
Indigestion .

as related to -

Colds , and Rheumatism .

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In choosing a topic for a Thesis, it is natural that as a general practitioner, some form of Disease presenting, by its frequency or its peculiarity, points of perhaps more than usual interest, should most readily suggest itself as a subject.

Much has been written on the subject of Indigestion and its treatment, and it would be difficult to avoid repeating the frequently described and well known symptoms of the complaint, should that alone be taken as a subject; and though it may be necessary to describe briefly some of its more prominent symptoms, it is not intended to go minutely into them, but rather to endeavour to indicate the relation of this complaint to two other affections - Colds and Rheumatism.

The opinions about to be expressed, are formed from observations afforded by the daily routine of a large & busy town & country practice, the inhabitants being chiefly of the tradesman & labouring classes, and though the connection between the three diseases is tolerably clear, and in many cases, undeniable I would hesitate nevertheless to make any positive assertion on a subject so indefinite as the causation of Rheumatism, concerning which so many learned theories have already been advanced, but the precise nature of which, it must be admitted, still remains improved: moreover the field of observation, though extensive, is still local, and there may be, and probably are, many conditions, present, and peculiar to it, which may to a large extent influence the inhabitants in their liability to Rheumatism especially,

The district lies on the East Coast of Yorkshire and of course suffers like others, from the ailments usually to be looked for in the different Regions but the three affections mentioned - are so common and constant, that they form a very large proportion of the cases, requiring medical assistance.

Indigestion, the commonest of all, is so widespread that one naturally looks for a cause. This is readily found, and is primarily - partly from old established household custom, and partly from ignorance - in the diet. From childhood, and almost from infancy, the people are habituated to the use of different articles of food, largely composed of a heavy variety of home-manufactured Pastry, often so ill made, and improper in its composition, that if used by a person unaccustomed to it, disastrous results, would almost certainly speedily follow. In those however who by long use are familiar with it, a kind of tolerance, seems to be established which for a time at least, encourages impunity. This however before long fails, and frequent bilious attacks, are the first manifestation of the condition of more or less constant dyspepsia into which many gradually lapse. Though such form a large class, there are numbers whose digestion fails, at a comparatively early stage, and in whom even a slight excess, is sure to be followed by its uncomfortable results. The abundant use, therefore of so harmful a compound, in use at every meal in the day, and almost taking the place of bread, and this along with a free use of,

butcher meat, pork of the greasiest nature, and many other such things, imperfect and hurried mastication, and carelessness in general observance of the natural rules pertaining to health, all afford ample reason for the extensive prevalence of Gastric disorders of all varieties and degrees.

One of the commonest troubles arising from such a system of living is, as might be expected, Constipation. This is treated usually by the people themselves, with large and increasing doses of powerful purgatives, which while they relieve for the occasion, only further aggravate the cause, by draining and exhausting the already overtaxed bowels, and besides being another factor in weakening the digestion, leaves an after condition of sluggishness & congestion in the lower bowels, favourable to the development of the various forms of Piles, from which so many also suffer.

The other symptoms are those usually to be found in such cases, comprising mainly, Headache, Flatulence, Pyrosis, Gastralgia etc. The appetite is frequently bad, and occasionally unusually good, and in the latter case the constitution is generally most obstinate. As regards loss of appetite, it is interesting to notice how seriously this symptom is looked upon. — a man who has lost his appetite, especially for Pork, is generally thought to be in a very bad way.

These symptoms vary in different people. sometimes, it is dull persistent Headache alone, some times, flatulence, sometimes gastralgia, the latter occurring in all degrees of intensity, from a mere sensation of discomfort, to violent pain, and by no means always follows ingestion of food. Headache & Gastralgia.

often occur alternately in the same person, and less often are found present together at the same time. The tongue may be soft, flabby, and coated with a yellow or gray fur, or it may be dry & fissured, or moist, red, and but for the intensity of the latter, almost natural looking. Dryness of the mouth and throat is frequent, and relief is sought by drinking copiously of various bland liquors, - a custom which only further retards the stomach digestion, and increases the discomfort. Decay of the teeth, is early, and very common, causing imperfect mastication, and hurried bolting of the half chewed food. Persons who have suffered in this way for some length of time, not uncommonly carry with them, such external evidence of their complaint, as is often very characteristic. Their countenances appearing dull and heavy, their complexion pale and dirty looking, their conjunctiva injected and yellow, and their whole manner, indicative of languor and infirmity; the breathing is shallow, and the heart feeble, slow, irregular, and easily palpitating on exertion or excitement. Such a patient feeling his condition of weakness, and having found his salts and pills of no avail, consults his physician, gets more or less restored, and returns to his customary mode of living; only again soon to require the same assistance. Although such typical cases are common enough, a large proportion suffer less acutely, and often become so accustomed to their everyday symptoms, as almost to overlook them, until an attack of more than usual

severity arrests and awakens their attention. It is easy to find those who have suffered in this way for years, and prescribing for themselves, when they think fit, such remedies of the purgative class as may happen to be most conveniently at hand.

Long-standing digestive derange-ments tends as a natural consequence to debility, from failure on the part of the digestive organs to supply nourishment, healthy in quantity and elaboration, to the system, and debility is not without its results also.

It is interesting to observe the preservative effect, which occupation, when of an active kind, appears to exercise on the digestion. Those whose work, as in the case of agriculturists and fishermen, necessitates an almost constant presence in the open air, suffer in much less proportion, than do those whose work is within a small compass, indoors, or calling for less expenditure of their physical strength. In both cases the diet is nearly the same, but in the former class, the abundant inhalation of fresh air, acts on the one hand, as an invigorating tonic, whilst on the other hand the rough constant labours by preventing accumulation, and aiding the elimination of waste products, renders the system always ready to receive fresh supplies from the liver which is thus kept actively employed to meet the demand. The result is therefore a strong and active digestion which succeeds in overcoming the massive variety of the food consumed. In the latter class there is neither the advantage of pure air, nor the invigorating exercise, and it is amongst this large class that

indigestion and physical weakness is most common.

Amongst young women especially of the domestic class, Chlorosis is very common, and in many cases accompanied by symptoms of gastric disorder, more than can be accounted for by the anæmic condition, which is really a condition of mal-nutrition, resulting from inability on the part of the digestive organs to extract the requisite amount of nourishment from the food supplied to them, and from want of proper exercise and fresh air.

In such cases Iron tonics are not always necessary for restoring health, - a light nourishing diet at regular intervals, open air exercise and the use of some remedy, medicinally, to restore the exhausted digestive function - will frequently be followed by excellent results.

In prolonged indigestion, the nervous system must undergo deterioration in common with the other tissues and much of the palpitation, asthma, shortness of breath, headache etc. common in these cases, may be to a large extent the result; and further, as a healthy innervation is essential to healthy digestion, diminution of nerve power, will cause a corresponding diminution in the digestive activity. Hence

I have found that in many such cases, ordinary stomachic remedies fail to relieve, but for a time, whilst a tonic such as Arsenic, Quinine, or Strychnine, will often bring about most satisfactory and lasting results.

Dyspepsia, therefore in all its varieties, ranging from an occasional biliousness, to almost hopeless chronicity, is a

complaint from which this community largely suffers, and is indeed the most common of the ailments to which it is liable; and moreover in like proportion, the co-exists, a low type of health, which must be regarded as the general result.

I shall now endeavour to indicate the connection between these primary conditions, and the complaint next in order in point of frequency, namely, Colds, or Catarrhs.

Winters are probably not more severe here, than in other districts, but in Spring, the coast is swept by penetrating East winds, which last usually for several weeks. It is during this period that Colds and allied affections are most prevalent. Winter cold is tolerably well borne, but Spring cold, produces havoc among the aged, and unbroken Catarrhs and chest affection among the more able.

In a small town, one has good opportunities for observing individual tendencies, in many of the habits, as to certain ailments, and it is not difficult to perceive, that those who suffer most from sluggish or bad digestions, are the ones who also suffer most from colds: whilst those with active digestion not only suffer least, but quickest throw them off. — As an instance of this there is a family in this town which unlike its neighbours, has for long adopted the abundant use of Oatmeal, to the exclusion of such indigestibles as are generally in use: — as a consequence its members are robust and in the constant enjoyment of excellent health, rarely requiring the services of a medical man, and though

an occasional cold may develop. It is trifling and soon gone; in all respects of health, it numbers form a pleasing contrast to the generality. It is therefore more than probable that the low vitality, or in other words impoverishment of the system, resulting from erroneous diet, and bad digestion, largely accounts for the frequency and severity of colds and chills, and their more serious consequences.

Deterioration or weakening of the nervous system has already been mentioned, as doubtless taking place in common with the general loss of tone, resulting from prolonged dyspepsia. This is no doubt, in great measure owing to a subdued anaemia, but it may also to some extent be caused by the presence in the blood, of imperfectly elaborated, and therefore injurious products of digestion, producing a low continued irritation, of certain nerve centres, and the combined effect of the two causes, may account for many of the nervous symptoms common in these cases, such as headache, palpitation, & irregularity of the heart, ~~inconstancy~~, asthma etc. and the general feeling of languor and disinclination for exertion, bodily or mental.

A nervous system therefore thus weakened and irritated, is little able to resist impression from without and such a person will readily be seized by colds or chills. Such a person moreover may carry a cold even for weeks, and remedies employed for its removal produce little effect. Whilst a tonic treatment, by stimulating the nerve energy, will after a speedily enable the patient to throw it off. —

Colds, as ailments, occur in two varieties or classes, each characterized by special symptoms. In the commonest and simplest form, as it occurs in a person otherwise in good health, there is perhaps first of all sneezing, stuffiness or dryness in the nose, a sensation of fulness in the head, and tightness or constriction in the chest, alternate sensations of heat and cold, & possibly a slight elevation of temperature; usually before long reaction sets in manifested by more or less abundant nasal and lachrymal discharge and perhaps some perspiration, with speedy relief to the various feelings of discomfort.

The other variety however, essentially differs: the chill is followed by little or no erysja, but the person experiences a feeling of languor and exhaustion, with stiffness, soreness and aching in the limbs and other parts, & sometimes a columnar oedema in the lower limbs: there is frequently also a dull heavy pain in the head, a sense of chilly discomfort which causes him to sit close over the fire, sleeplessness, loss of appetite, coated tongue, abdominal pain, and high coloured urine with more or less deposit.

These symptoms may terminate in one of two ways: either they may gradually pass off, leaving the person weak and exhausted for some little time, and easily affected by further slight chills: or on the other hand they may culminate in a Bilious attack, accompanied by severe abdominal pain, vomiting, & often more or less diarrhoea, and occasional slight tingling of skin and conjunctiva, followed when the attack

subsides, by an appearance, or at least considerable amelioration of the previous symptoms, resulting immediately from the chill; such a termination closely corresponding in final result, to the relief following the nasal flux of the ordinary head cold. To account for the development of two classes of symptoms arising from the same cause, and yet differing so widely, there is first of all the nature and severity of the chill. Simple Catarrh is such as usually follows a sudden change of temperature, as in emerging from a warm apartment, into the open air, or from facing a cold wind. — The more severe form is generally the result of prolonged exposure, especially when this is accompanied by wet or damp, and inaction of the body. The former chill generally produces its results within a few hours, and soon passes off. — the latter may not till for a day or two, and if not carried off by a bilious attack may persist for a considerable time. It has already been described how an exhausted or at least weakened nervous system, may influence the readiness towards taking and losing colds. A chill therefore attacking a person in the full enjoyment of health will not likely effect more than a simple catarrh; but let there be given a person of the kind already described, dyspeptic and imperfectly nourished, and let such a person be subjected to a chill or wetting & especially a prolonged one. Then in a remarkable number of instances, the result will be the Run-down condition, in which from the symptoms it is evident, that the liver especially, and

and the other abdominal organs are the parts which suffer most severely. This most likely of a nervous reflex nature resulting from the primary external chill, — the liver in such cases, owing to its distended condition, being readily selected, just as the lungs or kidneys might be, were there any predisposing weakness there.

Between the two varieties of colds, described, there are of course many gradations, the degree of severity depending upon the condition of the liver, and the activity of the nervous system.

This part of the subject is intimately connected with the observations I have now to make on the subject of Rheumatism. It has been attempted thus far, to indicate the relation between Indigestion, its resulting state of marked impoverishment, and colds of different degrees of intensity, and as Rheumatism is also a frequent complaint, and occurs so often in conjunction with one or both of those others, it is natural to seek for the cause of the association.

I have said that Rheumatism may occur in conjunction with one or both affections. It is certain that Rheumatism frequently results, even in a person in the best of health from a chill alone: but is it not possible to have it developed even acutely from a process of self-poisoning, resulting from absorption into the circulation of substances formed in the intestinal canal and liver, when the functions of those organs are in a state of derangement? In other cases again both causes may be at work, the chill seizing the person, as I have endeavoured to indicate

how it may readily do, when there is already present, disordered digestion, an exciting cause being thus added to that already existing.

That Rheumatism may be developed during liver and gastric disorders, I have evidence derived from cases of the kind, as there is also evidence that a chill attacking an individual, suffering from such disorder, is frequently followed by an attack more or less acute.

The terms - Indigestion and Dyspepsia, I have made use of, more as a matter of convenience, to express a condition of the digestive organs, in which in many cases the liver is the principle cause. The term is a popular, rather than a scientific one, and expressive of a collection of symptoms which are believed to originate in the stomach, and of course quite apart from similar manifestations indicating, or proceeding from organic disease.

The following few cases, are instances of many such where Rheumatism occurs under the conditions first mentioned.

(1) Two years ago I attended a man of about 50 years of age, suffering severely from functional disorder of liver and stomach, with the usual symptoms of foul tongue and breath, constipation, flatulence etc. During the course of his illness, he suddenly developed in several joints, a sharp attack of sub-acute Rheumatism, with swelling and great pain. He had not been outside for several days, and in no way could a history of chill be obtained. Since then I have attended him in several such bilious

disarrangements, and lately in one such lasting several weeks, better and worse. On every occasion the same attacks of Rheumatism has been passed through, one attack of several occurring during the last illness, closely resembling the acute form. In all attacks, a free purge gave rapid and great relief, followed by a few doses of a Salicine compound, which removed what remained of the harm.

(2) R. H. age 40, was suffering in his liver and stomach from the cumulative effect of a free diet of pastry. He was making satisfactory progress under appropriate treatment, when contrary to the caution given him, he went out for the first time on a cold raw day. On returning he complained of stiffness in the limbs, and in a few hours, developed in several joints and fascias, a painful attack of sub-acute Rheumatism. In this case a cold or chill was evident.

(3) A girl, age 21, had suffered from indigestion and recurrent colds, for several weeks, and had in consequence lost strength. An attack of Quinsy, confined her to the house, and this was followed after a week's interval, by acute Rheumatism, affecting nearly all the joints, & with high temperature, sweating, & prostration, leaving behind a slight milky crust, which however afterwards disappeared.

(4) a Boatman, of sedentary habit and always more or less dyspeptic and constipated, was passing through one of his periodical acute attacks, when without any exposure to cold, he was suddenly seized

with a well marked attack of the subacute form, affecting most of the joints, fascia, and muscles, with copious perspiration, high temperature etc. - the attack lasting for about a day.

(5). A young woman, age 23, delicate and of a weak constitution, had suffered for some months, from loss of appetite, confined bowels, and gastric symptoms with resulting anaemia, and increasing debility etc: a swelling and chill combined, brought on in a few hours, the usual symptoms of an attack of the acute form of Rheumatism, during which an Acute Point developed and remained.

(6) A.S. a dressmaker, and much indoors, had for some months, suffered from atonic dyspepsia, with resulting impoverishment of the system, and chronic pains of Rheumatic nature, in wrists, fingers, elbows & knees. These latter had been carefully treated with Salicine preparation, previous to my seeing her, but with only slight improvement. Under a tonic treatment of Arsenic and Nutt's Tonic, the gastric symptoms speedily improved, and in about three weeks, the Rheumatism had entirely gone.

(7) J.H. age 35, had for more than a year, been the subject of atonic dyspepsia, with severe gastralgia, & sour eructation, ravenous appetite, distension after food and emaciation. Within the later few months, he had also, suffered severely from Rheumatism, in the lower limbs, varying in intensity, and made worse by heat. A fortnight's treatment, with Arsenic and Strychnine removed the dyspepsia, caused regular action of the bowels, and soon after the Rheumatism disappeared.

Cases of confirmed Chronic Rheumatism resemble each other so nearly, that I do not consider it worth while quoting such in detail. They are however of every day occurrence and in almost all of them there exists long-standing liver and stomach disorders more or less evident, and when attention is drawn to those symptoms, such patients frequently say, that when their stomachs are better, their Rheumatics are better also.

The foregoing cases have been quoted as illustrations of Rheumatism in different forms, occurring coincidentally with or following gastric disorder. In all cases this existed primarily, and for longer or shorter time, being brought on chiefly, if not altogether by improper feeding. In some cases the Rheumatism developed apparently spontaneously, while in others it was clearly the result of a chill, acting as an exciting cause. In the more acute Salicine in the form of the Salicylate of Soda, preceded when advisable by a free evacuation of the bowels, acted quickly and well: in the more chronic it had only a slight effect, the symptoms disappearing as the digestion, under a tonic treatment improved. In the common confirmed, chronic cases, it very rarely has any beneficial effect at all. Constipation was prominent in nearly all.

It would be hazardous to assert that Rheumatism was a frequent result of a vicious state of the liver and bowels alone, but the occurrence of such cases as have been described in which so intimate connect-

now existed between the two, suggests some interesting points for consideration.

Headache, languor, and various nervous sensations have already been noticed as symptoms of disordered liver and digestion, and described as partly of reflex nature and partly from absorption of abnormal products of digestion, acting as irritants on the nervous system. That absorption is an actual occurrence, is evidenced by the yellow conjunctiva and mummy skin common in dyspeptics, and still more by the deeper staining of jaundice.

In normal digestion, the Bile secreted by the liver acts partly as a digestive agent, partly as a stimulant to the action of the bowel, and partly as an antiseptic and deodoriser. In deranged digestion, both the quantity and the quality of the bile may undergo such alteration, as sensibly to interfere with its desirable and effective action; at the same time in many such cases the digestive function of the stomach itself, is from continued irritation and resulting exhaustion, considerably reduced. Food, therefore in a half prepared state, enters the bowel, where it meets with the bile, diminished in amount, and deficient in quality or composition; and by which it is only imperfectly, or inadequately transformed, In this condition the mass moves slowly onwards, and readily undergoes fermentative or putrefactive changes, giving rise to much of the distension and flatulence so common. The necessarily noxious materials absorbed by capillaries and lacteals, are conveyed to the liver where they are partly transformed into other substances, partly

pass into the circulation, and one partly returned into the bowel, along with the bile, to be again absorbed as before. Under such conditions if continued any length of time, the result to be looked for, would be, so far as the liver itself is concerned, a further impairment of its functions owing to the constant circulation through it, of a bile loaded with impurities, and also from accumulation in its cells of those imperfect products. Besides its function as an elaborating and secreting organ, the liver also acts as a guard or protection, by which the system is preserved from the entrance into it, of the crude materials derived from the intestine, but this important function being like its others, interfered with, those substances may now gain easier access to the circulation only partially, if at all, having undergone metabolic changes, in their passage through the organ. Independently of this moreover, such substances ~~may~~ may pass directly into the circulation from absorption by the capillary vessels of the intestine, as it is believed they do in normal digestion, so that from two sources, the circulation may be rendered vitiated.

Is it not therefore possible that in such a condition as this, in which the blood is charged with impurities, besides there being ample cause for many nervous and other general symptoms to show themselves, there may exist among those impurities some poisonous substances, which by their specific action upon certain nerve centres, may be the

means of producing an attack of Rheumatism and this quite independently of any chills or colds. The development of the Rheumatic phenomena, marks a point at which the balance previously sustained by the activity of the eliminative organs, especially the kidneys, fails, the rapidity of the accumulation overcoming that of elimination, and a form of poisoning of the uraemic system resulting.

On the other hand an exciting cause is frequently to be found in a chill, which readily attacking the overloaded liver, impairs still further its functions in dealing with the products of digestion, and causes the circulation to become quickly flooded, with the crude or imperfectly elaborated materials, which up to this time it had succeeded, to a considerable extent at least, in preventing. The same chill may also affect the kidneys, already probably weakened by the uricants constantly passing through them, and a block occurring here, will be immediately followed by retention in the circulation of those uricants derived from the liver, and also of effete matters, resulting from the natural process of tissue changes throughout the body.

In the former case the exciting point is reached by the gradual failure of elimination to keep pace with the formation, in the latter the balance is suddenly destroyed, by the double effect of the chill upon both liver and kidneys, and the invasion of the uric centres thus precipitated.

In what special way this poisoned state of the blood should give rise to a Rheumatic seizure, it is difficult to say decidedly, - but the increased temperature of

body, sweating, redness, swelling & pain in the joints and fasciæ, point to temporary paralysis of the vaso-motor and sympathetic systems, and this opinion is held by different writers on the subject; according to Dr. Latham, the nerve centres chiefly affected, are those centres in the spinal cord, from which originate the nerves supplying the various joints, and which containing both sensory and vaso-motor fibres give rise to symptoms there, corresponding to the functions peculiar to each.

It is also difficult to decide what the real nature of the poison is, various theories having at different times been advanced. Lactic acid, was supposed by some, Bacteria or allied organisms by others and Uric acid was for long regarded as the cause. Recently Dr. Latham of Cambridge has revised this uric acid theory, but under a new aspect. His theory is remarkable for its ingenuity, and the apparently conclusive nature of its inferences. Uric acid he believes to be the poison, and is produced in the system from the imperfect metabolism of Glycerin occurring chiefly in the liver, but to a less extent also in other parts, & resulting in the blood becoming charged with this substance to excess; this theory being further supported by his investigation into the chemical and therapeutic action of Salicylic Acid. But there are some important points which he does not mention, and without evidence of which, the theory is not altogether acceptable, and one of the most important points, is that the blood in Rheumatism is alkaline to reaction, as it is in health, a condition

not to be looked for, were uric acid present in so large amount, and further neither uric acid nor Lactic acid, have been discovered in the blood in any case of Rheumatism. The sweat certainly is acid, but the sweat of health is also acid, and the urates so abundantly present along with uric acid in the urine, may be a kidney-formation though far from being qualified to dispute so eminent an authority as Dr. Latham, there are nevertheless some important points wanting, to make good the theory, and there remains good opportunity still, for further suggestion and observation.

Considering therefore the uncertainty which, to a large extent still exists, respecting the real nature of the poison, it is more than probable that the irritant, whatever its precise and chemical nature, is a substance or more likely still, substances, possibly of the nature of an alkali developed under particular circumstances, in the alimentary canal and liver, and that thus alone in some cases by gradual accumulation in the circulation, till it reaches a certain point, may be the means of causing a seizure; or in other cases, an exciting cause such as a chill, being superadded, a sudden rather than a gradual accumulation is produced, the result in both cases, being an invasion of certain nerve centres and a paralysed emanation of the vaso-motor system, the effects of the disturbance, being manifested in the system generally, by fever more or less, and in the joints by swelling, redness and

pain, such as might be expected to follow increased blood supply to those structures, and which if from any cause prolonged, will lead to further change, in the direction of new formation of a nuchal character, not only in the joints, but in other structures as well.

The uric acid theory of Dr. Latham will be referred to later on, when the subject of treatment is discussed.

The foregoing remarks on the causation of Rheumatism refer only to those cases in which with or without a chill, the disease develops in the presence of a pre-existing disordered state of the digestive organs; but it is certain that a person with a perfectly healthy digestion, may be attacked by Rheumatism, and from no other evident cause than a chill. In such cases, congestion of internal organs, by nerve reflex, will follow the surface chill, and the organ, which from its spongy, elastic, and passive nature, would be likely to suffer most, or at least, severely, is the liver. The congestion thus suddenly produced, may result in a paralysed condition of its various functions. Its preservative action being thus removed, entrance into the circulation will be afforded to the natural excreta, which even though natural, and quite apart from any any intestinal fermentation or decomposition, may still, when entering the system thus directly, be poisonous, and even though elaborative changes had to some extent been effected, it is possible that such imperfect changes, as would result, might even add to their poisonous properties. Besides this the liver doubtless has a chemical

action peculiar to it, possibly for the formation of ferments necessary for the transformation of the elements of digestion, and this action being like the others, deranged, certain abnormal chemical substances of a poisonous nature may be evolved which also will enter the circulation. It is after this manner that the incomplete metabolism of the Glycogen of Dr. Latham's theory, results in the formation of lactic acid.

These various substances therefore, resulting from the suspension of the liver function, may contain, or perhaps by combination form, some substance or substances of organic nature, which suddenly entering the circulation, may produce a form of poisoning of the nervous system, or some of its important divisions, giving rise to the special general and local manifestations characteristic of Rheumatism, in its acute or subacute form.

Chronic Rheumatism, is frequently a result of a former acute attack, owing most likely to failure of the nervous system fully to recover itself.

But numbers of cases, and indeed the majority of those coming under my notice so frequently, have no history of any former acute attack. — the complaint at first slight, gradually assuming a more or less permanent condition. Though such chronic cases occasionally occur in comparatively young persons, the majority are later in life when nervous energy is failing. A large proportion of these possess sluggish livers, the result.

of prolonged bad feeding, and other indirection of diet, together with the repeated colds, to which such are liable; the condition of the liver being rendered now more apparent, when the more active part of life is past. Most of them also suffer from constipation, and indulge largely in "Bills"-patent pills etc: content with such relief as those afford. It is also frequently to be noticed, that such patients have their symptoms considerably assuaged, if from any cause a so called "Bilious" or "Stomach" attack should occur, and also that a free evacuation of the bowel, however produced, is often followed by a temporary alleviation of the pains. The urine occasionally deposits a sediment of matter but more frequently it is clear, almost to normal and sometimes even pale. These facts seem therefore to indicate a cause, in some measure similar though in a much more modified degree, to what I have imperfectly endeavored to show, may result in one of the more acute forms. In those chronic cases the liver is doubtless often in a loaded or heavily congested state, and its functional activity, from a combination of causes, reduced. The kidneys also at this period of life, frequently show signs of degeneration, or at least have lost much of their former activity. The result of these two factors therefore, is a vitiated condition of the blood, on the one hand from impure matter derived from the alimentary canal and the liver and on the other hand by imperfect or slow reparation of those, and the waste matter of the tissue

by the kidneys. A more or less constant irritation of the nervous system is the result, and is evidenced by the pains and stiffness in the joints, fasciae and muscles. The general lack of tone or even depression, and the susceptibility, to changes of temperature.

In such cases, the Saline compounds, more particularly, the Salicylate of Soda, I have found as a rule fail to produce any marked benefit, though in some cases where the pains are more severe at one time than another, it often does relieve for the time.

The treatment I have found most successful is the use of such means, as will relieve and restore as far as that is possible, the liver, and strengthen the nervous system generally. This consists in the use of light digestible food, with strict avoidance of all indigestibles. proper attention to the bowels, including an occasional mercurial purge, and open air exercise.

Of medicines, the continued use of wine tonics, especially Arsenic, Quinine and Strychnine, and in cases where there exists also, Anæmia. - Iron preparations

Chronic congestion of the liver, tends to induce hypertrophy and thickening of its tissues, and in such cases, should the patient's strength admit, the prolonged use of Iodide of Potassium, or the insertion of a mild mercurial preparation, combined with the tonic treatment, occasionally give good results by promoting a free flow of Bile from the liver, absorption of thickenings, and increased activity of the eliminatory organs. It is also of

benefit to provide a free action of the Kidneys and skin. by the use of diuretics, Salines, and Baths. the latter however in a country district, are not easy to procure especially amongst the working classes. Cases however of this variety of Rheumatism, in which medication of all kinds fails, are not unfortunately rare, and though most cases, can with perseverance be, if not cured, at least considerably improved. by the treatment indicated, there are still many who remain in a crippled condition, better and worse with the weather, possibly for the remainder of their lives.

It is usual to contrast the symptoms of Gout, with those of Rheumatism, but I do not consider it ~~necessary~~ necessary to enter into such a discussion, as Gout is a very rare affection, amongst the class which suffers most from Rheumatism; moreover Gout being as is generally admitted, the result of an accumulation of Uric Acid in the blood, is in virtue of the nature of its causation, already sufficiently distinguished.

The treatment of acute and sub acute Rheumatism presents many points of interest. Formerly the means used principally, were, Calomel, Opium and bloodletting, separately or all three in combination, and an interesting account of which is given in Graves' Clinical Medicine, the results of such treatment, according to him, and other authorities, being tolerably successful. at a later date the Acid theory gave rise to the method of treatment by Alkalis.

then much in fashion, and still to some extent employed, but this, and various other methods from time to time brought forward, have in turn been supplanted by the modern treatment by the Salicine compounds.

To commence the treatment of an acute or subacute case, with a mercurial purge, where such can be employed with safety, is a step, which frequently I have seen followed by excellent results, both in reduction of the temperature, and lessening of the pain. In whatever way it may act on the liver, it causes an abundant pouring out of fresh bile into the duodenum, soon to be followed by a free evacuation of the whole bowel.

Dr. Rathson attributes the good effect of purging to the removal, along with the bile, of a large amount of Glycocin, which otherwise remaining in the liver, would be changed into Uric acid.

On the other hand, if the malady depends on the absorption of septic materials from the poisonous contents of a loaded bowel, or of abnormal products of a paralysed liver function, it is natural to conclude, that a free evacuation, by removing foul contents from the bowel, and stimulating the liver function, should remove to a considerable extent the disease also, and in favour of this latter view, is the fact, that the cases in which those good effects of purging, are most manifest are those in which the gastric symptoms are most apparent.

The modern treatment by Salicine preparations, is in

most, though not in all cases, very successful in its results: its exact therapeutical action being however rather uncertain. According to Dr. Latham it acts by combining with the Glycerin, and thus presenting the transformation of this substance into Uric Acid; this being in accordance with his theory Biny, attributes the curative results of the internal administration of Salicylic Acid to three properties; (1) Resistance to decomposition. (2) The probable direct arrest of certain fermentive processes, which we must regard as the exciting cause of various diseases. (3) Its harmlessness, even in large doses. —

Dr. Lauder Brunton describes it, in the Salicylate of Soda form, as an excellent cholagogue. "Increases greatly the quantity and rendering very fluid the consistence of the bile", and Prof. Rutherford mentions the same drug, as "a certain hepatic stimulant", never failing to excite the liver within "half an hour". In practice I have used it in cases of Jaundice, with considerable success, and have also found it to possess excellent anodyne and sedative properties, and in moderately large doses even to produce refreshing sleep. In whatever of the three principle forms, whether as Salicylic Acid, Salicin, or Salicylate of Soda, the action in Rheumatism is much the same, the most powerful form is the acid, but both Salicin and the Salicylate, are converted into this form in the system, the former by first becoming Saligenin, this being further oxidised into the acid, the latter, probably by meeting with the acid of the stomach, undergoing decomposition.

in which the alkali is destroyed, and the acid set free. In general use the Salicylate is the most convenient.

The curative action, therefore of this drug in Rheumatism, may be primarily by arresting fermentation and decomposition in the stomach and bowel, the same antiseptic action before long extending to the liver. Its stimulating or restorative influence upon the latter organ is soon followed by a free flow of bile the antiseptic properties of which contribute to render the bowel contents still further innocuous. — this action on the bowel and liver being sustained by virtue of the circulation going on between the two during the digestive process. The primary effect therefore of the administration of the drug, is by rendering the bowel aseptic, and thus preventing the further absorption of poisonous material, and further by stimulating the liver functions, enables the organ to throw off substances accumulated in it, and to resist the passage through it, into the circulation, of matter coming from the bowel. whether such be of the poisonous nature referred to, or, where the liver alone is affected, the bowel being healthy, — substances natural, but crude. Absorption

into the circulation is followed immediately by the same antiseptic action being exerted on the vitiated blood, an effect which is the longer sustained owing to the slight attraction it undergoes during its passage through the system, and to the slowness of its elimination, by the kidneys reappearing, according to Binz, as late as 48th

hours, after its administration, partly as such and partly as Salicylic acid, in the urine. Further, its anodyne or sedative properties, relieve probably to considerable extent the acuteness of the pain. This taking place by virtue of the Physiological action, it is known to have, on the nervous system, as evidenced by the ringing in the ears etc. so common. But this sedative influence may have a further effect. Where there is disturbance of nerve centres from any cause there will probably also be disturbed functions of the organs connected with them. In some forms of dyspepsia traceable to anxiety or excitement, I have found Bromide of Potassium, by its calmative properties, very successful in removing such disorder. The Salicylate therefore, by its sedative influence, may materially assist in restoring the disturbed liver functions; irritated centres, under its influence, requiring much of their activity.

To describe the curative effect of the remedy in this way, namely, primarily by an antiseptic action on the contents of the bowel and liver, and also products of the latter. Stimulation or restoration of the liver functions, a sustained antiseptic action on the irritated blood, and a sedative or anodyne influence on the irritated nerve centres, is to express what is quite in keeping with the properties, which skilled authorities have by their investigation, assigned to it, and what is also in accordance with and even in support of opinions I have ventured to

qui expression to, of the causation of Rheumatism

The treatment by alkalis, probably does good in those cases where success is attributed to it, by neutralizing the free acid of both stomach and bowel, and in this way removing a cause which would exercise a binding or restraining influence, on the secreting and metabolic functions of the liver. Alkalis in large doses have also a depressing action on the nervous system, and cause weakening of the contraction of the heart. They may thus also to some extent succeed in reducing the temperature and in diminishing active blood supply, to those structures where mixed inflammatory changes are usually found, in this disease. If the uric acid theory were correct, would not the use of an antagonistic & solvent such as Potash, be attended by more striking results? Concerning the theory of uric acid, the following is an extract by Dr. J. Mitchell Bruce, from Quain. —

"The blood has frequently been subjected to chemical analysis, but without any positive results of a pathological kind. The reaction of the Serum Sanguinis is alkaline, as in health. The fibrin has been said to increase in amount to 1 per. cent. instead of .2 per. cent. The amount of urea is not above normal, neither uric acid, Lactic acid, or any other abnormal principle has been found in the blood, during an attack of acute Rheumatism".

The chemical reaction of the blood in health is

alkaline, the sweat and urine are on the other hand acid, and moreover both sweat and urine, contain substances, not found in the blood and indeed widely differing. These facts therefore suggest the conclusion, that the secreting mechanism of the skin and kidneys, besides having an eliminating function, has also a chemical or metastatic function, by virtue of which substances undergoing elimination, may be converted into substances of a different nature and uric acid, especially in so far as the kidneys are concerned, may be one of those new products. This argument may be objected to on the ground that following removal or obliteration of the kidneys there is an accumulation of uric acid in the blood. Both uric acid and urea do exist in small quantities in the blood of health, probably derived from the spleen, where it is said, an accumulation of uric acid exists, the result of tissue oxidation, and it is only reasonable that the removal of the principle means of elimination should be followed by accumulation in the blood of this amongst other substances, but the result of such experiment is hæmia, not Rheumatism, and it is quite as likely that this proceeds from retention of the other effete substances, which exist in greater amount, than either uric acid or urea. If then in health, uric acid may be thus formed, as several authorities maintain it is formed, by chemical changes in the kidney; under certain depressed condition of the nervous system, such as occur in Rheum-

ation, this chemical or metastatic process, may go on much more rapidly, resulting in the abundant deposit in the urine so often seen, of the salt itself, or more commonly, of its compounds — urates.

In the absence therefore which exists of clear experimental evidence, of the actual presence in the blood of excess of uric acid, and an accurate knowledge of the manner of its formation, in any case, is it justifiable to assume, that this substance is the cause of Rheumatism, even though external appearances such as the urine presents, may to a considerable extent encourage the belief? What the real nature

of the actual poison is, I am not in a position to give any clear and substantial evidence, and considering this fact, it may possibly be deemed presumptuous, to attempt a criticism of, or to make objection to theories propounded and held by some of the best authorities; but from such observation as I have been able clinically to make, as a practitioner, and from the study of the theories and investigations made by others on the subject, I feel myself free to arrive at the conclusion, that the uric acid theory, is but little substantiated, except as it theory and that the actual cause of this still unclassified disease, is not yet ascertained.

The general practitioner has this advantage, over the experimentalist, that he has frequent opportunities for bedside observation, of the disease in its various phases, and of the effect of his treatment, with the instruction to be gained therefrom, besides

in many cases, being beforehand and even personally acquainted, with his patient, his mode of life, and his tendencies or predispositions, to certain kinds of ailments. Much information of a ready hand may thus be gained, and a practical knowledge is of more importance to him, than a fine wrought theory.

It is not therefore without reason, that in practice I have come to regard Acute Rheumatism as of the nature of a fever, almost as much so, as is Scarcating, or Aque, originating from an accumulation, or in some cases a naked, process, of self-infection, and in which as in all fevers, the nervous system plays an important part; and further that the poison or virus, probably of an alkaloid nature, is derived under certain circumstances, directly from the alimentary canal, or in others from the liver, owing to an impeded function in the latter organ, arising in some instances from causes already for some time at work within the organism, and chiefly to be found in a vicious dietary, or from causes from without especially chilly affecting primarily the sensory nervous system, and by internal reflex action producing the same result. The chronic or less developed form being the result of the same processes, modified, and to which by their continuance, the nervous system becomes habituated in a morbid sense, so as not infrequently to resist all attempts at its restoration.

In conclusion: I have endeavoured, I fear but imperfectly and laboriously, to describe the relation which

I have every reason to believe not only exists, but exists closely, between Indigestion, Colds, and Rheumatism, three disorders, to which my attention, by the frequency of their occurrence, has naturally been drawn. The facts stated, and the opinions expressed concerning them, whatever their worth, being derived from observation extending over more than two years. I have attempted to describe in detail the weakening effects of Indigestion upon the system, the results directly attending such, and further the liability of those with exhausted nerve energies to chills and colds, and lastly, the influence which those two ailments, separately or in conjunction, have on the development or causation of Rheumatism. In composing this paper, it has been my aim to state the facts contained, according as I have observed them in Practice and from a practitioner's point of view, and though I may have gone aside, in attempting to formulate a theory to account for Rheumatism, it was for the purpose of more clearly indicating its relation to the other two ailments described. That much of what I have written may be ordinary and even commonplace, I am fully prepared to admit. But that still there may be found in this Thesis, that which may fulfil the purpose for which it is written, is the only hope which I have the courage to entertain.