted plentifully, containing deposits a purplish or brick red sediment. The specific gravity is much increased and the excretory products appear more or less in the urine during the inflammatory stage.
The daily excretion of uric acid is generally notably diminished, owing probably to an imperfect action of the renal organs, in not being able to excrete the amount of uric acid formed in the system, because the blood was examining in many instances of acute gout, for each occasion proof was afforded that there existed a considerable abnormal quantity of uric acid in the serum, thus proving indubitably that the kidneys had lost the power of eliminating this acid from the body, as the disease passed off this principle is thrown out in much larger quantities even far above the patient's daily average.

Having now briefly examined the condition of the blood urine in gout, I will next proceed to state, in as few words as possible, the theory of the pathology of this disease which I believe to be the most probable and also most generally admitted.
The prevalent idea of the nature of gas at the present day is that there is in this process a matter more or less acid existing in the blood in an abnormal quantity, and that this agent is produced in the following manner.

The amount of urine excreted from health is on an average about 24 grains and of urine acid about 8 grains. These quantities are kept up so long as the supply of oxygen fully corresponds to the working of the tissues in the secondary digestion. During this process of the secondary digestion, the albuminous tissues combine with the oxygen conveyed to them by the red globules of the blood forming different compounds, the most important of which is urea acid; and when sufficient oxygen is brought to the tissues during their recycling the greater part of the uric acid or more circulable palls is converted into urea and carbonic acid, for that the affe
Nitrogenized elements of the tissues reach the lungs in a soluble form a condition necessary for their excretion. Since the more oxygen enters a tissue during its reintegration the more complex will be the conversion of the insoluble uric acid into the soluble urine and the more easy its elimination from the body.

But if as happens in those predisposing to gout, a lack vital power acidifying the tissues, the transformation of them (i.e. tissues) goes on very rapidly the patients probably at the same time taking little or no exercise have in consequence an imperfect balance of oxygen conveyed to the tissues thereby the conversion of the uric acid into soluble urine is impeded. In fact the patients become like reptiles in which uric acid in large quantities is a normal constituent of the blood.

Thus then we can easily imagine that
as urine acid is one of the results of the secondary \nreproduction it is necessary increased by (1) an excessive waste of tissue; 
(2) an imperfect supply of oxygen; 
(3) the renal organs having lost their power 
of eliminating this principle.

This is borne out by the fact that if 
those who are predisposed to gout take 
such measures as to prevent the above 
causes from operating, and take exercise 
and fresh air in proportion to their individual 
genuses, everything goes on in harmony.

But if such be not the case the urine 
acid accumulates more and more in the 
blood, and as it thus increases it first 
shows itself by premonitory symptoms 
that the system becomes loaded with it 
and lastly a fit of the gout is produced 
with an elimination of urine acid in the 
form of crusts of roa, the great toe as 
there before stated, being the most frequen 
seat of the affection.
Now the tissues affected in gout are those derived from the mucous layers of the embryo as eliminators, such as synovial membranes, mucous membranes, the chief portion of the glands. And we are not to suppose that because certain parts of the body are free from gout, they are also exempted from the disease, because after repeated attacks of gout the kidney is usually considerably contracted. As an inflated appearance, the capsules are thickened, the surface is granular, and there is a deposition of a chalk-like substance in the form of streaks found chiefly in the direction of the tubes of the pyramidal portion, thus showing that this organ is affected in the same manner as the joints. And there is no doubt I think also, but that these acids are given off by the skin, some mucous glands generally.
Treatment of Acute Gout

I have already in a former part of this paper indicated in a brief manner the treatment of gout which was adopted by the ancient physicians, and we then found that they declaimed the system by means of bleeding, purgation, diuretics at the same time paying great attention to diet and exercise. As local applications they employed scarifications, fomentations, and fomentations with all kinds of warm mixtures. During recovery among generous diets and medicines were allowed together with those means requisite for strengthening the system.

Sydenham, however, scarcely employed any remedies for this disease, as he believed that, under certain circumstances, to do all that was requisite, you the says. 'In gout it seems as if it were the prerogative of Nature to exterminate the recent matter after her own fashion, to deposit it in the joint.
and afterwards to void it by insensible perspiration. In great hay fever these methods have been proposed for the ejection of the cause continens, bleeding, purging, sweating. Now none of these means "Cullen" came to the conclusion that 
gust could not be cured by medicines but 
that the best thing that could be done was 
to commit the patient to patience to 
flannel alone.

The opinions both of Hyden and "Cullen" 
are now pretty generally exploded; and in 
the few following concluding pages of 
this paper, I shall endeavour to point out 
the means best suited for the majority 
of patients labouring under the acute 
forms of this disease.

The treatment of acute gust naturally 
divides itself into (1) that which is proper during the paroxysms and (2) 
that which is proper during the inter-

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Treatment of the Paroxysm

In the treatment of a Paroxysm we should not only always bear in mind that we have to deal with an acute inflammation originating in a peculiar condition of the whole system, and which is capable of considerably modifying the various symptoms that may present themselves, but we should also reflect upon the kind and degree of the predisposing and exciting causes by which the fit has been instigated, and our practice therefore should be relative to such considerations, as well as to the age, constitution, temperament of the patient. The neglect of these rules would be very apt to lead us far into error, and are that account we should expose ourselves to blamery.

The first remedy then proposed consisting in "Bloodletting."

Shelton Dr. Gardner edited the vol.
Author of the present day who will not adopt this remedy; and although he says it is with a certain limitation, I am convinced that bleeding to such an amount as is necessary to subdue inflammation is much to be avoided in gout. Those who prescribe them will not fail to find out in a very short time particularly in London practice that they have sacrificed their best resource in the cure, namely the strength of the bone of the patient and have made a lengthened and distressing case where they meant to make a short and brilliant cure.

Although bleeding is in every way contra-indicated; yet this learned physician states that he has often found small bleedings (3 or 4 ounces) production of the greatest good by relieving the over-loaded heart vessels. I think that in gout as in other acute inflammations blood-letting cannot be looked upon as
Having any curative effect, it can neither remove the injury of the blood nor the deposit which has taken place in the inflamed structures, nor does it lastly relieve the most distressing symptom, pain. Some have recommended it not only for the relief ofplethora, but even this can generally be more safely effected by other mild means.

Mercurials

Rei to tendentious concludes that this drug was the most valuable agent in the materia medica, when employed with judgment and caution, for effecting the desired change of action in the different secreting organs connected with digestion and as he believed this disease to be intimately connected with congestion in the whole system of the vena portae, with a deleterious secretion of bile, constipation bowels to; gave purgatives very freely and more especially those which produced a cholagogue effect.
Mercury however does not exert any specific control over gouty inflammation but when the skin is congested and its secretion defective, we may then give small doses of Colonel or blue bell, combined or not with colocyath, in order to increase its purgative effect, which is of the greatest importance. In advanced forms of gout, the use of mercury should be altogether avoided.

Deuretics and Diaphoretics

There can be no doubt but that these remedies are often of much service in acute gout as it most frequently happens that the urine is deficient in quantity and the skin hot dry.

In order then to promote the action of the kidneys, we may give the acetate citrate, nitrate or bicarbonate of Potash in small doses, these salts also render the blood more alkaline and thus raise the blood more alkaline and thus raise
Diaphoresis the Breath of Ammonia may be given internally, at the same time aiding its action by the free use of delucre. When it is requisite to increase the action of the lungs, warm baths or the hot air bath may be employed with a considerable advantage.

Amodyne & Mzzarella

Natrum Muriaticum that operated gave the patient the most certain relief from pain an effect most desirable on certain occasions especially to the sufferer, yet on account of its powerful tendency to diminish the secretions and aggravate congestion of the portal system, we ought to withhold its administration & trust rather to other drugs such as Belladonna, Belladonna, &c., which possess the great advantage over opium of not diminishing the secretions, and at the same time producing a soothing effect. In some certain instances where opium is really requisite it is desirable to combine it with a sedative...
and Purgatives in order to avoid its baneful influence upon the secreting organs.

Purgatives.

The use of Purgatives in Gout was altogether condemned by Sydenham "Read" to but Morgagni, Hoffmann, Sutton, and Heil Stendamoe earnestly advocated their employment. This last author on account of his intimate view of the nature of gout ait that it was closely connected with portal congestion gave them very freely, especially those as shown before and which produce a cholagogue effect. As the result of this decree it is no lack of the secretions and suppress the evacuations it must be evident that those medicines (such as the Purgatives) which restore to a healthy state those deranged functions will prove of great value. The kinds of Purgatives must suitable in great inflammation must depend upon the peculiarities of the individual; if constipation only exists,
Gregory's Powder, Compound Calceyuthine, or some other mild aperient will generally be sufficient for removing the obstruction. When however there is hepatic congestion some mercurial preparation as Calomel, blue pill, combined with the Calceyuthine may be advantageously employed. The saline purgatives especially the salphite of mercury are often very beneficial but they should never be given to such an extent as to produce a powerful hypogastric action.

Under the head of purgatives there purposely excluded the use of Calceyum, in this disease, not that Calceyum does not act as a powerful cathartic nor that it may not be combined with the above remedies but because it certainly does not owe its efficacy to the purgative property.

"Modus operandi of Calceyum in Gout."

The effects of Calceyum are twofold, sensible and insensible. The sensible effects are redative of the
Heart's action and muscular system; these are generally preceded by its physiological action as indicated by vescicles, colic pains, nausea, & frontal headache. — The insensible effect is the relief of the patient without any sensible effect being produced. — Calomel undoubtedly produces a dilated sedative action on the heart and other parts of the circulating system as is manifest from the slowness of the pulse which it causes, as well as from the peculiarity of its character. On account of this action upon the heart, it is unsafe to administer it when there exists any fever of that type. The influence of this drug upon the excretion of urine and its properties, as at the present time, a matter of dispute among authors. Some as Dr. Christie, Maclean, &c.; maintain that it does greatly increase the secretion of urine; others as Dr. Percival Graves, Gerrard, &c., do not consider that it is in any way increased by its action.
The curative property of Colchicum can not then be explained by its purgative effects as clinical observation has clearly shown that Colchicum will give cures without inducing purging, and also that other purgative medicines may be freely given without a similar result. Neither can it be assigned to its sedative property since that it is not equally efficacious in other inflammatory affections; nor lastly can it be attributed to its power of altering the character of the urine since the same results are not always produced. Its real mode of action is still a subject for inquiry and well worthy of occupying the attention of the Therapeutist. Some have suggested that it may act on the nervous system as a sedative, and that it does so we are assured by from the relief of pain; but as such an explanation is of so general a character that it applies to many drugs besides Colchicum.
Others again have imagined that its action is due to the influence which it exerts on the peculiar structures complicated in gouty inflammation, namely, the ligamentous cartilaginous tissues; this may possibly be correct for we know that certain radicals control the heart, and others the capillaries, and it may be that these tissues of which the vitality is low are peculiarly influenced by this drug.

Through what channel however albumin acts in controlling gouty inflammation, we are not present in a position to state, and before it can be definitely settled the test of much further clinical observation will be needed. All in fact we know with regard to its action is that it does in a most marked degree relieve the pain, and shorten the paroxysms when duly administered.

Local treatment of acute gout.

Leeches. The application of leeches to
The inflamed gouty joint is a practice I think to be as much deprecated as the abstraction of blood from the arm. For experience has proved that they are no case efficacious, and that their use may be attended with conspicuous consequences. Blisters Dr. Ladd of late years has advocated their use in the treatment of gout but I believe, in most cases they are unnecessary applications and productive only of more pain & distress.

Iodine lotions When the pain is very intense preparations of opium, belladonna, &c. may be advantageously employed; they should be applied to the inflamed joint by means of compresses of lint covered with oiled silk.

Warmth This is the simplest, best almost common form of local treatment. The inflamed part should be enveloped with flannel or carded cotton surrounded by a covering of oiled silk.
Rumetations of Paulcreo have been recommended by some, but warmth applied in the above simple manner will fulfill all that is necessary.

II. Treatment during the intervals of the paroxysms or prophylactic treatment

The treatment of a gouty person being the intervals of the paroxysms, and in order to prevent the returns of the disorder, there can be but one opinion but that a well regulated diet regimen are the most important. The patients should most resolutely abstain from rich living, wines, and other indulgence. An animal vegetable diet should be allowed, but at the same time care should be taken that both quantity and quality are such as the stomach can easily digest. Extracts, healthy chyle from the stomach, put into it. The use of alcoholic liquor beyond that which is requisite to phonous regimens should be strictly avoided.
Our heavy winters strongly affect owing to the unfavourable pedicifacry influence, ought never even for this four weeks to be employed; but a very small quantity of good brandy, or cherry, freshly diluted with water, may be given both during a fit and in the intervals.

Exercise is most important thoroughh rough moderate exercise, regular, sedentary work in a hot day is said to be, unless otherwise contraindicated, by far the best that can be taken. In all cases the age, strength, of the patient must regulate the amount, duration of the exercise. For Erichsen says: "that the young the heart can bear much; that the old chiefly, by one act of over exertion may incur the penalty of an attack." Fresh and bracing air such as is obtained in elevated places is highly valuable to many subjects, especially to those of weak habit.
To preserve the nervous system, no less regard should be paid to the tranquility of the mind than to the health of the body. For this purpose all hours should be planned, study the cares of business and side lines, and the mind emplaces with pleasant thoughts and occupations.

As medicine prophylactic treatment purchased always pay great attention to the state of the bowels, and alleviate such symptoms which may from time to time present themselves. The best medicines will be an occasional mild purgative, some of the neutral salts frequently used, such as the whole faradite, or phænomene of pellagra. When in small doses once or twice a day Dr. Garrard recommends at an interval pleased the carbonate of soda to be given in the dose of one to four grains divided in plenty of water, two or three times a day.
he considers that it acts as a marked influence in cases, when patients are
suffering from gout, causing the formation of the deposits to become less, or cease
altogether, and that in young subjects it diminishes the frequency of the attacks
and improves the condition of the patient.

After an attack of gout it is essentially necessary that the patients should take
a thorough holiday, and visit those
mineral watering towns, which might
be considered best suited for their case,
according to his constitution. Temperament
for the robust, of those of fall-hooks,
the sanguine temperament; the alkaline
springs as those of Grande Grille, or being
those at Weisboden, or Rea la Chapelle should
be selected. When torpidity of the bowels
is likely arrangement predominates, the
more magseudo waters, as those of Burgh,
Epsom, Reildiga, we are chiefly indicated
when the skin is excessive the palpitation
Springs as those at Harrogate, Strathpeffer, &c. are the best. When much debility prevails as in Chronic Gout, the waters at Tunbridge, Wells, Harrogate, &c., &c. are the most advisable. In all cases the use of the waters should be cautious, they should be slowly watched, so as not to oppress the stomach, or to induce Debility or other injurious effects by a too free employment of them.

The medaphylactic properties of the mineral waters must not be considered depending solely upon the saline or other ingredients contained in them, because it must be borne in mind that most of these springs are situated very high above the level of the sea, and that the pure and bracing air of these localities, causes deeper inspirations, and thereby a greater stimulation of the system, at the same time the advantage of their effects, being accompanied by change of air. Recovery the absence from the cares of business,
and the occupants minds probably being more occupied with the various amusements, which are always taking place at these spas; undoubtedly assist greatly in giving new fociums of the improvement in patients, who repair there for the restoration of their health.

March 31st, 1862.

Robert Veale