The rheumatic diseases (so called) : with original suggestions for more clearly defining them / by Hugh Lane and Charles T. Griffiths.

The Rheumatic Diseases So Called

Lane & Griffiths

THE RHEUMATIC DISEASES

(SO CALLED)

FRONTISPIECE.

(*With* Dr BRABAZON'S *kind permission*)

HANHART IMP.

THE RHEUMATIC DISEASES

(SO CALLED)

WITH ORIGINAL SUGGESTIONS FOR MORE CLEARLY DEFINING THEM

BY

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"*NON EST VIVERE, SED VALERE, VITA*"

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To

HENRY HENSLEY, M.D.,

Senior Physician to the Royal Mineral Water Hospital, Bath,

This Book is Dedicated

WITH FEELINGS OF WARM REGARD,

IN GRATEFUL RECOGNITION OF HIS MANY KINDNESSES,

AND

IN ACKNOWLEDGMENT OF THE INESTIMABLE ASSISTANCE

HIS UNIQUE EXPERIENCE IN RHEUMATIC DISEASES

HAS BEEN TO THE AUTHORS.

PREFACE.

SINCE the study of Chronic Rheumatoid Arthritis has been brought to the front by so many careful and accomplished observers, we feel that there is a widespread wish to advance, as much as possible, investigations which may explain many, at present, doubtful points.

Therefore, since rare opportunities have been placed in our way for personal clinical research in this particular branch of the study of medicine, we hope that the following will lend some aid to the successful furtherance of an inquiry at once so intricate, interesting, and important.

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November 23rd, 1889.

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THE RHEUMATIC DISEASES

(SO CALLED),

With Original Suggestions for more clearly defining them.

CHAPTER I.

Introduction.

It may be felt by the reader that this subject has been fully threshed out,—truly so, if the threshing has been productive of some excellent results in so far as acute rheumatism is concerned; but when we come to chronic rheumatism, what do we find?

Who is there who will not admit that, in so far as chronic rheumatism, rheumatic and rheumatoid arthritis go, the threshing has only exposed the want of knowledge which still overhangs

their exact relations, and the ever-changing ideas as to their causes and treatment?

We hope, then, that it will be unnecessary to apologise for investigating a subject which still evokes so many opinions, and, consequently, indicates at once the unsatisfactory knowledge which we have of it.

Whilst the question still remains an open one as to what constitute the differences between chronic rheumatism, chronic rheumatic arthritis, chronic rheumatoid arthritis, and chronic gout, there ought to be no compunction in embarking upon a description of these differences, after the opportunities which have been obtained from a wide field of investigation, afforded by the evidences of about 3,000 such cases.

Fortunately all, or nearly all, of these cases have been under supervision in such a manner as to enable us to see the daily progress through a period averaging about six weeks. We mention this, for it is difficult to bear in mind that an ordinary case of chronic rheumatism should be the means of calling forth such continuous observation, and we hope that it will strike the reader with due significance, if this fact be borne in mind.

So many theories have been advanced, that the reader is left to pick out for himself what he considers to be the correct, or as nearly as possible correct solution, to render himself approximately satisfied as to what these differences really are.

One method of our procedure has been to investigate these cases by obtaining voluntary statements from the patients themselves. These statements have proved to be so similar to one another, and at the same time so different from the corresponding accounts generally given in writings upon the subject, that the following work has been brought forward, with the hope that it will explain some of the at present disputed points as to what constitute the differences, or ought to constitute the differences between these disases; and the result aimed at is to arrange them for facilitating diagnosis.

If there is one word in the practice of medicine which more frequently does duty for faulty diagnosis, or rather which seems to have a distinctly comprehensive meaning, it appears to be the word "rheumatism."

Rheumatic arthritis, rheumatoid arthritis, osteo-arthritis, arthritis deformans, chronic gout,

are terms which have done duty for the term rheumatism; and, on the other hand, the term rheumatism is made to represent these conditions, sometimes singly, sometimes collectively. In consequence of the chaotic condition in which the matter at present appears to stand, certainly whether any of these morbid states can lay claim to be grouped under the heading of rheumatism, seems to be a matter of doubt.

The following classification has been adopted as the result of repeated clinical observations and pathological and physiological changes noted. It is one by which order and, at the same time, accurate and comprehensive diagnosis, can be obtained. This classification we will proceed to consider in detail.

1. Chronic Rheumatism.

2. Rheumatic Arthritis.

3. Rheumatoid Arthritis.

4. Chronic Gout.

We have shown why we have endeavoured to

PLATE II.

Chronic Rheumatoid Arthritis.

Fig. 1.

Matilda H., aged twenty-four, admitted February 20th, 1889. First noticed pain and swelling in right wrist. No marked increase until October, 1888, then pains in finger-joints; then commenced swelling, as shown in Plate, in fifth metacarpo-phalangeal joint of left hand, the proximal phalangeal articulation of right hand, and swelling over carpus in same hand.

Chronic Rheumatic Arthritis.

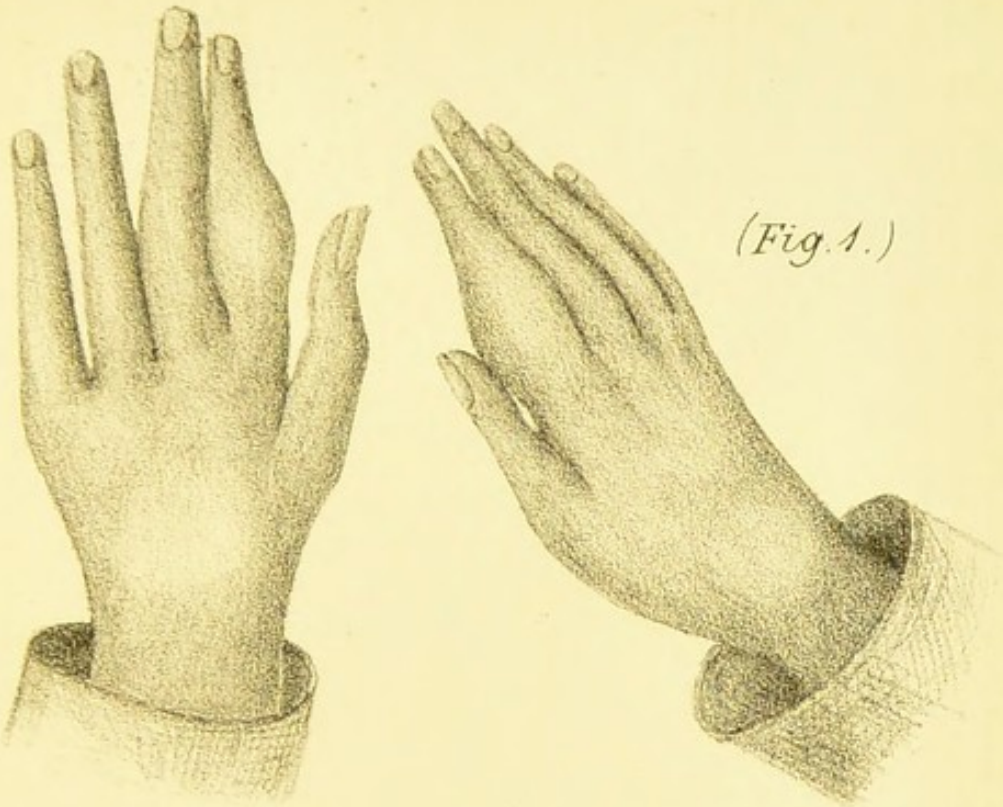
Fig. 2.

The left hand of Rosa C., aged thirty-three, in which a good example of chronic rheumatic arthritis is shown by the well-defined swellings over the phalangeal articulations. Deformity and emaciation are also well marked.

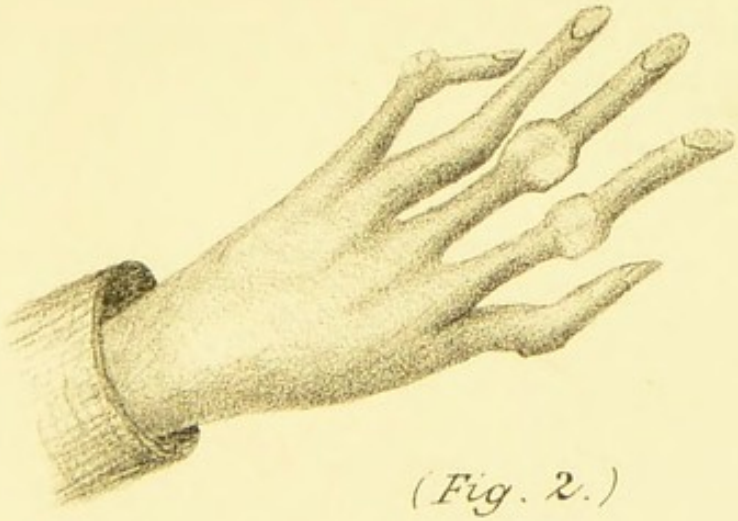
This patient was quite well until she had acute rheumatism two-and-a-half years ago. Since then the progress of the disease has been as shown.

[*To face p.* 16.

PLATE. 2.



(Fig. 1.)



(Fig. 2.)

HANHART IMP.

investigate the subject with the view of unravelling the obscurities which exist between these diseases—mysteries which, if laid bare, would enable us to class rheumatism under one head, rheumatic arthritis under another, rheumatoid arthritis under another, and so forth. We do not, at the same time, pretend for one moment to assume a dogma upon their distinctiveness; but we do assert that so frequently have we seen incontrovertible facts—facts not counted by tens but by hundreds—that any idea of insufficiency of research or paucity of evidence we lay aside as being untenable because untrue. These facts, if tenable and true, point out to us at once a justification for offering opinions, which we hope may throw some light upon the intricacies of these very common, and which are also at the same time some of the most obstinate of maladies. The distinctions which separate some of the varieties of chronic rheumatism from others are so fine, that we feel that the tendency has hitherto been to ignore them, or to sum up everything under the head of rheumatism, rather than frame a fine distinction, rather than follow and watch and see, whether or not a differentiation has been produced, which growing from its

minuteness into something of a greater significance and importance, has at last proved itself to be, not the object which can be crushed out of existence, but—to the unfortunate patient's discomfort—the very essence and root of a disease, which now comes to the front, defies treatment, and exhausts the patient, while the medical man looks on and seeks for better terms than rheumatism or rheumatic gout. Whilst expressing our desire and determination to retain the terms with which we are already acquainted for the varieties of so-called rheumatic diseases, we at the same time wish it to be clearly understood, that it is our intention to use these terms, for precisely that class of symptoms only to which these terms apply. For example, when we speak of rheumatic arthritis, we mean an arthritis distinctly rheumatic; when we use the term rheumatism, we mean not anything more or less than that the organism is affected by a disease which we recognise as rheumatic, uncomplicated with or uninfluenced by the inroad of any extraneous forces such as we shall meet with when speaking of rheumatoid arthritis.

But to return to the starting point of the series which we are about to consider, and with-

out any further preface, we shall now take and investigate all those conditions which are usually acknowledged to be uncomplicated rheumatism, a term which we desire to regard as synonymous with chronic rheumatism.

CHAPTER II.

Chronic Rheumatism.

The condition of chronic rheumatism is usually regarded as a most frequent one, but experience has shown that many of these cases of chronic rheumatism so called, if inquired into more deeply, will prove to be probably one or other of the supposed allied diseases to be described later. Chronic rheumatism being the simplest form of the series of diseases which we intend reviewing, we select it first; and in this first place let us consider what we mean by chronic rheumatism. When the sciatic nerve is attacked by rheumatism, we call it sciatica; when the lumbar muscles—lumbago; when certain nerves, we employ the term neuralgia; and yet all, in spite of their change of name, claim a share in their relation to chronic rheumatism. We do not mean to offer

any obstacle to this arrangement, it is in fact by adopting this quasi-complication we carry simplification, but when the term chronic rheumatism is used, it seems to us that it could not be utilised for better and clearer designation than in those cases "in which the joints are painful but not swollen; or in which there is a neuralgia or even arthralgia, associated with myalgia or apart from it; or in which the various fasciæ are affected; or in which there is a general neuralgic condition supervening on an acute attack of rheumatism." This is what we prefer now to call chronic rheumatism; therefore, instead of the numerically formidable array which would present itself by grouping such cases as those approaching what we shall presently show are generally regarded under the name of rheumatoid arthritis under this heading, we think that they can be separated out into smaller columns, far less broad in their limits and on far more satisfactorily nomenclated bases.

We may here consider the causes of chronic rheumatism—we say chronic rheumatism, for it is those cases of chronic rheumatism which sometimes come on so insidiously, and are so inexplicable in their production.

There are, of course, many causes, and well-known causes, of chronic rheumatism.

In the first place, an acute attack, exposure to wet and cold, &c.; but leaving these obvious causes out of the question, are there not others which can reasonably be ascribed as prominent? For our part, we must frankly say that lead working has shown itself to be an almost certain predisposer to this affection of rheumatism. Why is this? Why is it that plumbism should be produced, with all its train of symptoms, in one individual, without any evidence of rheumatism; and in another, a man, exposed still more, perhaps, to the noxious influence of the lead, taking no more care than his confrère, develops few if any symptoms of plumbism, but sets ablaze a rheumatic affection? Bearing in mind the acid reaction which some constitutions present, as evidenced by the test of their secretions, it would seem that in these the tendency to form a soluble salt of lead was more prevalent than in others less acid, and in these the tendency to rheumatism would be greater; nay, we would go further and say that, given a strong acid reaction of tissues, it would be indeed risky for a patient working in lead to avoid some contamination.

The tissues being rendered more acid than was their wont, would therefore in all probability exhibit their newly acquired character (as they do), sooner or later, in this rheumatic way. It has been observed clinically by us, over and over again, that where rheumatism presents itself in a patient suffering from plumbism, and where plumbism seems to have been the cause of it, this plumbism has never been severe. It appears as though the reaction which had taken place in the first instance, had done so at the expense of neutralising the metal in the tissues, rendering it comparatively inert in so far as the plumbism went; but, on the other hand, increased the tendency to acidification, and therefore to rheumatism, as evidences have shown. One good feature of the rheumatism so induced is that it seldom shows any tendency to take on an acute action, as it starts in a chronic manner, and it attacks in a slow desultory sort of way, and rarely runs on to a severe crippling form. The other causes of rheumatism are well recognised; we will therefore now proceed to consider the disease in its varieties, and we shall treat it under two headings, A and B.

A.

Under the heading A is what we have described, attacking one or other, or it may be all of the structures just mentioned, and occurring for the most part in young adults, or at all events in those not far advanced in life. Here we may have a boy, to all appearances in the best of health, and whose only symptom is pain—we have to take his bare word for the existence of this pain, called perhaps by his friends "growing pains." If he has had an acute attack we feel that we have at least one ally on our side to aid us in our endeavours to arrive at a truthful conclusion; but with this absent, how are we to judge whether there exists this chronic rheumatism or not, especially if, as in many cases, there is an object in view for assuming the complaint?

B.

Under section B cases for the most part those of advanced life, which exhibit much the same symptoms, but which come on more insidiously, and are not preceded by an acute attack.

To resume Section A.

The cases which come to us under section A present themselves at any age, ranging from about ten years up to forty; above that age they are not so frequently seen, and after sixty seldom or never.

A large proportion of these are young adults. They complain principally of neuralgic pain; the joints are not frequently enlarged, but the patient complains of pain, although without much ocular manifestation of it, and very often without any abnormal appearance in the joint at all. But in those a little more advanced in age (the previous history being the same, viz., an acute attack), the joints appear to be more frequently involved, in so far as stiffness and restricted movement go, possibly going on now to what we shall presently define as chronic rheumatic arthritis. In these we notice the reverse of what obtains in younger patients, viz., less neuralgia and more arthralgia.

The determination of the part affected seems to be regulated by the patient's occupation, in this respect resembling rheumatoid arthritis, but

with which however, let it be clearly understood, no connection is to be borne in mind.

The neuralgic type of chronic rheumatism is best exemplified in the case of colliers, who so frequently work in bent and constrained attitudes. They present themselves suffering from pain in the lumbar regions, evidently pointing to the involvement of the lumbar muscles and fasciæ, *i.e.*, lumbago, suffering in this manner far more than they do from arthritis.

The extent to which occupation determines the seat of affection is, perhaps, more marked in chronic rheumatism than any other affection known, except rheumatoid arthritis. The miner, whom we have just mentioned, is probably the best example that we can give; and we have now quite adopted the term "Miner's Back," in much the same way as the term "Miner's Elbow" is employed in the enlarged olecranon bursa.

Other very frequent accompaniments or complications of chronic rheumatism seem to be flat-feet. Given a patient whose occupation keeps him for several hours a day upon his feet, and an acute attack of rheumatism following, we shall generally find that if chronic articular

mischief supervenes, the articular affection is that between the tarsal bones, whether or not other joints are affected.

Seamstresses, who use their fingers much, find themselves crippled in the hands first. Cooks, who are constantly lifting pots, &c., off fires, find the wrists going principally.

Another class of cases we will place under this heading, and which gives much trouble, includes those which for the want of a better name we would call neuralgia. Patients are quite clear about the acute rheumatism; they are quite clear as to what joints were affected at that time; they say they got perfectly well, with the exception of the pains for which they now seek advice. Most of them are females. Bearing in mind that they are more or less debilitated after an acute attack, and the whole systemic tone lowered, it appears that there is often a considerable element of hysteria in these cases. They nearly always give a most unsatisfactory description of the rheumatic pains, not being able to say definitely where they are situated, especially if the pain be thoracic or abdominal. True, it may be that the neuralgia which follows from the intercostals being affected

is somewhat difficult to map out with the finger, but that it is intercostal neuralgia in many cases is undoubted. The dual treatment—that is, for neuralgia and hysteria combined—has often proved to be of marked benefit. This, we take it, is a strong point in support of the idea that rheumatic hysteria—chronic hysterical rheumatism, if we may use the term—is generated in the depletory stage following acute rheumatism, helped on too doubtless, in many cases, by the knowledge of the fact, which is so well known to the public, that heart disease frequently follows rheumatic fever.

This fear occurring in an already debilitated subject is, we think, quite sufficient to account for the existence of a hysterical neuralgia, cases of which have repeatedly lately come under our notice. They are, however, as far as have been observed, all of a quiet kind, without any violent manifestations of hysteria.

Another very troublesome locality appears to be the plantar fasciæ, notably at its attachment to the os calcis. The patient will point to an exact spot in front of the heel as being the seat of acute pain. This exhibits another example of over-use, for the whole weight of the body

more or less constantly pressing upon this attachment, such as in those whose occupation involves much standing, determines the affection of this locality, as the corresponding fasciæ in the upper extremity, viz., the palmar fasciæ, seem but rarely affected.

The complications of rheumatism, such as rheumatic iritis and rheumatic periostitis, do not seem quite so prevalent as the text-books would have us believe. Out of three thousand cases of rheumatism in all its forms, only about five cases of rheumatic iritis have come under our notice ; while rheumatic periostitis has been even more rarely seen than that. Young adults have certainly complained of aching of the bones at night, but this has not been attended by any of the usual signs of periostitis sufficiently to warrant a diagnosis of periostitis being given.

In three of the five cases of rheumatic iritis there was a more or less genuine history of specific mischief, so that must be taken in the reckoning ; but, as the opinion leaned to was that the iritis was rheumatic, the treatment was adopted for such, and the cases ended very satisfactorily.

Many of the cases hitherto described as

chronic rheumatism seem to be, especially in young adults, the condition more generally accepted now as peripheral neuritis.

Numbing of the hands, gradually disappearing as the shoulder is reached, sensations of pins and needles, and a cold appearance of the skin go with these, and yet the general health and senses may be quite unimpaired. Treatment by baths has been most satisfactory: witness the case of a man aged thirty-one. No history of any hemiplegic attack, no spinal mischief could be detected, no accident, and yet the condition of his legs, when admitted into hospital, was most grave,—semi-paraplegic inco-ordination of gait, and loss of reflexes. On discharge, two months after admission, reflexes had returned, and he expressed himself as being as well as ever, and there had been no other treatment but that employed for the usual rheumatic cases.

Section B.

Under this section we see the chronic rheumatism of old age—senile rheumatism; a slow, painful joint trouble, not ushered in by an acute attack.

These form a large proportion of this section, yet frequently we see patients, young adults, with no previous family history of any sort to go upon, to enable us to pass any conclusive opinion,—now it is a neuralgic pain, now it is myalgia, now it is arthritic; but what should be particularly emphasised is, that in so far as observations have gone, chronic rheumatism of the joints attended with pain is the dominant feature in old and young, unattended by any thickening or enlargement around the joint, or by secretion of any moment within the joint; in short, there are no visible signs of the disease.

The character of the rheumatism in more advanced age is sometimes rather difficult to map out. An old man will frequently present himself and complain of symptoms of sciatica, when on examination it will be found that flexion of the hips beyond that of a right angle is almost impossible, showing undoubted changes in the cotyloid cavity; pain in the course of the great sciatic will suggest sciatica, but how much of the discomfort is due to one or other seems uncertain; however, treatment, especially with medicines, will greatly decide.

A complication of rheumatism, of which a great deal has lately been heard, and which occurs periodically, is tonsillitis and follicular pharyngitis.

There undoubtedly is a connection between them, but the cause is obscure. It is very clear that the follicles of the pharynx do now and then become blocked, and then set up local irritation and inflammation. It suggests itself that the extent and character of this attack might be regulated by the extent to which the tissues are impregnated, so to speak, by the toxic character of the rheumatism. The blocking of the opening of these follicles seems to be the "propter hoc," whereas the resulting inflammation seems to be the "post hoc," in reference to rheumatism.

Taking a hundred cases of rheumatism in all its varieties, at a time when this affection seemed to be assuming the form of a quasi-epidemic, in about thirty per cent. this was observed in greater or less intensity. Now what reasons can be assigned for this complication?

We would suggest that the following, especially in the absence of other circumstances, should not be without consideration.

PLATE III.

FIBULAR TENDENCY (*previously undescribed*).

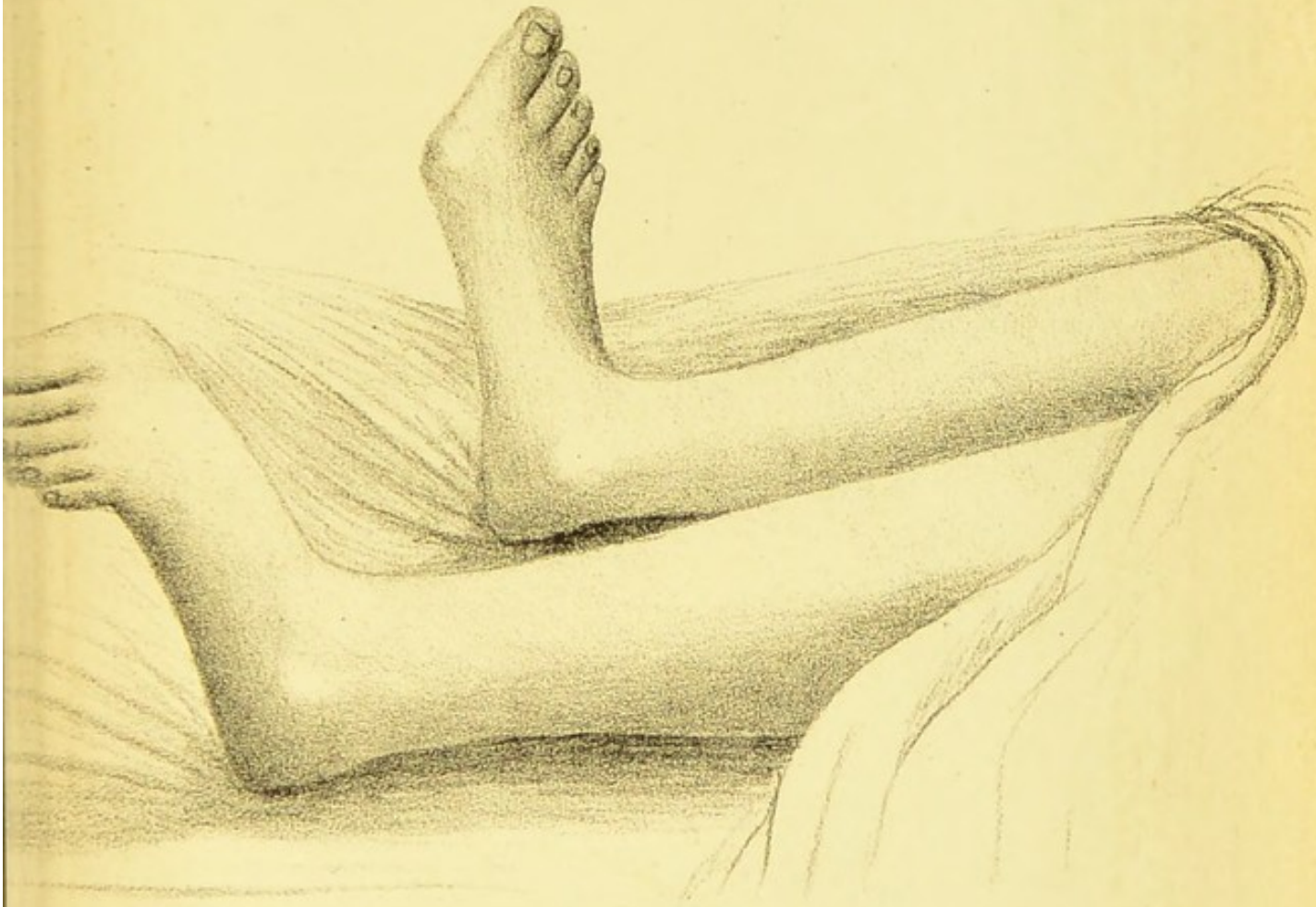
Fig. 3.

J. W. B., aged fifty-five ; chronic rheumatoid arthritis seven years. Showing the way in which the toes have gone over to the fibular side of the leg.

[*To face p.* 32.

PLATE. 3.

(Fig. 3.)



HANHART IMP.

The white fibrous tissues and fibro-serous membranes having by preference been attacked by the *causa morbi* of rheumatism, become saturated, or so inoculated—so to speak—that they are protected from further injury, the result being that the lactic acid then attacks that for which it has the next greatest affinity, viz., what appears now to be the fibro-muscular walls of the pharynx.

That salicylate of soda and guaiacum relieve the symptoms so readily is, we take it, a strong support to the above theory.

Treatment.

We shall consider the treatment of chronic rheumatism in the order and with regard to the sections which have just been discussed. Were we to treat chronic rheumatism as a whole (and that, as can be seen, would indeed be an exceedingly wide range), we feel that we should not be adding anything which would tend to more advantageous results than what is already known.

1. Young adults, in whom there are few symptoms evident. In these, tonic treatment

of a mild character will in most cases prove beneficial, without any particular anti-rheumatic medication.

The syrup of iodide of iron and cod-liver oil will be of the best kind, especially if there is any history of a debilitating complication. These cases are eminently suitable for a moderate course of thermal water treatment, such as Bath affords.

Other medicinal agents, especially the ammonio-citrate of iron, act most beneficially, in conjunction or not with the mineral water treatment just mentioned. Galvanism on alternate days with bathing, (every other day for a bath being sufficient), and massage of those parts where pain is distinctly pronounced, will be found to be highly serviceable.*

MINER'S BACK.

2. In Collier's rheumatism, or as we have previously called it, "Miner's Back," rest must

* For a detailed description of varieties of massage, we would refer the reader to the recent work on the Mineral Waters of Bath, by H. W. Freeman, F.R.C.S.

be placed first and insisted on as being of primary importance. We must confess that without this being enforced, the ordinary local and general treatment has but little effect. Bathing, as mentioned in the last section, is also of much service in this, as in other forms of lumbago.

HYSTERICAL NEURALGIA.

3. Of chronic hysterical neuralgia, or hysterical rheumatism. Here the tepid bath does much good ; but, as regards medicines, the best course to pursue appears to be that of adopting a treatment suitable for rheumatism and hysteria combined.

PLANTAR PAIN.

4. For pain in plantar fasciæ, blistering above the heel in the same or other side often gives marked benefit, but painting with the tincture of iodine may be tried with advantage previously.

Rest again, the patient using the foot as little

as possible, and a domette flannel bandage kept round the affected heel.

PERIPHERAL NEURITIS.

5. In peripheral neuritis the only treatment which has been adopted by us with decided success has been that of the Bath waters without much medication.

Many cases have shown the most marked benefit from this line of treatment; so much so, that interference from other sources, medicinal or mechanical, has not been called for.

SCIATICA.

6. We are taught to call rheumatism, when attacking the sciatic nerve, sciatica; perhaps, then, no fuller apology need be given for making what some may consider a deviation from the title of this book, by paying some attention to this distressing complaint. We say distressing, for the fact that young patients, to all

other appearances strong and well, are utterly crippled by this affection, is sufficient to prompt us to make some observations on this form of rheumatism.

The symptoms of sciatica are well known, and require little from us by way of comment. The question of treatment seems, however, of paramount importance. Blisters, hypodermic injections, lotions, liniments, nerve-stretching, and internal medication, are all tried, sometimes together, sometimes apart, with various degrees of success.

The most satisfactory method of treatment in our hands has been that of acupuncture. Three, four, five, or even more needles, about two and a half inches long, plunged into the thigh over and down to the affected nerve, have over and over again been the means of relieving a neuralgia when all other applications have failed.

Patients, after two or three experiences of acupuncture needles, have begged for a repetition of their use, with the result that they have at length derived that immunity from pain which they day after day craved for.

The great feature of this treatment is the

permanency of the good results obtained. As regards medicinal treatment, chloride of ammonium in large doses certainly is most efficacious —in many cases 20, 25, or even 30 grains, three times a day—and seems to be the only drug which exerts anything like a specific action on the pain.

Of course, when the sciatica appears due to a general low tone of constitution, associated or not with anæmia, the usual tonic treatment can be added at discretion.

Tincture of iodine, painted along the whole of the nerve, is sometimes of great benefit. Shampooing, with a course of hot mineral baths, in those in whom the rheumatic taint is plainly evident, is especially serviceable.

RHEUMATIC SORE-THROAT.

7. If the sore-throat appears to be due to irritation caused by the blocking of one or more of the follicles of the pharynx, the treatment consists in removing the obstruction by means of forcing the end of a director into it, and ex-

tracting as much as possible of the sebaceous-like secretion.

Medicinally, a powder containing ten grains of jalap powder, with the same quantity of guaiacum powder, is often attended with good results; this being followed by some plain effervescing medicine, two or three times a day. If, however, the tonsils seem to be the principal cause of the trouble, as evidenced by their enlargement, and if they enlarge comparatively suddenly, it will be found that there is more or less rise of temperature, and in these cases the plain administration of salicin or salicylate of soda is most to be trusted to. The fact that these symptoms yield to this treatment, it must be observed, points suggestively to rheumatism playing a somewhat important part in the causation.

OBSCURE CASES.

8. In those obscure rheumatic cases where no definite lines can be laid down for acquiring a satisfactory diagnosis, a mixture containing

iodide of potash, carbonate of magnesia, wine of colchicum, and bicarbonate of potash gives much satisfaction.

General Treatment.

9. The question of treatment of chronic rheumatism has for many years been divided between medicinal on the one hand, and residence at a Spa, for purposes of bathing, on the other; but a combination of the two seems now to be that which is productive of the best results. A few words on these respectively will here, we think, be relevant.

No cases do so well in Bath as the younger subjects, who, having recovered from an attack of acute rheumatism, are left with tender and painful but not swollen joints, or with constant neuralgic pains, which, not giving rise to much annoyance or inconvenience during the day, become worse, sometimes almost unbearable, at night, especially when in bed. These are the cases which, happening in youth, will sometimes become completely cured by an average course of thermal water treatment. We say an average

course, for, beneficial though the system of bathing proves, yet for the young or those in early adult life, the atmospheric condition of Bath is not one which can be recommended for a longer time than four to six weeks. But for those in advanced life, where we see the form of senile rheumatism, the climate seems well adapted, and the stay need not be hurried over; yet in the old a limited number of baths is desirable. Baths only in the young, baths combined with medicines in the old, is the summary of treatment which we think the most rational.

CHAPTER III.

Rheumatoid Arthritis.

Such is the term given to what is, perhaps, one of the most intractable, obstinate, and crippling diseases that can befall the human body. Before entering into a description of this disease, it will, perhaps, not be out of place to consider the word itself.

The general impression conveyed by the word rheumatoid is, "like rheumatism." That is, from εἶδος, form, and ῥεῦμα, "a fluxion giving rise to disease," which disease is called rheumatism; "like rheumatism," or rheumatoid, is the word employed. It should be stated at the outset how misleading, in many cases, it must be; for this reason, it is almost certain to lead one to think of rheumatism, and therefore to make one connect rheumatism and this disease by links closer than ought to exist.

Is chronic rheumatoid arthritis a sequel to acute rheumatism? Judging from some hundreds of cases which have been collected, and

in reality are forming the basis for our observations upon this most important problem, there appears to be not the slightest hesitation in giving a negative answer; nay, more than that, in the majority of cases there seems to be no connection whatever. We are generally taught to speak of chronic rheumatoid arthritis, osteo-arthritis, and chronic rheumatic arthritis as one and the same disease. We have for a long time had our own views on this matter, and have quite adopted an arrangement whereby we cannot help thinking more definite clinical facts are brought forth, by using the above terms for precisely, as far as we can, the symptoms which obtain.

For instance, speaking of osteo-arthritis as an arthritis in which bony mischief is the most prominent, and which is a later stage of rheumatoid arthritis; speaking of rheumatic arthritis in those cases only which have been preceded by distinct rheumatism, purposely leaving the word rheumatoid to be dealt with in the following manner. Now, taking rheumatoid arthritis, it will be as well here to describe as nearly as possible a typical case, quoting from a typical case what it has been customary to regard as

chronic rheumatoid arthritis, an illustration of which will be seen in Fig. 1.

To simplify, we have arranged it in the following manner, giving first a description of the disease verbatim, from a report drawn up by a patient herself; and this one is virtually the tenor of by far the majority of the cases collected, in which this system has been employed.

Matilda H., aged twenty-four, in the first place noticed a feeling of weariness, then a tired feeling, with aching of the limbs, going to bed tired and getting up with the same feeling, never rested, with a feeling of pins and needles and a burning of the soles of the feet; this going on for about five months. Then noticed pain and swelling in the wrists; no great increase in this until four months after, then pains in finger-joints, with swelling, sweating of feet and knees.

The symptoms of rheumatoid arthritis may be divided into (*a*) LOCAL and (*b*) GENERAL, or constitutional.

The LOCAL, subdivided into—

1. *Joints*, their shape, size, and the direction of the bones entering into the formation of the joint.

2. *Appearances of the skin* in the neighbourhood of the joint, and generally.

The GENERAL, or constitutional, subdivided into—

1. *Alimentary.*
2. *Circulatory.*
3. *Nervous.*

LOCAL SYMPTOMS.

1. *Joints.*

On account of their being the apparent centre, and being the focus of the forces acting in this disease, it seems but natural, we think, to refer to the joints for the first consideration.

What is most noticeable is the swelling, and to what is this swelling due?

Taking, for example, the most commonly affected joint, the proximal phalangeal articulation of the second finger, it will be observed that this swelling is frequently fusiform in shape, elastic, and with a sensation under the finger somewhat resembling fluctuation (Fig. 1).

This swelling is almost characteristic of the affection. When it attacks the knees there is somewhat a tendency to effusion, sometimes markedly so (it will be as well to observe here, how comparatively rarely this effusion is present in cases of our rheumatic arthritis; the nearest parallel to it seems to be rheumatic synovitis — that is, synovitis of which the only attributable cause is rheumatism). The knees, ankles, wrists, carpus, hips often (and when affected generally following an injury, as pointed out by Sir Alfred Garrod), and temporo-maxillary articulation are the chief joints attacked. With regard to the last joint, we would remark, that we are now quite in the habit of looking upon the disease as diagnosed with a comparative degree of safety by terming it rheumatoid arthritis, should the temporo-maxillary joints be at all affected.

It is found, when the disease is proved to be absent, that the temporo-maxillary articulation is never implicated, and we have often noticed that this joint has been much affected when others have been comparatively free.

That brings us to speak of what is a strong point in our case, that the special joints affected

in rheumatoid arthritis are determined by the particular nature of the occupation (as strongly pointed out by Dr. Hensley of Bath), the joints subject to most wear and tear being the first to go (unless, as in the hip, one joint may previously have been rendered more assailable, by the vitality having been impaired by an injury); whilst in rheumatic arthritis occupation does not seem to have so much material influence, and the larger joints are more often affected. Thus in rheumatoid arthritis the upper extremities in women are more likely to be the seat of disease, while the lower in men are more exposed to wet and cold. In a biscuit baker, who used chiefly the two inner fingers of each hand in his work, these were the most attacked; and in an engineer, who used his left hand chiefly, it was much the most affected. A particularly illustrative case is at present under notice—a man, a tailor, who exhibited wasting of the muscles of the left side, together with evidences of increased and progressive articular mischief on the same side, the right being almost free—for some time appeared to us an exception to the rule, but it has since been ascertained that the man is left handed; this, we think, cannot but come as a most

weighty argument in favour of the foregoing theory.

Sir Alfred Garrod has called attention to the ring finger being so seldom affected in women. The probable reason for this has been pointed out by Dr. Hensley, the senior physician at the Royal Mineral Water Hospital, that when this occurs, it will be found that as the disease progresses, and the tendency to move about becomes less, with the sedentary life enforced comes the natural wish to work at something which does not involve much labour, so that knitting, seeming to fill this want, leads to a tax on the other fingers, the ring finger being kept greatly at rest in this occupation.*

Again, taking frequency of movement of joints or overuse of joints, the temporo-maxillary articulation is a good example. Everyone must eat and speak, therefore this joint can never enjoy a lengthened period of rest.

Then the symmetry of joints affected is noticeable in rheumatoid arthritis, not so in rheumatic arthritis, when the more irregular

* It so happens that in two men at present under observation, the disease is chiefly confined to the ring fingers.

PLATE IV.

Pigmentation in Rheumatoid Arthritis.

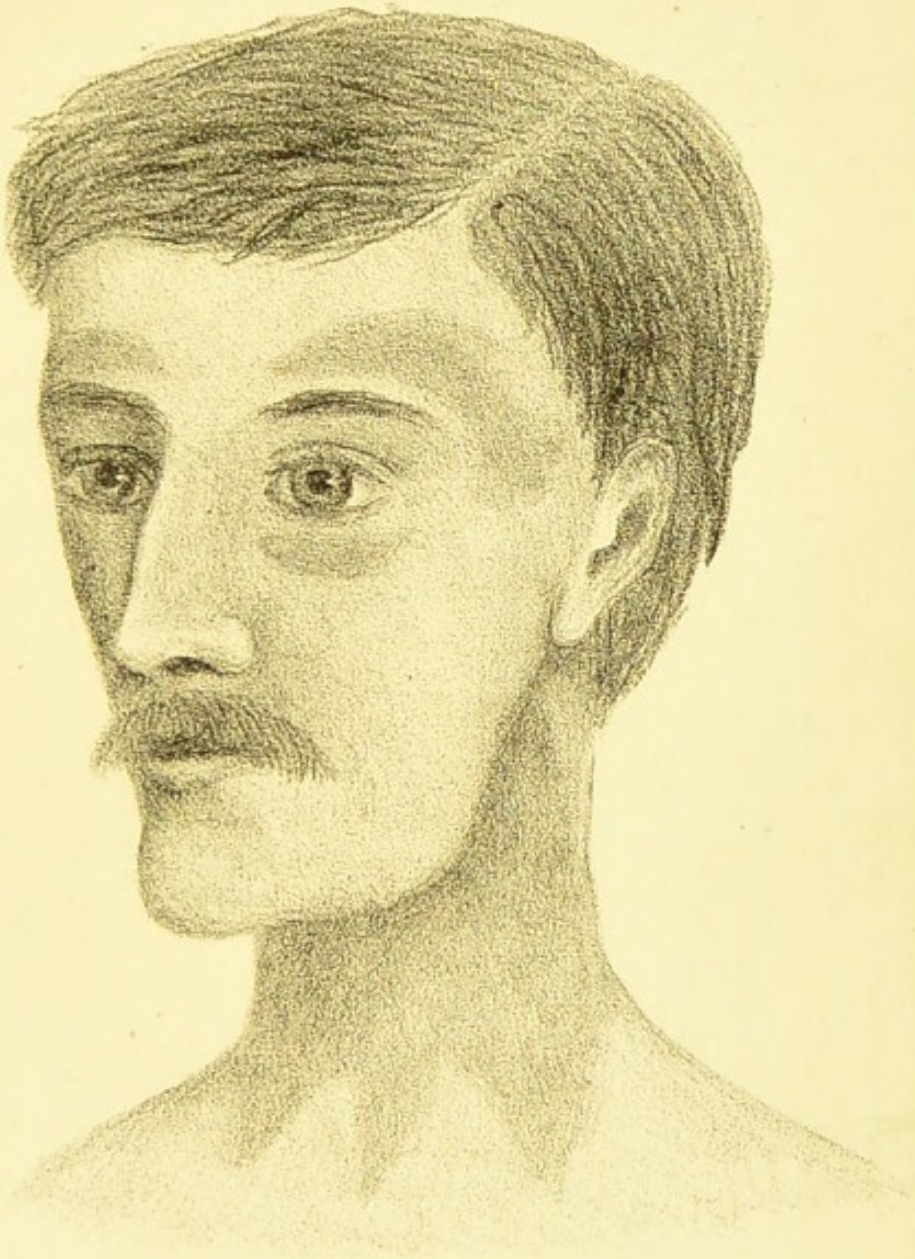
Fig. 4.

James S., aged thirty; factory hand; never exposed to sun. Showing patches of staining on temples, and collar of pigmentation, coming on since rheumatoid arthritis first showed itself.

[*To face p.* 48.

PLATE. 4.

(Fig. 4.)



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character of the distribution of the joint lesions is apparent. The onset of the joint manifestations may be either most insidious and gradual (markedly so in the decided neurotic form of the disease), or it may be perfectly sudden. Thus a patient may go to his work without feeling any particular exacerbation of his symptoms, then suddenly he may be seized with severe pain, which may be the starting-point for all the subsequent symptoms.

The swelling, which is so characteristic of this affection, in the early stages does not seem to have any bony participation; thereby offering no justification for the term osteo-arthritis in the comparatively early stages.

This swelling is in most cases very characteristic, as it—so far as the phalangeal joints are concerned—nearly always extends on the proximal and distal sides of the joints, gradually merging into the tissues; whilst in rheumatic arthritis the termination of the swelling is much more abrupt (Fig. 2).

That the extra-articular structures are the principal factors in the production of this swelling in the early stages of the disease seems to be proved by the comparative freedom of

movement, and pain on movement, and freedom from grating on passive movement, which accompany flexion and extension.

That it is the intra-articular structures principally involved in the later stages (osteo-arthritis), is shown by the grating sound and pain which accompany the like movements, when the case is carried further, and when we get the gradual disorganisation of the intra-articular cartilages, and the arthritis extending to the bony structures. On passive movement we shall now get extensive grating, and the condition of joint which we shall have before us cannot be better designated than by the term "osteo-arthritis," or bony inflammation of joint. This osteo-arthritis is what we prefer to call the last stage of chronic rheumatoid arthritis (just as rheumatic arthritis might be regarded, in many cases, as the sequel to, or termination of, chronic rheumatism). The swelling is increased by the flattening out of their articular surfaces —the so-called mushroom-shaped condition; this, again, is one of the later stages of the disease.

In treatment, the importance of interfering, if possible, before bony changes have taken

place cannot be too emphatically insisted upon; for if the disease could be arrested before the stage of osteo-arthritis has been produced, we should feel that in approaching rheumatoid arthritis we should have a much greater chance of exercising a benefit upon our patient than if we were approaching the later stage of osteo-arthritis.

The direction of the shafts of the bones.

With regard to the direction of the shafts of the bones, occupation again seems to regulate the matter, the softened ends of the bones giving way where most pressure is exerted.*

The direction in which the shafts of the phalangeal joints are carried, is sometimes seen in an extravagant manner laterally, while the flexions and extensions of these same joints are likewise distorted. Although the appearance of the joints is very different in rheumatoid and

* "The causation and pathology of the so-called disease rheumatoid arthritis, and rheumatic gout, and senile changes" (see "Transactions of the Pathological Society of London, 1886," by W. Arbuthnot Lane, M.S., F.R.C.S.).

rheumatic arthritis, the directions of their shafts are not so widely distinct.

The flexions and extensions which are observed, and the deformities which have been described as peculiar to this form of disease, are not necessarily due to an occupation which has been pursued subsequent to the onset of the complaint, but are the results of muscular power—it may be on the flexor surface superior to that on the extensor surface—this muscular power being produced out of muscles which have been, as it were, trained up for years past by occupation, and which now retain sufficient, or more than sufficient, vital energy than is required to counterbalance those muscles which have not in years previous been brought into action to the same extent, and so did not undergo a corresponding development.

In the hand the "ulnar tendency" being produced in the action of lifting, and a previously undescribed analogous deformity in the foot, appears in the shape of what might be termed a "fibular tendency" in the phalanges of the toes. At the time of writing we have three such cases under observation, of one of which we give an illustration (Fig. 3). There is a predisposition,

which is admitted on all sides, for the first meta-tarso-phalangeal joint to be affected in gout, and that this joint is affected very frequently in rheumatoid arthritis is plainly evident. In the act of walking the tendency is, under any circumstances, for the whole of the phalanges to be abducted; therefore under the influence of disease this tendency becomes exaggerated, and, as a result, we see the cases as depicted.

2. *The Appearance of the Skin.*

With regard to the appearance of the integument about the joint, this varies. In those much debilitated it is very characteristic. It is tight, shiny, smooth and pale, often with a yellowish tinge, and where the hands are affected this yellowish tinge sometimes assumes a more dusky appearance in the nails. Whether this quasi-pigmentation is caused by the disease or not is at present an open question, but from the account which patients give of it, we are strongly led to believe that it is a not infrequent accompaniment.

This pigmentation—if we may use the expression—more frequently assumes an isolated patchy character, and when so seen is much deeper in colour than when more diffused. The nearest resemblance is to a freckle or a mole, but that it is not the former can be pretty satisfactorily explained by the fact of many patients never having worked in the open air or in the sun; or, if they have done so, by occurring in positions of the body which have not been exposed or have been covered by clothing. That it is not a mole is evident by its comparatively recent appearance, and that it is devoid of any hirsute appendages, which moles generally possess.

In the forearms the extensor surfaces are the favourite seat of these pigmentations, but many have been observed in other parts of the body. One of the most typical cases had them on the dorsum of the foot as far as the toes. Dr. Spender, whose researches in this disease are well known, has recently drawn attention to these pigment spots in his excellent work on Osteo-arthritis.

In the face of the otherwise non-observation of these pigmentary changes in works written on this subject, coupled with the frequency with

which they seem to exist, we shall perhaps be forgiven for dwelling upon the point.

A remark which is sometimes heard, and which is full of significance, is that a patient says he or she is unable to make his or her neck appear as clean as it ought to be, and they find that even after the most careful ablution the stain still remains, which becoming deeper and deeper, at length appears as a distinct collar of pigmentation.

This is a fairly frequent accompaniment of rheumatoid arthritis.

Other situations in which the pigmentation commonly occurs are the temples, beneath the eyelids, and occasionally on the thoracic walls. When occurring on the arms, it generally assumes the appearance of a deep brownish-yellow freckle or stain, and so frequently have we noticed its presence, that we have now come to regard it as almost diagnostic of rheumatoid arthritis.

Another condition in association with the skin is sweating.

This sweating is at first general, especially after more or less excitement, occurring periodically often, and being uninfluenced particularly

by change of weather, showing, as it did not previously exist, that it is due to nerve disturbance. It is frequently accompanied by other neurotic symptoms, such as formication, numbness of the limbs, palpitation of the heart.

Later on in the disease it is common enough, on examining a patient for the first time, to see it may be one foot sweating or one hand sweating, or a line of perspiration over or below the affected joint, when the corresponding joint or portion has been perfectly normal. In short, localisation of perspiration appears in the later stages to prevail more, and general perspiration in the early stages.

A case under observation illustrates this well: The patient had rheumatoid arthritis of right hip, following an injury some years ago (no history of rheumatism), with excessive and troublesome sweating of the leg and foot on the same side only, and to which he himself originally drew attention.

CONSTITUTIONAL SYMPTOMS.

Constitutional symptoms are, when present, very striking.

A phthisical taint is largely found in the family history, and the suggestion that forces itself upon one is, how much does this phthisical taint influence the debility which is now coming to be regarded as the real cause of the disease ?

We are inclined, after carefully considering the history of these so-called rheumatoid arthritis cases, to advance the following theory.

That as the debilitating and wasting disease of rheumatoid arthritis presents so many of the characters observable in a phthisical patient, and as this disease also exhibits many symptoms of chronic gout, or at least symptoms sufficiently prominent to remind the observer of the presence of these diseases, does it not seem within the bounds of reason to regard it as a disease built up by the hereditary taints of gout and phthisis ? seeing that histories of one or other, or both of these complaints, have been found to be present in the majority of the patients who furnish the examples for this contribution.

We believe that we are right in stating that this history of phthisis has not been particularly referred to in other descriptions of the disease. It being the almost invariable accompaniment, has induced us to bring the matter forward;

in fact, to look upon phthisis and rheumatoid arthritis as a cause and effect has seemed to us the one and plain characteristic in our investigations.

We do not wish to impress the reader with the idea that in referring to phthisis here, we insist upon phthisis pulmonalis in its narrow limits, for going further afield into the closely related condition of scrofula and struma, we find much of the *causa morbi* of chronic rheumatoid arthritis; and they too appear to play almost as important a part in the causation of the mischief as the more pronounced and established condition known as tuberculosis.

We are quite ready to admit, that should acute rheumatism supervene upon a case such as the above (and we see no reason why it should not), a condition of rheumatic arthritis would be set up; but the differences between it and the disease called rheumatoid arthritis would nevertheless preserve their distinctive features—features which, when speaking of chronic rheumatic arthritis, we hope to show are apparent and substantial enough to justify the division we now employ. Again, we do not deny that rheumatoid arthritis may follow in consequence

of the debility of acute rheumatism, but the physical characters of the joints affected, together with the neural symptoms and other evident accompaniments, will at once point out the disease to be rheumatoid arthritis, and not the usual sequence of acute and chronic rheumatism, ending in rheumatic arthritis.

Among the leading characteristic constitutional symptoms may be enumerated the following :—

General weakness, anæmia, emaciation, loss of appetite, arthralgia, lassitude, and various neuroses, which will be described later on; these occurring frequently before any serious joint trouble has manifested itself, show that they are not dependent upon joint trouble, or even a later effect engendered by the inability to take exercise.

We now propose to take up symptoms, and consider them in so far as they are related to the different special organs and parts attacked. We shall therefore commence by considering the "alimentary."

1. *Alimentary.*

By this we do not imply any direct pathological change in the structure of the alimentary tract; but we would call attention to what must be some change, doubtless due to nerve reflex origin in the stomach.

How is it there is so much loss of appetite in these cases, with its subsequent emaciation?

It being as we find such an early symptom in the disease, and often the first noticeable, does it not point to rheumatoid arthritis being a constitutional affection of an exhausting kind, not far removed from that of phthisis or struma, which so often are heralded in a similar manner?

However that may be, suffice it to say that the earliest symptom complained of in the majority of the cases observed by us is this "loss of appetite," accompanied with more or less sickness; not perhaps actual vomiting, but a strong sensation of sickness, especially after food.

The bowels are frequently constipated.

The aspect of the tongue does not show much all through the disease beyond being abnormally

pale, with no fur. These symptoms either lead to, or are accompanied by, gastric disturbances in the shape of flatulence and acid eructations. The result of this mal-assimilation of food soon shows itself in the rapid fall in weight, and increasing loss of flesh, sometimes to a degree, as seen in the later stages, of great emaciation.

2. *Circulatory.*

The most striking point under this heading is the rapid pulse.

It is no uncommon thing on examining a patient's heart, under circumstances altogether conducive to calm repose, to find the pulse beating at 110 to 120, 130, 140, or even (as occurred in a young woman aged seventeen, with distinct rheumatoid symptoms, without any organic cardiac affection, and with no rise in temperature) as much as 170 odd to the minute.

Here was a patient, to all outward appearances but slightly affected with rheumatoid arthritis, whose pulse never under any circumstances fell below 150 to the minute, except on one occasion, when tincture of strophanthus was

administered in ℥xx. doses three times a day, when in twenty-four hours it fell to 125 to the minute; however, it rose again the following day to 140, gradually returning to the original rate, in spite of the continued administration of strophanthus.

The characteristic pulse is a rapid hard one of over 100, and also frequently bearing no relationship to the actual joint trouble, being equally noticeable before and after the joints get affected.

In an extensive series of sphygmographic tracings it has been found that with the increased velocity of the pulse, which appears with so much prominence in rheumatoid arthritis, the state of high tension is a marked accompaniment; although not present in every case, still those which did not show such a degree of tension, at least did not exhibit a marked effect to the contrary. The rapid rate of pulse was much more frequent in young adults than in those over thirty years of age.

There seems to be, in the absence of any other suggestion, the only inference that there must be some interference with the inhibitory function of the pneumogastric, situated most

probably at its origin in the medulla. Whether as a result of this disturbance of equilibrium in the circulation, or as a nervous reflex action communicated through the ganglia in connection with the pneumogastric, there is a fairly constant association of headache in these rapid pulse cases.

We must confess that these complain of headache more during than before the course of baths, therefore due allowance should be made for the more or less confinement and considerable amount of change of life to which they are subjected. For our part, we are strongly led to regard these headaches as a result of the disturbed circulation.

(We find the blood in the more pronounced anæmia of rheumatoid arthritis to be, in its physical character, very similar to that of anæmia from other causes, there being such a diminution of red corpuscles and an increase of white. There is an increase of white corpuscles associated with decrease of albuminous substances, deficiency of red corpuscles, and it is of a lower specific gravity than normal.)

Thus it may be, on the other hand, that the inhibitory centre in the medulla, experiencing

a want of nutrition by this impoverished blood, fails to act in the normal manner in which it had hitherto done, fails in the important function of restraining the heart's action, but allows it to run riot, and giving rise to other neural symptoms. Thus the disturbed centre in the medulla may be looked upon as the *fons et origo* of many of the other neuroses.

This may, to a great extent, account for the giddiness of which so many of these rapid heart cases complain.

By far the most constant accompaniment of rheumatoid arthritis is the anæmic change which the patients undergo.

The anæmic change referred to here has not an appearance similar to that observed when the disease anæmia exists *per se*, for it never appears to advance sufficiently to assume a chlorotic tint. What change the paleness undergoes seems to be more of a brownish yellow, but this is not common, and, moreover, the anæmia does not seem to render the mucous membranes particularly blanched. Nor is it, as a rule, accompanied by any functional bruit.

It has been noticed that so long as the anæmia does not progress towards the yellowish brown

PLATE V.

Pigment Spots in Rheumatoid Arthritis.

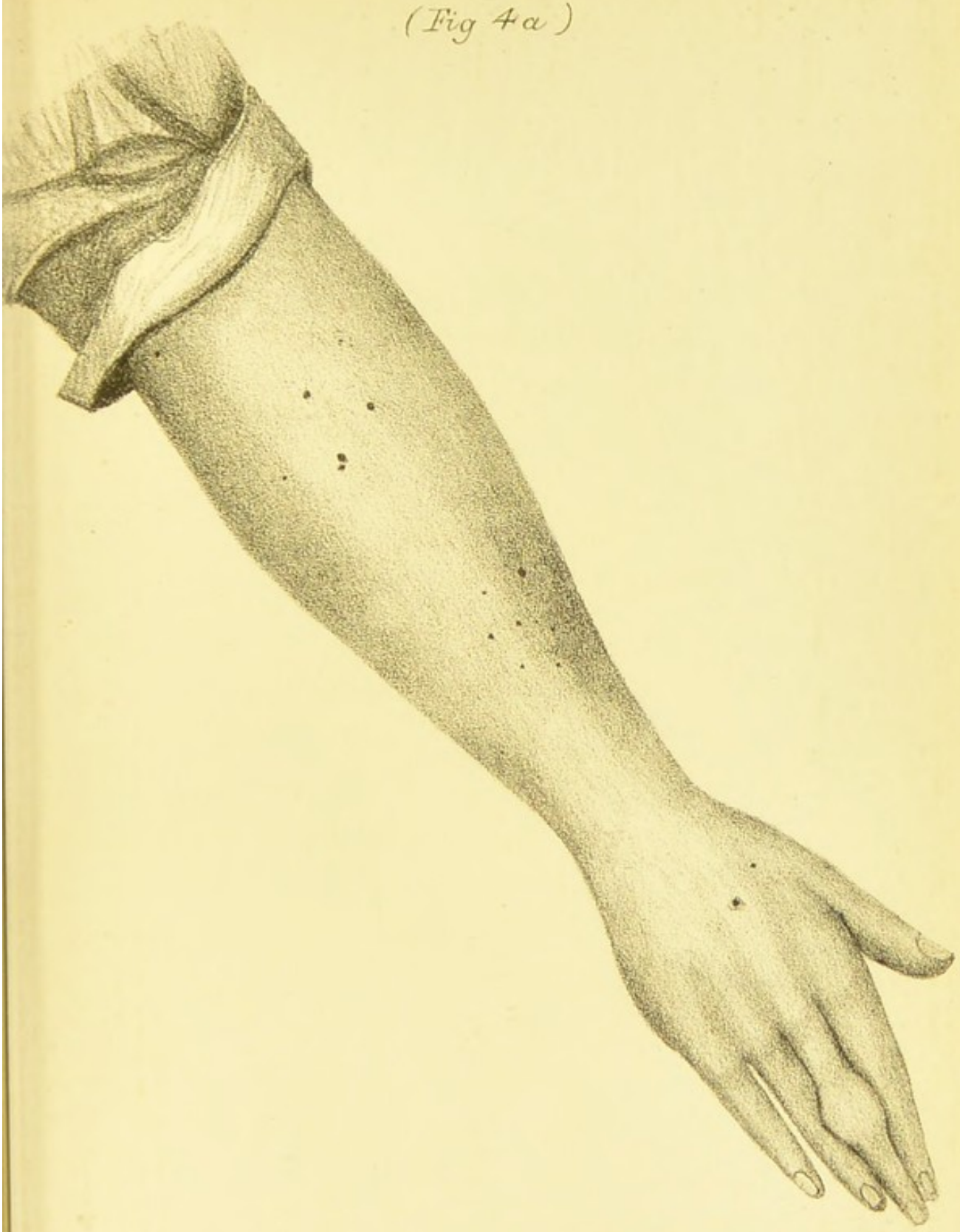
Fig. 4a.

H. T. Strong, aged fifty. Rheumatoid arthritis, showing the exact distribution of pigment spots on right forearm. The above shows a typical example.

[*To face p.* 64.

PLATE 5.

(Fig 4a)



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change, the skin remains of a uniform tint. But once the brownish yellow tinge is observed, it will be seen that this staining does not uniformly increase, but presents intensity of colour in patches, as previously described (Fig. 4).

Thus E. T., aged forty-eight. Twelve months ago disease gradually came on, with loss of appetite, loss of colour, from having a good colour to getting pasty looking; felt depressed, and had various neurotic sensations. This went on till thirteen weeks ago, when pain first appeared in right metacarpo-phalangeal joint; then gradually many others became affected—hands, knees, etc. Pulse now 104. One month ago noticed crop of spots as in diagram; heart is otherwise normal.

3. *The Nervous Phenomena.*

The nervous phenomena in association are now admitted on all sides to play a most important part in this disease.

For our part, we do not think that sufficient stress has been laid upon these symptoms as a means of diagnosis, in view of the almost

invariable accompaniment of one or more of the facts about to be mentioned.

So impressed have we been by the presence of some of these with almost unerring regularity, that, having recognised in the arthritis that we have most probably a case of rheumatoid arthritis to deal with, we have instantly gone farther, and been fully prepared to find, and have invariably established the presence of one or other of the following symptoms, with a view of clinching the diagnosis of rheumatoid arthritis. So confident have we now become over the association of these characteristics, that, failing the presence of these typical neuroses, we take it as a strong element in favour of its being chronic rheumatic arthritis, which we enter into in the section devoted to its consideration.

Probably the most telling neural symptom is that of sweating, local and general.

The local form is, perhaps, more frequently seen than the general, and, as far as has been noticed, more significant in chronic rheumatoid arthritis than any other symptom.

The localities most frequently affected are the palms of the hands and the dorsal surfaces of the feet; occasionally, and at times very markedly

so, the perspiration follows the exact course of one of the larger cutaneous nerves.

The sweating is very troublesome sometimes; patients will state that it comes on whether they are hot or cold, whether they have been at work or at rest. On repeated testings of the perspirations, we find that the reaction has been invariably feebly acid.

The general form is characterised by being one of the early symptoms, and is mostly seen before the local form. It is most marked in those cases of a phthisical history, and, indeed, bears a direct ratio to the amount of phthisical or strumous element present.

In support of the theory that these perspirations are due to some disturbance of the thermal centre, promulgated by the change in diathesis, and produced by chronic rheumatoid arthritis, the fact that patients volunteer the statement that they exist only since their illness commenced, seems sufficient warrant for the establishment of the deduction.

Symmetry does not seem to exist, as a rule. It is much more frequent to find one hand or one leg perfectly wet, while the other remains dry. This, of course, is not the case in the general

perspiration. Now, the question arises, why are the sweat-glands showing more activity since the advent of the disease termed chronic rheumatoid arthritis than before, and why is this activity going on when the patient is not subject to those external influences which induce their activity in health?

We have observed that the pulse is increased sometimes to a very considerable extent in chronic rheumatoid arthritis. We therefore see that there has been paralysis, or, at all events, an interference with the vasomotor apparatus. We now see that this disturbance has extended to the ramifications of the arterioles in the sweat-glands, that the curb of normal circulation has been withdrawn, and that increased circulation has stimulated the gland to greater activity, and that increased perspiration is the result; that the dilating vasomotor nerves have been stimulated by some as yet undescribed agency, which is not only showing its ravages in other forms, but is declaring itself by the almost ever-present state of perspiration—local and general.

As the result of a neural symptom, and, as it seems, as the result of the increased circulation, may be mentioned a fairly frequent phenomenon

viz., a purpuric eruption. When we see that there is interference with vasomotor nerves, it is known that there must be increased blood supply; it seems therefore that the blood supply is sometimes so much increased, that the arterioles become so enormously distended that minute hæmorrhages are the result, and are shown by the rash which follows. This rash is accompanied, as purpura generally is, by debility and depression. This complication in chronic rheumatoid arthritis is not an altogether unlooked-for one.

Tingling of the limbs or formication exists frequently, and it is generally noticeable in those cases which have had a course of treatment by hot thermal baths. When there is a distinct predominance of the gouty element the skin will be found rough, and by many this has been regarded as urate of soda, deposited after perspiration, which has been induced by the bathing. Existing as such, this could not be termed a neural symptom, the irritation being of a physical kind. But cases are seen where no deposit is observed, where no gouty element preponderates, and yet where the irritation is at times most troublesome, and in these it is more difficult to account for the symptoms.

The muscular atrophy which is noticed in this disease, and which is so constant, is also early in appearance.

It is most frequently observed in the dorsal interossei, but no sets of muscles are free. There seems to be a predisposition for the temporal muscles to be attacked, causing the temporal fossæ to be deepened, giving an appearance of undue prominence to the malar bone and the zygomatic arch.

But in the arthritis which follows rheumatism, and is distinctly a rheumatic affection, the muscular atrophy which is often present, is seen to be depending upon, and subsequent to, the joint affection; whilst in rheumatoid arthritis the atrophy affects the smaller muscles and seems to act centripetally, and is concurrent and very frequently previous to the joint affection. Why muscular atrophy should be so prominent in this disease is not quite satisfactorily explained; but it would appear, upon reflection, that in a muscle there is more wear and tear, consequently more degeneration of its component particles, which component particles are not replaced by healthy ones, owing to the poisonous agent which is pervading the system, affecting pro-

bably special nerve fibres (trophic) or the vaso-motor nerves.

In support of this it is seen that those muscles which have the most work to perform, which have been the most constantly brought into action, are those mostly affected in this disease (Fig. 5).

If the result of the reflexes were more satisfactory than they are, possibly very much more light would be thrown upon this obscure disease. Our observations do not point to, and we cannot bear out the statement made of the increase of the reflexes in rheumatoid arthritis. We are ready to admit that we have found them increased in chronic rheumatic arthritis, but in so far as our researches have gone we must say that in rheumatoid arthritis the balance is decidedly in favour of diminished tendon reflex, in inverse proportion to the presence and intensity of the neural symptoms.

The Treatment of Chronic Rheumatoid Arthritis.

The treatment of chronic rheumatoid arthritis has at least this satisfaction about it, viz.—it

can be divided into two sections according to the results, satisfactory and unsatisfactory. Now the grounds upon which we say this, are these: we have seen chronic rheumatoid arthritis in all its stages, from early youth to advanced old age, and we have come to the conclusion that to treat chronic rheumatoid arthritis with anything like a tolerable or reasonable approach to what we can call satisfaction, we must attack it as soon as ever the slightest sign of it appears. This seems to be becoming known now more than it used, but the delay even yet sometimes shown in commencing to treat, or shall we say the apathy with which the early symptoms of chronic rheumatoid arthritis are regarded (owing, we believe, to the fact that these early symptoms are not grasped to the fullest extent), is mainly the cause of the dreadful ravages which it creates.

What is the early stage of rheumatoid arthritis, and how are we to diagnose with such accuracy as to be able to step in before so much mischief has been done?

The answers to these questions are undoubtedly difficult, and unfortunately, when the true nature of the disease is manifested, by the symptoms

removing it beyond all doubt, is the time when the hope of cure is well-nigh gone, and palliation the only consolation.

Perhaps the best manner in which to discuss the treatment of chronic rheumatoid arthritis, is to take a case in as early a condition of the disease as can be detected, and watch it through.

If a patient (any age) presents him or herself, complaining of lassitude and pains in the joints, associated with the neuroses before mentioned and with rapid pulse, no rise of temperature, with weakness, emaciation, loss of appetite and colour, which cannot be accounted for on the ground of personal pulmonary phthisis—the family history being phthisical—then it is time not only to be on our guard, but to commence treatment *ab initio;* and what is the treatment in such a case as this?

Tonics from the commencement—internally iron, arsenic, quinine, salicin, strychnine, citrate of iron and quinine, and cod-liver oil, notably the last named.

(Cod-liver oil having gained its first reputation in rheumatism, and known as Queen Anne's cure for rheumatism, long before its use was thought of in phthisis.)

Chronic rheumatoid arthritis, it must never be lost sight of, is a disease of debility.

Cod-liver oil, in small doses at first, must be pushed until the patient takes as much as the stomach will tolerate. This, with iron and arsenic —that is, the oil floating on the medicine— seems in some way or other to act most beneficially: and not only that, can in many cases be far better borne than when taken separately.

One of the best mixtures is the ammonio-citrate of iron with iodide of potash and arsenic —this if persevered in will check, if anything is to check, the ravages of this insidious complaint.

One consideration in the treatment of this disease is the advisability of the administration of iron.

We have said that the mucous membranes are not particularly blanched in proportion to the anæmia present; it seems to us, upon careful consideration, and upon the observation of the action of iron in many of these cases of rheumatoid arthritis, that when the blanching of the mucous membranes is more pronounced, the patient appears to bear the administration of iron better and with more satisfactory results. But

in those few patients who do not take kindly to the drug, we have found that if one of the less astringent forms be employed, in conjunction with a salt such as iodide of sodium or phosphate of lime, or if it be given in the form of a pill, it is much better borne.

If the above treatment can be combined with hot baths, such as Bath, Buxton, or many of the Continental Spas afford, the benefit will doubtless be increased; associated or not (according to the condition of the patient) with douche, massage or galvanism. Galvanism does not exert much influence upon it—*per se*—but combined with friction and massage, there certainly seems to be marked improvement in some cases.

Opinions are divided as to what extent movement should be practised in the early stages.

This is an essentially important question, and must depend upon the calling of the patient.

If engaged in a laborious or wearing occupation, rest is imperative, and in these early stages the amount of exercise taken should not exceed that which is just necessary for fresh or change of air.

We have dwelt upon the fact that joints submitted to wear and tear are the first to go, and

present the most obstinate features in the later stages; bearing this in mind, one of our strong endeavours should be to remove all possible opportunities for the susceptible parts to be attacked, these susceptible parts being, as experience has shown, the joints.

If a sedentary life has been indulged in, and not much manual labour, let the patient take a fair amount of exercise in the open air, in suitable weather; if a standing occupation, or one in which the lower extremities have been principally engaged, rest by lying down frequently is indicated.

These remarks, it will be observed, are general, and appeal more to common sense than any special line of treatment; but we as emphatically assert that it is more by the carrying out of these principles, and persisting in them, and by taking them all up, and by not considering anything too commonplace or ordinary to employ, that we can hope for an improvement.

It will be observed that so far no local treatment has been mentioned—we have purposely avoided this, because we insist upon the disease being such a constitutional one, that to

wait until local symptoms showed themselves would, in our opinion, be most unwise, as then we should have to confess to the trouble having gained such a start as to render cure hopeless.

If the patient present himself beyond the first stage just mentioned—that is, should he come to us with the typical spindle-shaped swelling of the phalangeal joints, or the rheumatoidal twist of the hand to the ulnar side, or any of the articular displays of the disease which form such striking examples—our work is less satisfactorily accomplished, labour how we may.

We share the views of Dr. Hensley, the senior physician to the Mineral Water Hospital, in saying that once a joint is spindle-shaped, once an ulnar tendency is displayed, once a fixation of joint is produced from rheumatoid arthritis, we can never hope to see that joint normal again.

What are we to do in such a case? Curable as we consider it in the first stage discussed, we can but keep it from running apace by the general treatment just mentioned, and by local where needed.

The local treatment resolves itself under two

headings—(*a*) Local applications of blisters, liniments, etc.; and (*b*) passive motion, friction, rubbing, etc.

Dr. Spender recommends bands of iodine above and below the affected joint. If there is much pain the application of the extract of belladonna, made into the consistence of honey, gives much relief; with strapping from below the joint to a point some distance above it, if there is much weakness. If there is effusion as well as thickening, some form of vesication, applied a short distance away, will frequently give much relief; or strapping with or without the liniment of iodide of potash with soap. But the most important local treatment that we can employ is that of passive motion, steadily and methodically persevered in, where the joint is becoming progressively stiffened. What answers fairly well here is a gentle course of gymnastics —pulleys, dumb-bells, elastic bands with handles; all of which are of the greatest service, if undertaken short of fatigue.

We feel confident that we shall not be making a wrong statement when we say, that much doubt is present in the minds of those suffering from chronic rheumatoid arthritis as to what

Spa they should resort to, to gain the greatest benefit.

After the remarks just made on this particular disease, it will be apparent that much care ought to be exercised in the selection of a suitable watering-place. We have seen how prominently debility shows up, we have seen how the disease bears a resemblance first to this complaint, then to that : it remains therefore to ascertain what is the near as possible correct prevailing condition of our patient, in order that we may find a mineral water which has that product which will best be able to cope with it.

It seems to have taken a firm hold upon the public, that, if a patient be suffering from a disease which they think is rheumatism, which they are told is rheumatism, or which has some connection with rheumatism, a course of mineral waters is the orthodox treatment to adopt. But the public mind does not differentiate sufficiently, not only between different diseases, but even between varieties of the same. It thinks that, if a treatment is good for a certain disease in one of its stages, it holds good for a more advanced condition of the same. Here we do not hesitate to relieve the public mind of what

we must candidly say we consider an error, and give this reason—the saline water of one Spa will in many cases work great good; after a time the particular disorder may return, and, from various reasons perhaps the patient is deterred from availing himself of the same treatment as formerly, and he lets his case run on, until he is in a condition in which debility plays a by no means insignificant part. Now we say that before resorting to his former plan of treatment, he should carefully consider, acting under medical orders, whether this disorder, *plus* debility, could not be better treated at a Spa where the chemical ingredients are present in a different form, or at least in different proportions, and which might therefore meet the requirements of his case better.

It is a most common thing to hear that a patient derived so much good from a stay at such and such a place, that he always goes there when he feels a return coming on. We repeat that we consider this a mistake, as we think is clearly shown by the example given above.

Now in the so-called disease chronic rheumatoid arthritis, the care of selecting suitable mineral waters is of paramount importance, and we would

wish to dwell a little upon its consideration. In this country the Spas which are most frequently patronised for chronic rheumatoid arthritis are Buxton, Harrogate and Bath.

It is not our intention to draw any comparisons between these various Spas; but since the subject under consideration is chronic rheumatoid arthritis, the statement must at once be made that Bath and Buxton are the two most suitable ones: for the great reason that at these places the waters are used more externally, and that this bathing is supplemented by the waters being taken internally as well. Chronic rheumatoid arthritis, being a local as well as a general or constitutional disease, is thus met at all points.

We will not attempt to say which of these two Spas is to be recommended before the other. That is a point which must be decided by the medical adviser, when he has borne in mind the exact condition of his patient, and the fact that Buxton is situated about nine hundred feet above sea level, bracing, temperature rather variable, somewhat above average rainfall, but a good drying soil; whereas, on the other hand, Bath lies low, and is relaxing.

The constituents of the waters are somewhat

similar, but it should be remembered that the proportion of solids in the waters of Bath is much greater than in those of Buxton, and the temperature of the latter considerably lower than that of the former.

Before leaving the subject of treatment, we would call attention to the benefits which are to be derived from a sea voyage, taken under much the same conditions as those which are taken in cases of phthisis.

The disease, characterised by debility as it is, cannot but be checked, or at all events placed in a position of non-progress, by the patient resorting to climates of more equable temperature.

The rest which he obtains on board ship preventing the wear and tear of his articulations; yet at the same time the amount of exercise which he can indulge in, is just sufficient to carry on the character of the movements most to be aimed at when the joints are attacked in this disease.

There is no doubt that the climate of these islands is eminently qualified—especially in the winter time—for the furtherance of chronic rheumatoid arthritis. We therefore urge that if possible a sea voyage is to be taken, above all when the history of phthisis is plainly marked.

Apart from the mere fact of placing the patient in a warmer climate, and other hygienic conditions, must be considered the chemical character of the atmosphere which he inhales when on the sea. Bearing in mind what the tissues are (chemically considered) in chronic rheumatoid arthritis, we must acknowledge that the inhalation of sea air, more or less impregnated with inorganic chemical ingredients, goes some way to counteract—if ever so small—the tendencies which the diseased tissues are prone to undergo.

The immunity which mariners seem to derive from chronic rheumatoid arthritis is amply proved by the few who repair to Bath for treatment, while men and women engaged in almost every kind of labour are seen in fairly good representative numbers. The fact is, that those whose occupation is of a marine nature are those who are found to be fewest in their claims upon mineral water treatment.

Far from recommending the sea air in a general way, we would only do so in the comparatively early stages, before the local symptoms had developed.

We feel confident that in advanced cases of rheumatoid arthritis considerable caution ought

to be exercised before advising a sea voyage or a residence at the sea-side, especially the latter; for it has been proved that benefit has not accrued even to those whose condition at one time seemed to point to their deriving much good from such a course, as they have come back and been readmitted infinitely worse than when they left.

CHAPTER IV.

Osteo-arthritis.

Having drawn distinctions between rheumatoid and rheumatic arthritis, it will be anticipated somewhat that the term osteo-arthritis will come in for a share of special mention.

Let it be understood at once that it is not our intention to describe it as a disease due to some different cause from that which produces rheumatoid and rheumatic arthritis.

We must, however, admit that we are in favour of letting the term osteo-arthritis stand, when it presents the features of advanced chronic rheumatoid arthritis, exhibiting such changes that the question of bony implication now comes to the front. Thus we enter upon a new phase in considering disordered joints, by considering the inflammation of these joints; the inflammation of the non-bony structures extending ultimately to the bones themselves, and thus now,

for the first time in the disease, meriting the term osteo-arthritis.

Let us be clear in considering what the causes of osteo-arthritis are. To our minds we cannot help thinking that the cause of osteo-arthritis is chronic rheumatoid arthritis; and that that is so seems as apparent as the differences which we have shown to exist between chronic rheumatoid arthritis and chronic rheumatic arthritis.

Rheumatoid arthritis and osteo-arthritis are respectively the first and second stages of one —a debilitating disease. Osteo-arthritis is not found with anything like the frequency in young people that rheumatoid arthritis is. That is to say, to find a case of thickening of the joints, pain, and swelling, but devoid of grating and appearances of bony changes, is common enough; but to find osteophytic outgrowths or much creaking from additamentary bones is rare.

The change from rheumatoid to osteo-arthritis is somewhat separated by an interval of comparative freedom from pain and much discomfort. The patient may recover from a long bout of rheumatoid arthritis—that is, to a certain extent—under proper care and attention; then,

after a longer or shorter period, he will suddenly find an accession of symptoms, somewhat different from the last, in the shape of bony changes, which did not show themselves in the previous illness.

These are the cases which we so frequently—too frequently—see, where the articulations are simply reduced to the condition sometimes of a hardened mass, the bones are mortared together, movement abolished; or, short of that, movement is so restricted as to forbid any play of the limbs. Hips, knees, temporo-maxillary articulation, all the joints, may ultimately participate in the general ankylosis.

Treatment of Osteo-arthritis.

As to the treatment of osteo-arthritis, nothing much can be done beyond relieving pain and treating symptoms of intercurrent maladies.

Bathing may soothe temporarily, but to expect any real treatment of a beneficial character from Bath or any other thermal water is out of the question; for in osteo-arthritis we see the opposition to treatment in its superlative state.

Bony enlargements and outgrowths are obviously not to be reduced by any medication at our disposal. We can but relieve pain by some of the applications enumerated in speaking of rheumatoid arthritis. Strapping with empl. ammon. cum hyd. answers well. Much as full liberty to the patient to move his limbs must be deprecated, so much must absolute rest be deprecated also. Supposing the joint be stiffened, a little passive motion each day, but only for a short time, should be practised. There should be periods for moving the joints freely, to be followed by periods of complete rest. If, however, complete disorganisation of intra-articular structures has taken place, and if there is very great tendency and disposition to ankylosis, it is almost better that, in the case of the lower extremities, fixation in the straight position should be allowed to take place; then, of course, the more a joint affected with osteo-arthritis is kept quiet—and absolutely quiet—the better. For this purpose a stiff application, such as splints, will not only give much support (seeing that the ligaments are rendered almost practically useless), but will obviate pain by preventing movement.

Finally, the question of operative interference presents itself. Can anything be done in this way? We think so; but the cases in which the interference is to be exercised must be well selected. When the patient is rendered wholly incapable of walking, from flexion of the legs or thighs, and is not too much advanced in life, and where the disease is not of particularly long standing, forcible extension under chloroform, with the usual precautions afterwards, is, we think, perfectly justifiable. In the face of some of the very brilliant results at the hands of Dr. Brabazon, in the Mineral Water Hospital, we think the encouragement for the furtherance of this treatment very great.

CHAPTER V.

Rheumatic Arthritis.

After the foregoing, it will be readily observed that great care has been taken to represent chronic rheumatoid arthritis as a disease quite distinct from rheumatic arthritis. Although they are separated by positive and incontestable features, these features, to the clinical observer, might at first sight present very forcible impressions of what he sees in a case of rheumatoid arthritis.

With the knowledge with which we are at present acquainted, it does not seem too much to lay down a doctrine which would go to show the distinct differences existing between them.

Rheumatoid arthritis has been shown to be a disease having its origin quite independent of any rheumatic diathesis or tendency to it. It is now proposed to assert, in the first place, that rheumatic arthritis should not be mixed up or

in any way confounded with rheumatoid arthritis; and, secondly, that it is distinctly a disease having rheumatism in some form or other for its origin.

It has just been stated that many of the characteristics of chronic rheumatic arthritis will bear to the clinical observer many features apparently identical with rheumatoid arthritis; but if the investigation be pushed, it will be seen that, though they are similar, there are points about them which will, we think, be sufficient to convince that they might, with just reason and consistency, be relegated to two perfectly distinct sections.

To go to the point at once, it must be stated that chronic rheumatic arthritis (by which term we shall for the future mean an arthritis in which rheumatism has been proved to play a distinct part in its causation) is an arthritis which follows an attack of acute or subacute rheumatism, whether gradually merging into the arthritis, or happening some considerable time before the joint trouble becomes manifest.

To speak briefly, it is proposed to call rheumatic arthritis a disease in the causes of which rheumatism has played an all-important part.

The question may now be asked, What term should be given to an arthritis which has shown itself at a given period, without any previous attack of rheumatism, yet with an acute attack supervening on that arthritis?

The answer will best be given by saying that that will depend upon the clinical and physical aspects of the resulting deformities, coupled with the presence or absence of the neural and other symptoms previously described.

It may be rheumatoid arthritis in the first instance, and the supervening acute rheumatism would perhaps be instrumental in producing various changes, approaching a type of that seen in chronic rheumatic arthritis. In that instance it might be described as a mixed case. Some joints may appear rheumatoidal, and others rheumatic, only to be separated by the local manifestations which they offer.

Such a case is well seen in Fig. 6.

Charlotte M., aged twenty-four, noticed for twelve months pains and weakness in the hands, particularly in the phalangeal joints, with progressive emaciation and sweating. (It may be as well to add here that the patient volunteered the information about the emaciation and the

sweating.) At the end of this twelve months she had an attack of acute rheumatism.

By referring to Fig. 6, the hybrid condition of rheumatoid arthritis and rheumatic arthritis is well seen. The proximal phalangeal joints of the second and ring fingers are particularly significant: neither the spindle-shaped swelling of rheumatoid arthritis, nor the typical appearance of joint in rheumatic arthritis, as seen in Fig. 2, in which case it will be noticed the articulations do not present such an amount of extra-articular swelling, but appear more as an enlargement of the normal shape.

Rheumatoid arthritis has been shown to be a disease of debility (whatever that may mean); rheumatic arthritis may be defined as "a disease occasioned by debility," but that debilitating disease has unquestionably been rheumatism.

We have seen how misleading the term rheumatoid is, making the reader or observer entertain the existence—previous or not—of the rheumatic element in that form of arthritis. We would almost prefer to hear the word rheumatoid applied here, if it is to convey an idea of rheumatismal origin, instead of to those

cases which have just been described; but as it merely bears the impression of a similarity, and not of a fact, such as rheumatic arthritis conveys, it is obvious that this more exacting term is more applicable.

Rheumatic arthritis on the whole need not be regarded as of such a serious nature from a crippling point of view as rheumatoid arthritis. It commences with acute, or it may be subacute, rheumatism. The subacute may be so slight as to escape the notice of the patient, in so far as the fever goes. The patient recovers more or less from this attack; then, after a longer or shorter time, without any particular exacerbation, swelling in the joints begins to show itself,—not necessarily, but most commonly, the joints that were affected at the time of the attack.

These swellings—although positive enough in themselves—can be characterised by many negative signs. For instance, there is not the thickening of the capsule to the same extent as in rheumatoid arthritis, and there is no effusion. The swelling seems to be due to the intra-articular cartilages and capsules combined. When emaciation occurs, as it so frequently does in these

cases, the condition of this joint deformity is very well seen (Fig. 2.)

Taking for example the metacarpo-phalangeal articulations, which are so frequently affected, so much disorganisation of joint structure takes place, that distinct dislocation of the heads of the phalanges is noticed, causing the heads of the metacarpal bones to stand out, exposing about two-thirds of their articular surface—(*vide* illustration, Fig. 8, Margaret M., aged thirty-seven)—showing the dislocation of the proximal phalanges in front of the heads of the metacarpal bones.

This seems to be the condition when disorganisation of tissue has taken place; but when disease has occurred, and an attempt at organisation has gone on, adhesions have formed and the joints are apparently ankylosed. In these cases the swelling is still less marked, it being quite common to observe no departure from the natural size, and yet perhaps the joints moulded together, producing an actual condition of synostosis.

As in rheumatoid arthritis the patients are of a worn-out appearance, with paleness of skin and frequently much emaciation; but, on the whole,

the anæmic condition is not so persistently present.

The configuration of the swelling in rheumatic arthritis frequently appears as an exaggeration of the articular ends of the bones, whereas in rheumatoid arthritis the swelling is one smooth uniform shape, commencing some distance above the joint, and terminating some distance below it (*vide* Fig. 1).

There is frequently more polyarthritis in rheumatic than in rheumatoid arthritis, except in the form after gonorrhœal rheumatism, when monarthritis is mostly the rule.

It will perhaps be noticed that one of the greatest difficulties in diagnosing whether a case is rheumatoid or rheumatic is in the uncertainty which must prevail, more or less, regarding the correctness of the statements made by the patient, as to whether there has been any previous acute, subacute, or even milder still, form of rheumatism. What diagnosis are we to put upon the results of acute rheumatism coming on in a patient already suffering from a previous arthritis, which has had its origin in a more or less obscure manner.

We have already said that it must depend

PLATE VII.

Rheumatoid Arthritis, showing Ulnar Tendency.

Fig. 7.

Right and left hands of Ann S., aged fifty-two. She first noticed pains in wrists when wringing clothes; has never had acute rheumatism. Well-marked rheumatoidal changes seen in metacarpo-phalangeal articulations (first and second) of right hand, and in ring finger proximal articulation in left hand.

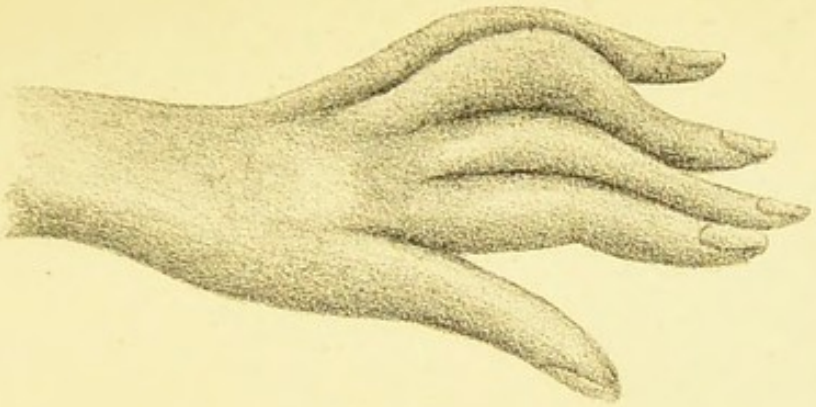
Showing Typical Contractions in Rheumatic Arthritis.

Fig. 8.

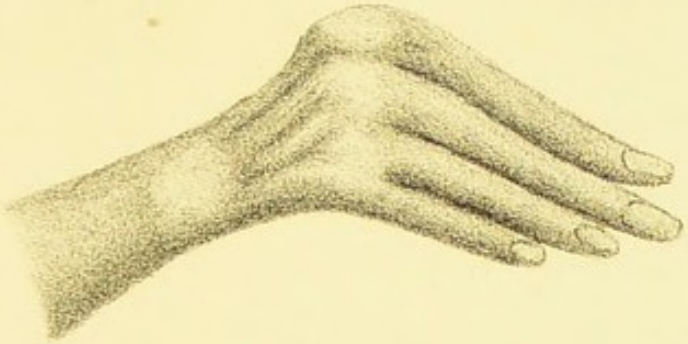
Right and left hands of Margaret M., aged thirty-seven; acute rheumatism twice. When seventeen years of age fingers at once assumed flexed and ankylosed condition, as depicted. This may be well regarded as an advanced condition of rheumatic arthritis, although the swelling and deformity appeared much about the same time.

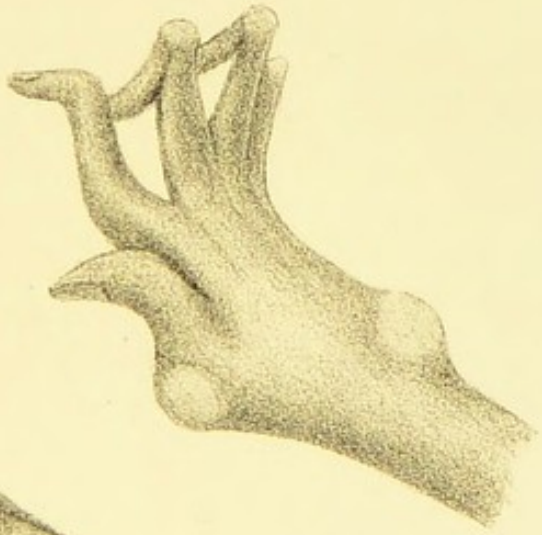
[*To face p.* 96.

PLATE . 7 .



(Fig. 7.)





(Fig. 8.)

HANHART IMP.

upon the ultimate clinical appearances prevailing. An important consideration here presents itself. Assuming that the patient in this recent attack of acute rheumatism develops cardiac mischief, will not the effect upon the progress of the resulting disease be regulated in proportion as the cardiac lesion is severe or mild?

The importance of good rhythm being maintained, of good nutritive processes being kept up to their proper state of health, or at least as near this state as is possible, is, to say the least of it, imperative, when we have a case of arthritis having its origin in debility, and its healthy progress further interfered with by a supervening acute rheumatism; for we have the two opponents to combat—the one in the cause of the arthritis, the other in the acute rheumatism and its sequelæ, which come, as it were, to add fresh opposition to our endeavours to heal. We have now, let us say, taking them in their order of appearance, a so-called case of rheumatoid arthritis, *plus* acute rheumatism, *plus* endocarditis, *plus* rheumatic arthritis; the resulting condition being an amalgamation of the first, second, and fourth of these.

Let us now look and see whether we can so

alter and control the third one, endocarditis, as to benefit the remainder; but, for purposes of simplicity, for the moment regarding them in their places of quotation.

First of all, the action of a heart, more or less rendered arhythmical by endocarditis or myocarditis, upon a case of rheumatoid arthritis. The most important of these is, perhaps, the fact that tissues, especially muscular ones, already impoverished by the causes of rheumatoid arthritis, now lose another of their sources of nutrition by obstructed blood-supply. Possibly there may be pulmonary congestion subsequent on regurgitation, with malaëration. That these complications do in any way produce a separate and distinct pathological condition, as a resultant of combined forces, is not evident. Therefore, by treating a case in which cardiac complications, after acute rheumatism, show themselves, as a heart case, in the orthodox (but strictly orthodox) way, is the best method to prevent or modify those ulterior sequelæ of chronic rheumatoid arthritis.

Take, for example, a plain case of chronic rheumatoid arthritis—how frequently is it seen associated with local œdema? Take a case of

mitral disease—do we not at once think of examining for a local œdema?

Imagine, then, a combination of these, and it will be readily seen how formidable the resulting trouble becomes. Or take a case emaciated by rheumatoid arthritis; then take a case of severe cardiac obstruction, in which the tissues simply are becoming starved for want of nourishment, which good blood-supply only can produce. Imagine these two serious troubles occurring in the same individual, and must not every attention be given to attempt to mitigate one or other, or both?

From what has been said it will be readily understood that if a patient presents himself suffering from heart disease, the presumption is that the case is more probably a rheumatic one than a rheumatoidal.

It may be of service to mention this, considering that it is not always that a clear history of acute, still less of subacute, rheumatism can be obtained; whereas the fact of cardiac disease being present goes far to throw a light upon the subject. For this reason, then, it may be laid down that cardiac disease is more prevalent in rheumatic than in rheumatoid arthritis.

As regards the size of the joints which are attacked, it is found that the larger joints are affected first, and the smaller ones later. While viewing rheumatoid arthritis as more severely crippling than rheumatic, it must be admitted that, given a severe acute attack followed by a protracted convalescence, should this case show, ultimately, distinctly retrograde propensities, the articular mischief may result in as much deformity from ankylosis as many of the more advanced cases of rheumatoid arthritis, which have become disorganised from disintegration of their inter-articular structures.

The most troublesome results of rheumatic arthritis are seen in the extreme flexions which the joints—especially the small ones—sometimes undergo. Not so much associated with pain, and sometimes almost devoid of any swelling; in fact, the greater the flexion, and the firmer the fixation in that position, the less the joints are enlarged (Fig. 8).

This, associated with the atrophy which the muscles must undergo from sheer want of use, makes up a picture which must be clearly discriminated from rheumatoid arthritis, in which the muscular atrophy is an early symptom, and

not dependent upon the joint trouble as in the present case, the contraction at the same time being far less intense, in fact being quite the exception in rheumatoid arthritis. Therefore we maintain that this constitutes an important difference between these two diseases.

The muscular atrophy is not more marked in this than in rheumatoid, but that it is present is certain, differing from the rheumatoid in being secondary to the joint lesion.

The neural symptoms which characterise the rheumatoid type are mostly wanting in rheumatic arthritis, especially the local sweatings.

The pulse, which in some of the rheumatoid cases shows such an almost characteristic increase in rate and hardness, is not so in rheumatic arthritis, but is often weak.

There is one feature in rheumatic arthritis which must be expressed, and that somewhat emphatically, when speaking of the differences between it and rheumatoid arthritis, and that is the tendency to subacute attacks. These subacute attacks (or they may be acute) may come on at any period, and are accompanied by the usual symptoms of rheumatism. There is, however, apparently more of a tendency for synovitis

with thickening and effusion, especially in the knees, in these acute attacks, supervening on the chronic rheumatic arthritis, than when no previous arthritis exists.

These attacks do not last long, and are not, as a rule, accompanied by much local disturbance except pain. Redness and heat do not exist to a great extent, but swelling is the most characteristic feature.

It is rare to find the cases which have been described as chronic rheumatoid arthritis taking on an action of this sort—that is, an aggravation, local or general, or both, of all the symptoms which characterise chronic rheumatoid arthritis. But what does happen is, as has been already mentioned, an acute attack of rheumatism supervenes on an already existing arthritis; this being quite different from the aggravation of the symptoms which characterise rheumatic arthritis. The one, it will be observed, is a something added, the other merely an increase of the same.

Some writers have mentioned in their accounts of rheumatoid arthritis (and it is, of course, assumed that they meant rheumatic arthritis too) that the reflexes were increased.

Without proceeding to deny that this exists, it will perhaps be better to explain it on the ground that they did not consider rheumatoid and rheumatic in two different lights, as it is our custom now to do. But assuming that they did, assuming that they adopted the division which we advance as being characterised by some very plain and evident points, we think that those cases which would have been placed under the heading of rheumatoid would be found to have their reflexes on the whole unimpaired or normal; but under the heading of rheumatic they are undoubtedly increased, especially late in the disease.

Rheumatic arthritis, on account of its being a disease of rheumatism, and rheumatism being a decidedly common affection, thereby presents itself in greater frequency than rheumatoid. If then the reflexes are increased, as they appear to be, and if rheumatic and rheumatoid arthritis are classed as one and the same disease, of course the reflexes would appear to be increased in rheumatoid, as has been observed by other writers.

Whilst speaking of the difference between rheumatic and rheumatoid arthritis, we must not

shut our eyes to the fact that the similarities are indeed in some cases very marked, nay, sometimes confusing, when the typicalities of each present themselves in the same individual. We must, too, state our readiness to admit the resemblance there is in the cause of each of these diseases: the one—rheumatoid—being produced by debility of some unascertainable origin; the other—rheumatic—by the debility which an acute attack engenders, or which a deranged heart produces.

Treatment.

Both are therefore diseases of debility, and for this reason the question of treatment is an important one.

Both diseases require to be treated by giving good and suitable food, medicines, fresh air, etc.; the et cæteras being the remedies generally administered in such cases.

How the mineral waters of Bath improve the tone of the patient hæmatinically, and how they neutralise any stored-up deleterious matter,—how

the tissues are washed thoroughly by an alkaline bath,—how by the internal use of the Bath waters the blood is washed and its alkalinity maintained,—and how medicines (iodine, strychnine, especially arsenic in conjunction with these), and cod-liver oil given with iron and iodides of sodium in gradually increasing doses, are quite a sheet anchor in rheumatoid and rheumatic emaciated patients, and which seem to exert almost specific influence in these diseases,—are facts which are happily becoming well known.

But how the fact that patients do not repair to Bath in the early stages of the disease; and how unfairly many of them, even when they do come, treat themselves, and the Bath waters too, by availing themselves of just sufficient baths to make them acquainted with the mode of bathing—are facts which are as regrettable as they are true; and especially when they draw the conclusion that they will derive just as much good by having their own warm baths at home, because they have not stayed long enough to see for themselves the good which would almost without fail show itself in appropriate cases: which can be summed up by saying that they should repair to Bath in the very early stages of the disease.

But in those cases where joint deformity is carried to extremes, or, in short, where the disease is far advanced, the hope of improvement from the Bath thermal water treatment is indeed remote.

Though not wishing to dwell unnecessarily upon what might be considered the acknowledged treatment of this disease, we would mention that when acute or subacute attacks arise, as they so often do, thereby revealing the existence of rheumatism, and declaring its connection with rheumatic arthritis—the administration of salicin or salicylate of soda will nearly always be followed by benefit. The advisability of interfering at once is of paramount importance, for it is to these repeated attacks that the ultimate crippling in rheumatic arthritis is due. On the other hand, when an acute attack arises in rheumatoid arthritis, which, as we said, "is a something added," and is of rare occurrence, the treatment by salicin and sulphate of quinine has a corresponding beneficial effect.

Before leaving the subject of rheumatic arthritis, we would speak of the treatment of cases of fixed joints.

The frequency—the too great frequency—of

cases presenting themselves with knees, fingers, elbows, etc., flexed and fixed from inter-articular adhesions, claims a most important share in the treatment of chronic rheumatic arthritis. These are the cases which, falling into the hands of the bonesetter, raise him to a false position of trust by the public when his treatment proves successful, as indeed it frequently does.

It must be stated, in the first instance, that the preventive treatment is the best; and why patients should be allowed to develop into those contortive displays which we so frequently see, is indeed regrettable. But what has been done has to be undone in this particular case. We are all taught, and very properly taught, not to show too much readiness or haste to interfere with joints—that joints are structures which must not be roughly handled; but at the same time is not this warning note sounded too much? Are we not wanting in enterprise when we see a young subject, crippled perhaps in all joints, wasting his or her life away because locomotion has been rendered impossible, when we perhaps ply medicines and local applications which we know well cannot sever the adhesions formed inside the joints?

In a paper before the Bath and Bristol Branch of the British Medical Association some two years ago, Dr. Brabazon read notes of several cases of fixed joints—fixed by adhesions after rheumatism—which had been treated by manipulative force under chloroform: broken down and straightened, with most excellent results. In hardly any case were there either constitutional or local disturbances (the subsequent appropriate treatment by means of rest, ice-bags, etc., being of course observed). In some, fairly good movement was obtained. In others, where fixation and ankylosis resulted, it did so in such a position that, compared with the former condition of the patient, his existence was at least much more tolerable and comfortable. Does there exist sufficient ground for discountenancing the operative treatment by forcibly breaking down these adhesions? We think not.

Through the kindness of Dr. Brabazon we here give the abstract, which he has drawn up, of the more important cases under his care which were treated by operative interference:—

"I think the four cases* recorded prove that the bugbear of consequent inflammation and other dangerous consequences exists more in apprehension than in reality. It will be observed that in none of the cases recorded did any consequent untoward symptoms arise—of course, care must be taken in selecting cases for forcible extension. The condition present—local as regards the joints, and constitutional as regards the patient—must be seriously considered before adopting such a course of treatment. No one, I presume, would think of adopting forcible extension under circumstances of acute or subacute inflammation, or even of articular irritation; nor should such treatment be recommended where there is a constitutional

* Case 1.—Ferris, clerk, aged sixty; chronic rheumatic arthritis.

Case 2.—Leggatt, aged twenty; chronic rheumatism.

Case 3.—Kelly, aged twenty-four; chronic rheumatic arthritis.

Case 4.—Eliza F., aged sixty; chronic rheumatism for fourteen years, gradually getting worse; attack of subacute rheumatism in right knee-joint; confined to bed fourteen weeks, and found at the end of that time that the knee could not be extended at all.

All these cases were successfully treated.

(Reported by C. T. Griffiths, Esq., Resident Physician.)

taint of struma or syphilis; but I firmly believe that, under fairly favourable circumstances, there is little danger of evil consequences from resorting to the treatment of knee-joints in a state of apparently permanent flexion by forcible extension, and that by so doing many an unfortunate patient may be rescued from 'crippledom for life,' and enabled, as these patients have been, to earn their daily bread. On these grounds I venture to advocate the much more frequent adoption of forcible extension than, as it appears to me, is the rule at present.

"A. B. Brabazon, M.D.

"*Physician to the Royal Mineral Water Hospital, Bath.*

"P.S.—I have no doubt that many cases which have swelled the list of successful treatment by 'bonesetters' have been cases such as those recorded. The apparent reduction of a limb to a favourable position, the recovered power of locomotion, the diminution or disappearance of pain, all tend to the glorification of the 'bonesetter,' and are adduced as proofs of the pre-existence of an unreduced dislocation, unrecognised, of course, by the duly qualified surgeon who had been previously consulted."

PLATE VIII.

Rheumatoid Arthritis and Gouty Deposit on same Hand.

Fig. 9.

W. H., aged forty-five, carpenter. Father died of gout; mother, no rheumatism or gout. Two brothers; one suffers from rheumatoid arthritis. One sister; healthy. Twenty years ago got rheumatoid arthritis in left foot. Now parts affected as seen in Plate, in phalangeal joints of fingers. Right index finger, where alone the deposit of urate of soda was observed.

Chronic Gout.

Fig. 10.

T. B., aged fifty-five, coachman. Father died of old age; mother also died of old age. No brothers or sisters affected with gout or rheumatism.

[*To face p.* 110.

PLATE. 8.

Fig. 10.

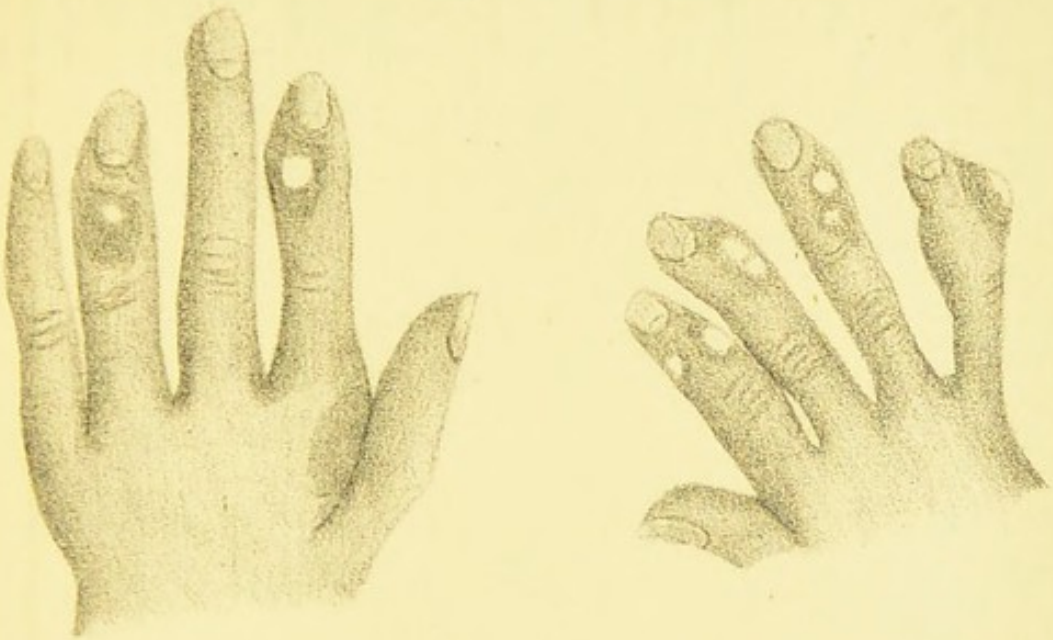
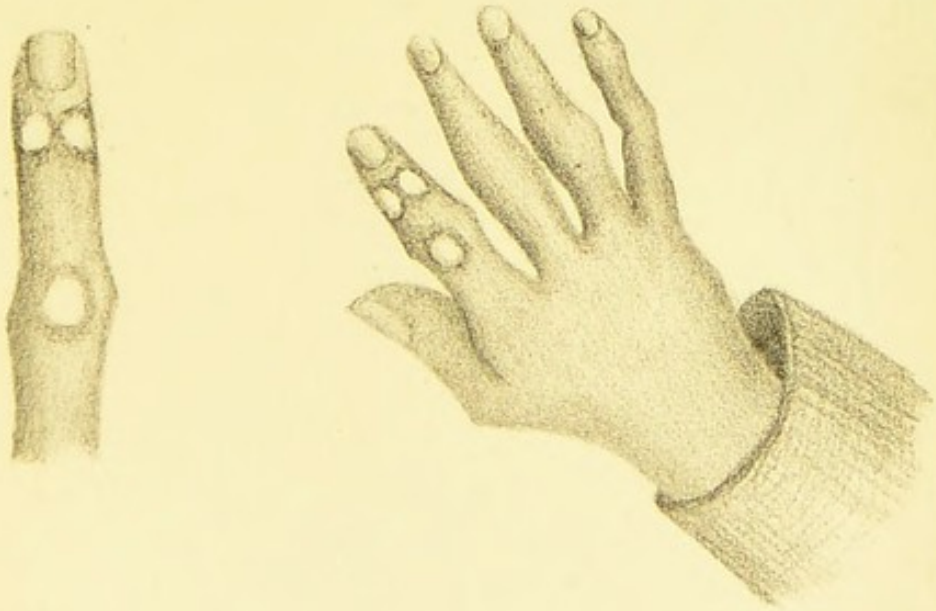


Fig. 9.



CHAPTER VI.

Chronic Gout.

Bearing in mind the closeness in resemblance of the symptoms of some forms of chronic rheumatism to gout, some remarks on gout are, we feel, called for.

If we watch our patient through an attack of acute gout, and have him under supervision afterwards, we are, comparatively speaking, prepared for the symptoms of chronic gout which supervene, however slight and indefinable they may prove; but without any previous knowledge of the patient when he presents himself suffering, as many do, from symptoms closely resembling some of the chronic rheumatic forms, how are we to decide upon a satisfactory diagnosis?

In the first place we must trust greatly to any past history of local acute attacks he may give; secondly, we must trust and place great import-

ance upon his family history; then, thirdly, we must glean what we can from the facts and appearances as they are presented to us.

The history of the patient's life, occupation, and family, are the three great factors to bear in mind; and if deposits occur, the question is virtually and actually settled.

Chronic gout, let us say of a mild kind, differs from chronic rheumatism of a mild kind in this one great particular—that whereas the former is at some time or other nearly always preceded by an acute or subacute attack, the latter by no means is. Yet here we have a case, as far as external appearances go, very difficult to distinguish from that of chronic rheumatism. How shall we distinguish?

The following are some of the impressions made upon us, which we think will guide us.

A patient suffering from chronic gout, where no joint-swelling is noticeable, will point with more precision to the joint attacked—that is, he will localise the pain to that particular joint, and will not speak in such a manner as to express that there is a doubt whether it is the joint itself or in the neighbourhood of the joint.

The favourite joint, as we know, is the meta-tarso-phalangeal articulation: if, however, the patient be suffering from chronic rheumatism simply of the articulations, the frequency with which we hear him say that it is the "foot" he complains of, is much more marked than when he has chronic gout, for he will then probably point to the exact joint as the seat of pain.

There is, again, a more general pain in chronic rheumatism; that is, monarthritis is not the rule. Although far from stating that monarthritis is the rule in gout, it is at least more so than in chronic rheumatism.

The other conditions of age, sex, temperament, occupation, etc., are too well known to justify our entering upon them here. But, to take a somewhat more advanced case of the above—a case in which, let us say, the knees are affected.

Although taken for example, we would pause to call attention to this fact of the knees being now attacked—a symptom of progression of the disease by larger joints being involved. What do we see on examination? Sometimes enlargement—this enlargement taking the form of the whole of the joint area, presenting roundish ill-defined prominences of the gouty deposit in the

synovial membrane, resembling closely chronic rheumatoid or the more advanced form of osteo-arthritis. But there is no grating, as would almost certainly be the case were it this affection.

Besides, the absence of neural symptoms will help to confirm the diagnosis. Of course if tophi exist—and they can nearly always be seen when they do—the diagnosis will admit of no further doubt.

Exacerbations are far more common, as every medical man knows, in gout than in rheumatism.

Treatment.

We have nothing to add to the treatment of chronic gout. It is a disease in which dietary plays so important a part, and has been discussed so much and upon the same lines, that to do so here would be but a repetition.

RHEUMATOID ARTHRITIS.

1. Nervous disease due to debilitating causes.
2. Its last stage is osteo-arthritis.
3. Symptoms constitutional as well as local.
4. Joints most used are the first affected, smaller joints first, running centripetally. Temporo-maxillary joints often affected. Symmetry of joints affected more noticeable.

RHEUMATIC ARTHRITIS.

1. Following rheumatism always.
2. Has no connection with osteo-arthritis.
3. More confined to joints.
4. Large joints often first affected, running centrifugally, and chiefly joints affected that were attacked in previous acute rheumatism. Temporo-maxillary joints never affected. Not so often symmetrical.

RHEUMATOID ARTHRITIS (*continued*).	RHEUMATIC ARTHRITIS (*continued*).
5. Swelling typical, more or less fusiform, and with appearance of effusion.	5. Swelling as if solid enlargement of normal joint.
6. Deformity varying.	6. Greater tendency to fixation of joints in flexed position. Deformity in fingers is fixation in position of extreme flexion.
7. Anæmia early and constant symptom.	7. Anæmia, if present, a later symptom, and never so intense.
8. Many neurotic symptoms, especially early in the disease: sweating, headache, tingling, numbness, pigmentation of skin, etc.	8. Wanting; no headache, etc.
9. Very rarely have subacute attacks.	9. Greater tendency to subacute attacks.

RHEUMATOID ARTHRITIS (*continued*).	RHEUMATIC ARTHRITIS (*continued*).
10. Heart normal but rapid in action.	10. Heart often diseased.
11. Hard rapid pulse.	11. Pulse varies according to state of heart.
12. Reflexes normal or subnormal.	12. Reflexes increased, especially later in the disease.
13. Muscular atrophy concurrent with, and often previous to, joint affection, and small muscles chiefly	13. Muscular atrophy subsequent to joints being affected; often large muscles first.
14. Any age.	14. Adults and mostly over middle age.

The following table shows the analysis of twelve hundred cases which have been under our observation, and which form a considerable part of the source from which the present work is derived.

The joints, etc., affected in 1,200 cases	Shoulders.	Elbows.	Wrists and hands.	Hips.	Knees.	Ankles and feet.	Temporo-Maxillary.	Heart Disease.
MALES.								
Rheumatoid arthritis.	39	24	66	12	142	97	38	1
Rheumatic arthritis. .	48	38	14	24	115	52	...	75
Rheumatism (chronic)	112	18	45	84	177	96	...	33
Mixed cases (rheumatoid and rheumatic)	3	3	11	4	13	5	...	6
FEMALES.								
Rheumatoid arthritis.	37	46	182	15	68	42	33	...
Rheumatic arthritis. .	60	27	35	12	45	21	...	43
Chronic rheumatism .	72	40	42	27	68	51	...	20
Mixed	10	9	12	11	8	5	...	8

It may be added that no selection has been made, but, on the contrary, the cases have been taken in the order in which they have presented themselves to us.

The table explains itself to a great extent, but

we would call attention to the fact of the difficulty which sometimes exists in drawing a satisfactory distinction between severe cases of chronic rheumatism and mild cases of chronic rheumatic arthritis; on referring to the table the figures will show how closely these two affections run.

The following is a table of 200 cases, in which fifty of each rheumatic disease have been selected to show the proportion of the various neural symptoms, etc.

	Sweating only.	Wasting only.	Pigment spots only.	Sweating and wasting combined.	Sweating, wasting, and pigment spots.	High tension rapid pulse.	Reflexes.
Chronic rheumatism.....	5	6	0	4	1	8	All more or less normal.
Rheumatoid arthritis ...	4	5	4	20	15	Over 30 yrs. old 7 Under 30 12	Normal or decreased.
Rheumatic arthritis	8	13	3	5	0	7	14 decidedly increased.
Mixed cases ...	7	5	2	13	9	11	8 increased.

CHAPTER VII.

Conclusion.

Such, then, are the remarks we now bring to a close, based upon bedside observations, and backed up by not merely one but numerous expressions by patients; the sameness of which, in corroboration of all the foregoing remarks, as produced by patients eager to give their history, has been at times almost monotonous.

But this monotony, far from proving detrimental to this work, has, we feel assured, and we hope that every reader of this book will feel, been one which has been created by important detail: each statement, although the fac-simile of the one preceding it, has been, as it were, an additional stone in the edifice, until at last the compilation of these has produced a structure which requires only the most casual of observers to see by what means it has been reared.

Rheumatoid arthritis has shown and is showing itself to be a giant, an aggressor of the most formidable type: and yet here we are, knowing this, almost sitting passively watching it, without much concern, in its cradle, through its youth; and not until its manhood, when it is too late, is any particular enthusiasm shown to stamp it out and remove from the field of medicine a scourge of the direst kind.

Unfortunately, we cannot as yet aspire to eradicate the pestilence. We can but point out, as we hope to have done in these pages, where the danger is and in what guise it appears. We deferentially ask the master-minds in the profession to accept our contribution, with the hope that we may ultimately see in them the leaders of a relieving army, the rank and file of which will vie with one another to achieve laurels of fame for individual action, for enthusiasm in rushing to the front to seize and crush early, with the motto on their banner, "Veniente occurrite morbo," for the reasons before given. If all will do this, the second achievement—namely, that of treatment—will be rendered a simple one.

Shall we, then, see a day when osteo-arthritis,

the later stage of rheumatoid arthritis, has ceased to exist? If so, and if it can be traced to some well-meant contribution such as ours is conscientiously intended to be, we should indeed rejoice; if not, we can but say, "bene est tentare."

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