To

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Professor of Pathology

and

of Clinical Medicine

This Thesis

on Scarlatina

along with 27 Clinical Charts

illustrating the Subject

of the Specific Fevers.

is most respectfully

Dedicated.

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XXX

Lauder
Junr
Maclagan

On Scarlatina

by Graham Steel

What is to be understood by the name Specific Fever.

When we speak of Typhus, Scarlatina, Measles or Variola each of these terms signifies to our minds a more or less definite group of signs and symptoms, these signs and symptoms representing modifications of the healthy function or structure of the human organism, under which the latter is liable for a limited period to labour and which modifications we believe to be the result of a specific cause namely the entrance into the body of a poison from without, a poison probably vital in nature, which poison by exciting one series of these modifications (i.e. an attack of one of the above named diseases) in an individual organism, works such an alteration in it's constitution that a like poison shall, as a rule, be to it ever afterwards innocuous; and which poison, again, has this further peculiarity, that while it is exciting the modifications referred to and within a limited period afterwards, it possesses the power of re-producing in other organisms, previously unaffected and brought within a certain area around its primary action, a similar series of phenomena, conferring upon them equal powers of propagating the same phenomena to still other organisms. Enteric and Relapsing Fevers do not come so perfectly under this definition as those I have already named but they certainly may be considered as essentially of the same nature with them. Other diseases as Diphtheria and Erysipelas claim a near relationship, though they come still more partially under the above definition.

Tendency to mental association with an Entity in the case of each.

There has sprung up perhaps in most minds an association of each of the terms named, with a kind of entity and if it be borne in mind that that entity is nothing more than a more or less definite group or series of signs and symptoms, taken in combination with what we know as to the cause producing them,

no harm can arise from such an association but on the contrary, the clinical study of the diseases in question will be facilitated thereby, inasmuch as the distinguishing features of each, the clinical history in short, will the more naturally admit of being "sketched out" in the way ittustrated by the accompanying charts.

Charts 1. 2. 3.6. 14. 15. 16.

Pyrexia a necessary condition for the development of the Zymotic Diseases_

Of the modifications referred to above there is one which seems to furnish a necessary condition, at some time at any rate, to the development and existence of the diseases named, though it by no means always plays the most important part in the Symptomatology. That modification is increase of the animal heat above the standard of health, in a word Fever and which bestowes upon the diseases the name whereby they are commonly known alike to physicians and the laity. Since the introduction of the clinical thermometer into practical medicine, a method of studying the Fevers with an accuracy before impossible has been acquired, as experience has shown, that each of them possesses normally a range of temperature peculiar to itself and absolutely characteristic.

Value of studying the fevers by means of linear curves representing the temperature range, around which the other phenomena may be grouped.

Moreover this temperature range can readily be represented graphically to our minds by the employment of linear curves, and by grouping around these, in writing the other phenomena of the disease, a more or less precise and accurate sketch of all the clinical features of whichever disease, it is desired to consider, and of any individual example of it, is at once obtained.

* For convenience I will not keep strictly to the proper use of this word but will include under it "objective Signs" as well as "subjective Symptoms" so also with the terms Signs and Symptoms_

mportance
a knowledge
2. the Natural
istory of
ach of the
evers, as
fording
dications
r treatment.

each Stage
a Fever
Step to
Health"

R. W. Lerner
dress to the
ical Society
London 18th/5.

While as yet the possibility of the discovery of an antidotal remedy for the Fevers seems as far off as ever an accurate study of the Natural History of each appears to be the most likely, if not the only, way to successful treatment. There is a grand truth implied in the elogent, if desponding expression, of one of the greatest of English clinicists, when he said that a Fever once set in, each stage of it must be regarded "as a step to health". In the address from which these words are quoted (from memory) the same great authority spoke disparagingly of the vain seeking after remedies, antidotal to the fever-poison, and under his mature judgment I would crave to justify myself for having spent my time and having employed the exceptional opportunities for observation in this department of medicine, that have offered themselves to me, rather in becoming acquainted with the Natural History of the Fevers themselves, than in searching for antidotes to the fever-poison among the physiologically active compounds which Chemistry is daily bringing to light. Can it, indeed, be strictly correct to speak of an antidote to the fever-poison, if the latter is posited to be a vital poison? Antidotes are either chemical or physiological antidotes but by an antidote to the fever-poison must be meant something to kill or destroy the life of that, whatever it be, which has the power of propagating its species and must therefore be vital, vegetable or animal.

Celsus. L. V. Cap. XXVI

In Celsus occur the following words "In his (malis) autem, ante omnia scire medicus debet, quæ difficilem curationem habeant, quæ promptiorem" "deinde ubi gravis metus sine certa desperatione est indicare necessariis periclitantis in difficili rem esse; ne, si victa ars malo fuerit, vel ignorasse vel fefellisse videatur". When he wrote those words the im-

A normal type to be discovered in each of the Specific Fevers.

portance of the study of the Natural History of disease must have been present to his mind, and the great end of this study, with regard to the Specific Fevers, appears to be, at the present day, to determine in each a Normal Type and to discover the prognostic significance of departure therefrom, by the various features, in different directions.

Protean forms of Scarlatina

I have in these preliminary remarks endeavoured to explain the principles which will guide me in the consideration of Scarlatina. The Protean forms which Scarlatina is wont to assume have struck all authors on the subject, and if the normal course of this disease be capable of determination and its irregular forms of being brought under classification according to the direction of departure from this normal type, by the various features of the disease, while these departures receive their prognostic meaning and following from that therapeutical indication,

Same mode of study applicable to all the fevers.

it may be granted that the same principles of study are no less applicable to other members of the family of Fevers.

Authors' Classification of Irregular Forms.

Authors recognizing the difficulty of bringing the irregular forms of Scarlatina under a common description have attempted various classifications, describing, in certain groups, combinations of features which are wont to occur in nature. All are arbitrary more or less for with regard to Scarlatina each [illegible] all forms and aspects under which it may appear, are but manifestations of one and the same disease, however widely these forms and aspects may differ among themselves.

classifications of Drs Graves and Dr Gee

I shall only quote the classifications of two authors - Dr Graves of Dublin, and Dr Gee of St. Bartholomew's Hospital (author of the Article "Scarlatina" in the work representation of Modern British Medicine).

Clinical Medicine 2nd Edition edited by Culligan. p.p. 237 38. 241. 264.

Dr Graves describes (1) a Normal Type, implied rather than expressed in the classification (2) a Cerebral Type (3) a Gastro-Enteric Type (though he points out that symptoms of this nature may have a nervous origin) (4) a form characterised by a grave secondary throat affection (5) a Latent form.

Reynolds's System of Medicine. Vol. I. p.p. 157 - 159. 2nd Edition

Dr Gee classifies as follows (a) The Normal Type (b) The Malignant forms, including two varieties due to Proto-pathic and deutero-pathic malignity (c) The Latent form.

correspondence between two classifications

Of these classes (1) and (a) correspond, so also (5) and (c) (2) with (b) deutero-pathic variety (3) with (b) proto-pathic variety (4) Dr Gee describes under the Head of Sequelæ.

writer's classification a different principle

The classification I venture to recommend is based on entirely different principles, those principles I have already alluded to. It is I believe a strictly natural one and will include every possible variety of the disease. I need hardly mention, that it depends first of all upon the determination of a Normal Type for the disease upon the fact and that the most irregular forms, it can assume are but modifications of this, departures from it, by the features which make up the entity Scarlatina, in different directions. Classification is employed, not, indeed, because there are classes in nature, though there are certain combinations of irregular features, which are particularly prone to occur, but to give precision to the description of the very various phenomena, that have to be considered.

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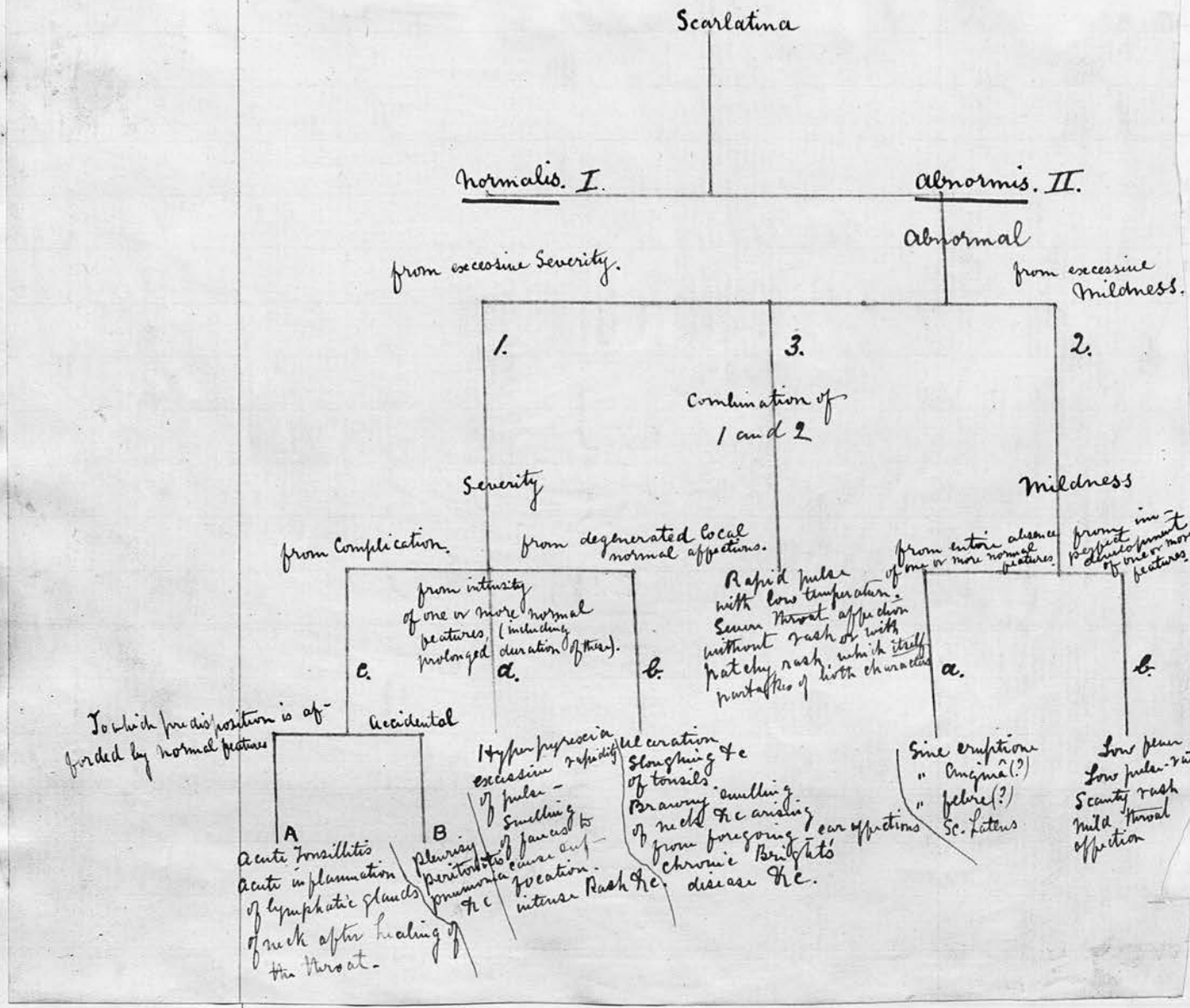
Scarlatina
normalis. I.
abnormis. II.
Abnormal
from excessive Severity.
from excessive Mildness.
1.
3.
2.
Combination of 1 and 2
Severity
Mildness
from Complication.
from degenerated local normal affections.
from intensity of one or more normal features, (including prolonged duration of these).
Rapid pulse with low temperature. Severe throat affection without rash or with patchy rash which itself partakes of both characters
from entire absence of one or more normal features.
from imperfect development of one or more features.
c.
a.
b.
a.
b.
To which precisis position is affforded by normal features
Accidental
A
B
Acute Tonsillitis
Acute inflammation of lymphatic glands of neck after healing of the throat.
Pleurisy
Peritonitis
pneumonia
&c
Hyperpyrexia
excessive
rapidity
of pulse
Swelling
of face &c
Effusion
into
tissues
Rash &c.
Ulceration
Sloughing &c
of tonsils.
Drawing
of neck &c arising
from foregoing
chronic
disease &c.
Bright's
ear affections
Sine eruptione
" Anginâ (?)
" febre (?)
Sc. Latens
Low fever
Low pulse-rate
Scanty rash
mild throat
affection

eatures
f
carlatina

By the "Features" of Scarlatina I will understand the following

(1) The Pyrexia
(2) The Pulse (- rate)
(3) The Throat Affection
(4) The Rash
(5) Symptoms referrible to the Alimentary Canal
(6) Morbid Tendencies (to Rheumatism and Albuminuria)
(7) Symptoms belonging to the Nervous, Circulatory and Respiratory Systems.

Scarlatina Normalis.

yresia (1) The Pyrexia

xillary
bservations
temperature

My own observations on this point have been made without exception in the axilla, as I hold that the comfort and decency of patients ought not to be outraged, for the sake of even Science, by making observations in the Rectum or Vagina except under the most exceptional circumstances. At first sight, the intensely hyperæmic if not inflammatory state of the skin, as it doubtless contributes to the peculiar pungent sensation of heat conveyed to the hand placed over the skin of Scarlatinal patient, might ~~interfere~~ appeared to interfere with the correct ~~observation~~ estimation of the general temperature of the body i.e. that there might be a local abnormal production of heat. There probably is such a local production of abnormal heat, but so trifling that it need not be taken at all into account. There are two factors in the increased surface temperature of Scarlatina (1) Increased temperature of the blood (2) An increased amount of blood supplied to the skin. If there is any condition in Scarlatina interfering with observation of the general temperature in the axilla it must be referred to the increased vascularity of the skin and not to increased production of heat by inflammatory tissue change. Thus it would seem that axillary observations of temperature, afford us a better indication of the heat of internal parts, while the rash is present

n ascertaining temperature the skin rectly, the latter uld under pecial conditions.

than in other diseases not so accompanied, for in the scarla there exist during the period mentioned some of the conditions which make Rectal and Vaginal observation the scientific preferred.

I will consider the Temperature Curve under three heads.

(1) × The Initial period
(2) The Fastigium
(3) Defervescence. To these a fourth may be added (4) Convalescence though in the normal type there should occur no pyrexia during this period.

× Names borrowed from Wunderlich's "On the Temperature in diseases" Translated by Dr Woodman. Syd. Soc. p.p. 10. 11. 12.

(1) Initial period. It is very rare to obtain observations of temperature made from the first onset of the disease, though from the fact that patients usually come under treatment as early as the second day, we are left little scope for doubt as to its behaviour at the commencement, for the acme of pyrexia and the establishment of the Fastigium occur on that day. The rise of temperature then must be rapid for the elevation of temperature which belongs normally to Scarlatina is a high one from 103° - 105° and this occurs within 24 hours. It is a usually admitted fact in Clinical Medicine that a Rigor indicates a rapid rise of temperature, while Chills indicate a less rapid one, and when the temperature gradually ascends, no unpleasant sensation of this nature may be experienced. How do these facts agree with the phenomena observed at the outset of Scarlatina? Dr Gee makes undoubtedly too strong an assertion when he says "a Rigor never occurs." Chilliness is, however, the rule and in some cases probably the sorethroat has so engaged the patients' attention that he has not perceived even this. Before attempting to account for the absence of rigor in the apparent presence of that condition which we know to give rise to it, it may be well to consider the cause of a rigor looked at apart from its occurrence in any special

a - rapid rise of temperature at the commencement.

Rigors not common.

disease.

The theories proposed to account for this phenomenon are numerous but not one seems to have attained to general credence. Chiefly from personal experience I have been led to adopt the following explanation founded upon two considerations (1) That there exists, in spite of clothing a relation between the bodily temperature and that of the surrounding atmosphere, the sudden disturbance of which, in the direction of lowering of the external temperature, actually or relatively to the temperature of the body, causes a sensation of chilliness or a rigor, the latter being only a further result of the same cause. When anyone after having accustomed his skin to the temperature of a warm room, passes suddenly into the open air on a cold day, or goes from an ordinary temperature into an ice-chamber (for example into Mr Gamgee's artificial ice Rink) he almost certainly experiences a sensation of chilliness or has a rigor.

He will "receive a chill" as the people say. My second consideration is (2) The elevation of the bodily temperature renders its surface more sensible to variations of the external temperature. i.e. renders the skin hyperesthetic to the changed relationship between the temperature of the body and that of the external atmosphere. The skin however readily becomes accustomed to the lowered (relatively) temperature surrounding it and the rigor or sense of chilliness ceases. The rigor or chilliness of commencing fever seems to me to be precisely similar in nature with the unpleasant sensation of chilliness or the occurrence of actual rigor which a person in health experiences, when he suddenly or exchanges a warm atmosphere for a cold one. only in the case of the fever patient, the alteration of the relationship is brought about in his own body, the increased heat of which, besides, renders his skin more sensitive to the (relatively) reduced temperature of the atmosphere. To any one accustomed to taking a tepid bath, always at a known temperature, probably the first indication of an insidious fever will be, his experiencing his bath unusually cold, though

the thermometer declares it to be at the accustomed temperatu
I have before asserted as a clinical fact, that the occurrenc
of a rigor, is an almost certain sign of a rapid rise
of temperature. The Degree of rapidity and the extent of
the rise of temperature, necessary to produce a rigor probably
varies in different individuals and in the same individua
at different times, but on the whole it must be granted
that a very rapid rise, occurring within a few hours at
must take place to produce it. Rapidity being a more
important factor than the extent of the rise. Wunderlich
brings out this well in the following sentence "Very complet
rigors may also occur when the temperature rises rapidly"
although the rise may take place from an abnormally
low temperature and may never rise above the
normal level. The contraction of the small vessels
of the skin, to which much importance has been attach
by some, (Traube) is readily explicable on the theory
advanced. Returning to the question set out from —
Why is Scarlatina unfrequently initiated by a rigor?
it would seem that though the initial rise of that disease
is rapid on the whole, it is not very rapid i.e. occurring
within a few hours, but steadily takes places during a
period of from 12 to 24 hours. Wunderlich in referring
to the commencement of Scarlatina speaks of "a rapid and
continuous elevation of temperature by which in the course
of a few hours this reaches a considerable height 103°.17 a
104°.7" but adds "generally accompanied by the phenomen
of a more or less intense rigor or shivering." I have not the
original German at hand but doubtless the expression rigor
is used by the translator in its ordinary English signification —
In Wunderlich's experience, then, rigors were a not uncommon
phenomenon, though I think in normal cases they very seldom
occur in this country, a sensation of chilliness merely, taking
their place. It may be here noted that the observations of
temperature made on hyperexial diseases by German physici

Rapidity of the rise of temperature the important factor in producing a rigor

Wunderlich. p. 1875

Wunderlich. p. 344

appear to indicate that higher temperatures are met with in Germany than in this country - For instance 106° F. is a very unusual temperature to meet with in the Fevers of this country even in cases which prove fatal, while the Germans record it as quite common, in their favourable cases. In favour of the view I have advocated as to a very rapid rise of temperature being the common condition of a rigor I may quote two statements of Wunderlich. "that the duration of this rise (the Scarlatinal) may be very varied and may continue from only half a day to four days". Again with reference to Pyaemia, a disease peculiarly associated with rigors he says "the first elevation of temperature is generally very rapid, sometimes completing itself in a few hours or half a day, generally in the course of half a day". The difference in the degree of rapidity of the rise of temperature in the two diseases is fairly indicated, [illegible] and it must be borne in mind that rigors were not uncommon in Wunderlich's cases of Scarlatina. With reference to the commencement of Scarlatina, I think it may be admitted that rigors occasionally occur in normal cases but that they are much more common in severe abnormal cases (II 1a) while in most normal cases chilliness takes their place, and even this may be absent. Some light may be thrown on the subject of rigors, by comparing Scarlatina with other fevers, with respect to the frequency of the occurrence of rigors.

Wunderlich. p. 348

" p. 361

Rigors when they do occur indicate a severe attack as a rule.

Relapsing Fever sets in, as a rule, suddenly with rigors usually well marked, because the temperature in it rises very rapidly and to a considerable elevation. In Enteric Fever again rigors are quite exceptional for the accession of pyrexia takes place gradually, the temperature going up from day to day with morning remissions, in the way well known to be characteristic of that disease. Typhus is less frequently initiated by rigors than Relapsing Fever more commonly than Enteric or Scarlatina. Observations on the temperature of Typhus from the outset are not many

Rigors in the other Fevers.

but there seem grounds for believing that the commencement of pyrexia is often irregular, a rapid and considerable rise of temperature may occur on the first day and be followed next morning by a remission, down near to the healthy standard, towards evening there may be another but less rapid rise and on the following morning the remission is not so pronounced, by the third day the pyrexia has usually approached its characteristic almost continuous form. I think little diagnostic importance is to be attached to observations of the temperature at the commencement of Typhus. There is, then, a connection between the frequency of the occurrence of rigors in the different "fevers" and the method of accession of their pyrexia.

As symptoms depending on the fever purely, headache and some general aching may be mentioned here, but these are by no means so frequently complained of as in other fevers.

Fastigium. (2) Fastigium. In this the normal type of the disease, the Fastigium must be granted to commence not later than the second day. As already remarked, the degree of pyrexia reached in Scarlatina is high. The duration of this stage is of greater prognostic importance, than the absolute temperature reached at any one period. Normally it is very short, I should be inclined to state the maximum, as being never longer than four days. On the other hand it may last only one, or even less than a day. Slight morning remissions occur and if more considerable are of favourable significance. This stage is often termed the Eruptive, as it corresponds pretty closely with the period, when the rash is at its height.

(3) Defervescence. This in normal cases must commence not later than the sixth day. It is characteristic in mode Dr Gee's statement "that when the eruption begins to fade the fever frequently submits to a complete crisis, as

Reynold's System of Medicine. Vol I p. 154

indicated by the temperature not rising above the normal for 24 hours" is certainly erroneous as also what follows "should this crisis not occur the pyrexia is prolonged for an indefinite period". Wunderlich's description again is as correct (with the exception of his statement as to nocturnal remissions) as Dr Gee's is incorrect" But in an overwhelming majority of cases defervescence is protracted and requires from three to eight days for its completion. As a rule it occurs in this fashion, that from day to day the temperature gets gradually lower and slopes like an easel or almost easel-like (staffeleweise), or goes down with trifling remissions falling more especially at night remaining about the same from morning to evening or perhaps sinking a little, till it reaches the normal" The charts he gives to illustrate this subject show an evening exacerbation, so that they entirely correspond with my own observations, and idea of the normal type. I have met with cases showing remissions in the evening instead of in the morning, but I always regarded this peculiarity as due to individual idiosyncrasy. A like phenomenon is not unfrequently observed in other diseases One of the accompanying charts presents an extraordinary and altogether anomalous form of pyrexia, showing remissions in the evening. Even before the introduction of the clinical Thermometer a correct notion seems to have been formed of the mode of defervescence in Scarlatina. Thus Dr Graves, speaking however of one set of cases says "The Scarlatina never ended with a well defined crisis". Trousseau, again, remarks "In Smallpox "In Scarlatina the abatement of heat in place of being rapid xxx is gradual, steady without exacerbation and is not completed till from 4-8 days have elapsed" As to the duration of defervescence I do not quite agree with the authors named but I am referring at present to cases strictly normal. In the latter cases I hold that defervescence should be completed not later than the 11th day, and that a week's duration of pyrexia will include the majority of strictly normal cases.

Wunderlich. p. 349

Chart 18

Clinical Medicine. p. 239

Trousseau's Clinical Medicine. Vol II p. 170. Syd. Soc. Translation

Having considered the temperature curve of Normal Scarlatina in parts it may be well before leaving the subject to consider it briefly as a whole. The chief features are seen to be, a sudden accession, a short but elevated Instigium and a comparatively gradual defervescence, with slight morning remission, the temperature being reached permanently not later than the 11th day. The rise of the curve is abrupt the fall slow and gradual, while the convexity is not prolonged – It may be roughly represented thus ⌐‾_. curve

I have prolonged my observation of the temperature in the cases represented in the charts till the end of the 3rd week to show that no elevation of temperature occurs, during the period when there is a tendency to albuminuria, such a rise having been supposed to take place by some – R.

No rise of temperature during convalescence in normal cases

When albuminuria occurs there is usually a rise of temperature but declared albuminuria I do not include as a feature of Normal Scarlatina.

Pulse – (2) The Pulse-rate.

Normally Frequent

Rousseau dwells with emphasis upon the frequency of the pulse, characterizing Scarlatina as affording important aid to diagnosis. "The pulse is quicker than in any other exanthematous fevers" he remarks and Professor Gairdner* speaks of the rapidity of the pulse among other symptoms "as part of the essence of the disease" The latter as appears from his remarks lower down in the same paragraph, however, explains the greater safety of a quick pulse in Scarlatina "than in Typhus or Enteric Fevers because the former is a much shorter fever. This does not to me seem a sufficient explanation and I cannot agree with his statement that "hardly any frequency of the pulse should alarm much" "if it (the pulse) be at the same time full and of good strength." I think why a quick pulse should alarm less in Scarlatina than in other diseases is because a quick pulse is a normal feature of the disease – The specific fevers do not

* Has one has done more to establish the importance of the pulse in Typhus as a prognostic.

kill in the normal type. The important fact then is that the frequency of the pulse is normally greater in Scarlatina than the other fevers (Relapsing Fever perhaps excepted) and that to render a case abnormal in the direction II is by the feature of pulse-rate, a very frequent pulse indeed must be present. When this latter character is however present it is a sign fraught with bad omen.

Of the characters of the pulse I have little to mention and will only quote Dr Mahomed, an admitted authority on the subject, that the pulse in Scarlatina "unlike its usual character in fever" "is never dicrotic". I would seek to connect this fact in some way with the so-called inflammatory character of the disease in general and with the large fibrinous clots so invariably found in the heart and large vessels after death. With regard to the course of the pulse rate I may be brief as it essentially follows what has been described as the normal course of the pyrexia. Diminution of the pulse-rate as in Typhus is always one of the best of prognostics and is to be regarded as a sure sign that the disease has commenced to wane. The diminution in the pulse-rate to give this amount of assurance must be a well marked one and above all persistent. In opposition to Dr Gairdner's view, I think it is difficult to attach too much importance to the pulse-rate alone, moreover when we consider it in relation with the accompanying temperature, its value as a prognostic becomes enhanced.

In the following table I have endeavoured to graduate the different combinations of pulse-rate and temperature, according to their prognostic significance

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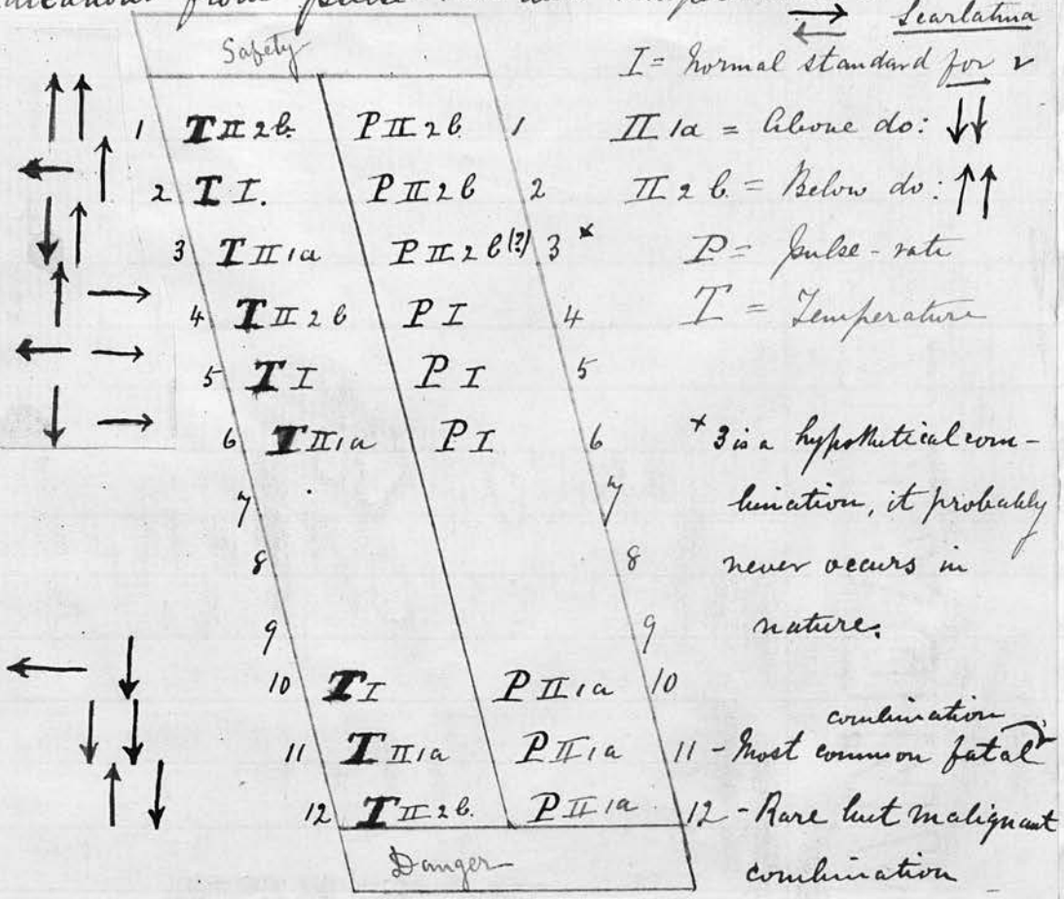
Contribution to the Clinical History of Scarlatinal convalescence." by A. Mahomed M.D. R.C.P.L. Pathologist St. Mary's Hospital

16.

Scarlatina

Prognostic Indications from Pulse-rate and Temperature. ⇄ Scarlatina



I. Having determined the typical curves of temperature and pulse-rate (the pulse is quite as readily as the temperature reduced to the form of a curve) of normal Scarlatina, both as to elevation and duration as well as to form, valuable prognostic and therapeutical indications may be drawn from the preservation or departure from the normal type of the disease in these respects.

II With regard to the prognosis to be derived from pulse and temperature considered apart from other phenomena the following general rules hold good: (a) Abnormality of both in the direction II 2 b. is indicative of safety to the patient. (b) Abnormity of both in the direction II 1a is indicative of danger to the patient. (c) Abnormity of the Temperature in the direction II 1a is not indicative of danger if the pulse-rate be normal or abnormal in the direction II 2 b. (this hardly ever occurs). But the fact of the pulse being normal (to the disease) does not confer the same amount of safety, a like condition will be seen to do, inter alia, in Typhus, inasmuch as the pulse-rate of Scarlatina is normally much higher than normal and the System may suffer severely, without the pulse-rate exceeding the Scarlatinal normal. (d) The converse of (c) does not hold good for abnormity of the pulse-rate in the direction II 1a is always indicative of danger, whatever be the accompanying temperature.

× probably abnormous is more correct.

Prognosis derived from pulse and temperature

It is not alone the relationship between pulse-rate and temperature per se that has to be considered, but the relationship they show with regard to the preservation of or departure from the normal type of the disease. For example I have seen several cases of Scarlatina, in which while the temperature was low, say 101°.6 the pulse was frequent say 128. Such a relationship in Typhus would indicate great gravity, but the cases of Scarlatina I refer to were of no gravity. The difference between the two diseases in this respect is readily seen when we compare the condition of pulse-rate and temperature in each case, with the normal type of the disease. If the observations mentioned above belonged to a case of Typhus, they would be represented by the symbols T.II 2 b. + P.II 1a but if to a case of Scarlatina T. II 2 b + T. [illegible] a combination only 4th from maximum safety. The duration of the two diseases is different and a temperature and pulse as above would not be likely to occur in the first week of Typhus as it would in the first week of Scarlatina, but I have taken the example merely for the purpose of illustration.

Again I take an example of the application of these prognostic rules, with a view to treatment. I hold it would be unnecessary to bathe a patient whose temperature was 105°.4 if the pulse were only 112 (T. II 1a + P. II 2 b.) - that it would be highly judicious to bathe him, if with the same temperature the pulse were 130 (T. II 1a + P. II [illegible]), while bathing would be urgently demanded if the temperature remaining the same the pulse rose to 150 (T. II 1a + P. II 1a). In estimating the degree of abnormity exhibited by the pulse-rate, the age, sex &c. of the patient must be taken into account.

A few remarks, with regard to the other fevers, concerning prognosis from pulse-rate and temperature may not be out of place.

In Typhus the graduated scale of prognostic indications which I have framed for Scarlatina will hold good, with some modifications arising from the common "tendency to death" being different in the two diseases. Scarlatina tending to prove fatal with a high temperature Typhus with a low one. The modifications referred to follow from these

different ages at which two diseases tend to occur is also a factor in certain prognostic circumstances of this

considerations — Cases of Typhus where the normal pyrexia and pulse rate both are imperfectly developed are very rare. I have seen one such but it was probably modified by a previous attack. Again cases occur in old people which are of great gravity usually proving fatal, where the pulse rate and temperature are both imperfectly developed up to the normal standard (of the disease) may may even fall below the standard of health. Dr. Murchison in his standard work on Fever remarks p. 139 "The cases where the pulse is remarkably slow are usually characterized by extreme prostration" and again although a rapid pulse is to some extent a sign that a case is severe, a slow pulse does not necessarily indicate a mild attack." These remarks would seem to throw discredit on the pulse as a prognostic. But such cases are exceptionally rare and are readily distinguished by a consideration of the temperature and other phenomena of the disease. I think they are closely allied with the irregular and intermittent type of pulse so common in old people ill of Typhus in which more rate of pulse goes for nothing. Dr Graves records a case of irregularity in the pulse of Scarlatina, that is during the fever, this by no means uncommon during convalescence. I know of no recorded case of Scarlatina with slow pulse and can hardly imagine such having occurred. In Scarlatina then a temperature and pulse below the normal of the disease occurs not unfrequently. In Typhus a like condition may occur but the mildest cases as a rule have pretty sharp fever with a very moderate pulse-rate and very grave cases do occur in which both pulse and temperature are imperfectly developed to the normal of the disease. I have on these grounds in modifying the Scarlatinal prognostic scale for application to Typhus transposed I and 3. Again from the reliable though seemingly anomalous fact, that the pulse being moderate the higher the temperature the better the prognosis I have transposed 4 and 6. Taking the normal Typhus pulse-rat

Edited by Reliquiae reprinted from 2nd edition Clinical Medicine p. 239.

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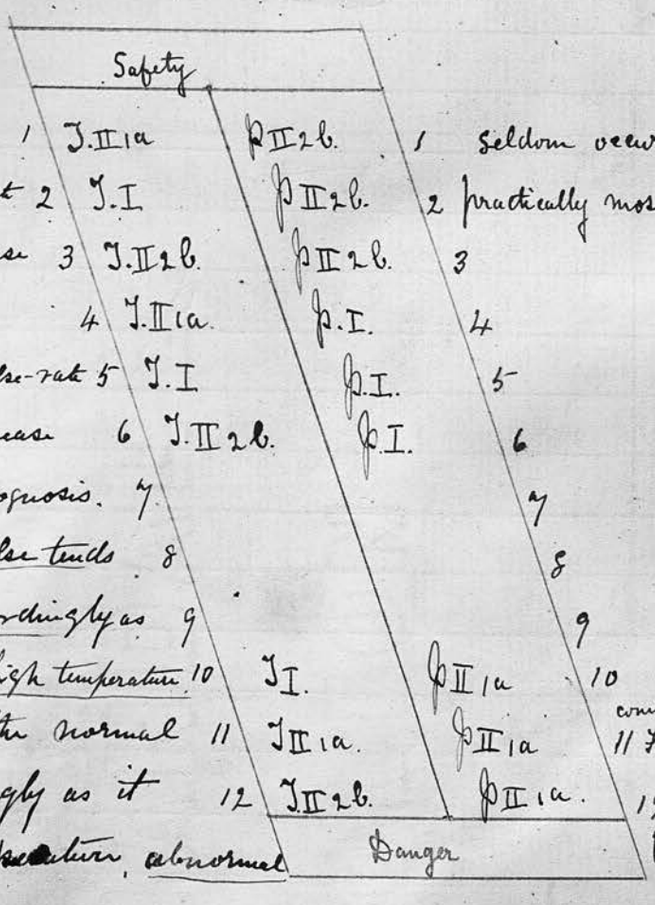
as decidedly below 120, and the temperature not above 105°, let in a youth, the temperature observation of 105°.6 be made and a pulse observation of 112, (I have seen such a case) the formula would be (T.II.1a + P.I) and the prognosis of such case I believe would be very favourable. It is the moderate pulse-rate which gives us the assurance of safety. The same combination in Scarlatina that is (T.II.1a + P.I) would not indicate the same amount of safety as in Typhus, we should then have with a similar temperature 105°.6 - a pulse of perhaps 136. Hence my transposition of 4 and ~~5~~ 6. The three dangerous combinations I have left as in Scarlatina - 12 is the most common ~~deadly~~ fatal combination in Typhus, while 11 is a much less frequent one - 10 may perhaps be moved up a degree or two as a pulse need not be very fast to exceed the normal of Typhus, but I have thought it best to leave it as in Scarlatina.

Typhus -



In Typhus.

I The occurrence of a pulse-rate above the normal of the disease tends to a bad prognosis.

II The occurrence of a pulse-rate below the normal of the disease tends, as a rule, to a good prognosis.

III A low or normal pulse tends to a good prognosis accordingly as it is combined with a high temperature

IV A pulse-rate above the normal tends to danger accordingly as it is combined with a temperature abnormal in either direction.

1	T.II.1a	P.II.2b.	1	seldom occurs.
2	T.I.	P.II.2b.	2	practically most favourable combination
3	T.II.2b.	P.II.2b.	3	
4	T.II.1a.	P.I.	4	
5	T.I.	P.I.	5	
6	T.II.2b.	P.I.	6	
7			7	
8			8	
9			9	
10	T.I.	P.II.1a	10	combination in young adults
11	T.II.1a.	P.II.1a	11	frequent fatal V
12	T.II.2b.	P.II.1a.	12	- Most common fatal combination

Comparison with Relapsing Fever.

The high temperature and quick pulse of Relapsing Fever constitute the only features in which that disease resembles Scarlatina. With regard to the form of the curve presented by these features in the two diseases, a most striking difference is seen, Relapsing Fever terminating very abruptly and in marked contrast to the Scarlatinal mode of defervescence. The quick pulse however forms a characteristic feature of the normal type of each Typhus perhaps equals them as to the degree of pyrexia attained to but differs entirely with regard to pulse-rate.

The late Dr. Warburton Begbie, in the Article on Relapsing Fever in Reynolds System of Medicine observes "a very quick pulse, (this it was which first struck Dr. Henderson as remarkable unlike what he had witnessed in Typhus)" again "It was soon determined, that unlike what holds good in Typhus the rapidity of the pulse did not indicate the existence of danger." I would add because it is normal to the disease. Relapsing Fever is seldom fatal, when it is so I believe the prognostic rules of pulse and temperature will apply as they do to Scarlatina. In fatal cases there will be abnormity. In Enteric Fever the pulse is of less prognostic value than in the diseases already mentioned, the temperature on the other hand is of much more value than in them, while the consideration of the relationship between pulse and temperature, except when the patient is in extremis seems to be prognostically useless. Till a few days before death, and when the worst typhoid symptoms are developed in spite of I have found the pulse only 108 or so, and the temperature being very high. (Such a combination in Typhus would be most favourable) Again in convalescence a pulse of 120 or 130 is nothing uncommon, the temperature being at the healthy standard.

p. 468 vol I

Before I leave the subject of pulse and temperature and in support of the view that the rapid pulse of Scarlatina and Relapsing Fever do not indicate the danger they would in Typhus or Enteric Fevers, because it is a normal feature of the former diseases and not of the latter I would combat the opinion, that it is only because these fevers are short, that the frequency of the pulse is so

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little a cause for anxiety - The great majority of fatal cases of Scarlatina (and it has many victims) die in the first week, unless they die as a result of degenerated local lesion or complication, so that the shortness of the course of the disease proper, confers no element of safety, nor is the fatal termination to be attributed to undue prolongation of the normal course. Again a rapid pulse will not of itself prove a fatal indication, though the patient be suffering from that fever, in which of all others we know a rapid pulse to be dangerous - Typhus - and though that rapid pulse be continued for a fortnight or more, all the time in combination with marked pyrexia, provided that some circumstance be found to invalidate the usual significance of this sign. Thus I have frequently seen Typhus attack a patient just recovered from severe Enteric Fever, in these cases the pulse was extremely rapid from the first, the pyrexia high and the patients seemed lost beyond all hope. They recovered however, with one exception, and the Enteric Fever had been very ill pronounced in his case, if it had existed at all - The very essence of the disease was modified in the cases I refer to and the law which gives to Typhus normally a moderate pulse-rate held in abeyance. A similar phenomenon is observed in the relapse of Enteric Fever, a quicker pulse must thus be posited as a normal feature of the relapse, and it follows from this, that a rapid pulse in an Enteric Relapse is of better omen than a like occurrence during the primary attack. I think however that this cannot be accounted for merely by supposing it due to the previous fever, it depends rather upon an alteration in the normal type of the disease - If it depended alone upon the previous febrile attack we should expect the pulse in the Relapse of Relapsing Fever to exhibit the same character, while Dr Murchison says "There is not always a ratio between the pulse and temperature, and usually

tinued Fever

there is less correspondence between them, in the relapse than in the first paroxysm. The temperature may be 106° while the pulse does not exceed 90." The fact I wish to bring out is that, in estimating the prognostic importance of the pulse, regard is chiefly to be had to the consideration of the "Natural History" of the disease and that the duration of the fever is not the cause of the commonly accepted belief, that the pulse-rate of Scarlatina may attain a (Relapsing fever) higher degree, than the same of any other fever, but being indicative of danger.

(3) The Throat Affection.

This perhaps is the most distinguishing, as it is the earliest feature of Scarlatina; although some cases are said to occur without it, it would appear not to be wholly absent, even in these but to have been so slight in intensity and short in duration as to have escaped subjective or objective observation. The name "Scarlatina Simplex" has been given to such cases, but if "Scarlatina" is meant to mean anything more than a Scarlet rash, a more unfortunate name could not have been given it, if we consider that in such a case there is marked abnormity. II 2 a or at least II 2 b. These cases will call for observation in the classes named.

Dr Guthrie's practice of Medicine. 3rd Edition p. 329.

I think there are two elements to consider, with regard to the sorethroat of Scarlatina (1) a parenchymatous affection of the tonsils and (2) a catarrhal affection of the surrounding mucous membrane. I need not enter into a description of the appearance of the fauces. There is little or nothing characteristic. We see simply the signs of severe acute inflammation of the parts I have named, involved only in the call attention to the frequent resemblance to the presence of false membrane given by collections of cells and mucous secretion, which

Q. J. M. p 153 are apt to form at the mouths of the crypts of the tonsils. Dr Gee truly remarks "There can be no question that the majority of "ulcers" and "sloughs" observed during the first 4 or 5 days of Scarlatina are nothing but excess of the secretion of the part smeared over the surface". Before considering the subject further I may be allowed to quote from Jones and Sieveking's pathological anatomy p. 544. as to the structure of the tonsils. "It seems worth while to notice briefly this point (the structure of the tonsils), which we think is not well understood, as it explains in some measure the liability of these parts to hypertrophic enlargement. They are made up of a number of duplicatures and involutions of the mucous membrane, which however is differently constituted here to what it is in other parts in the vicinity. A vertical section shows the thin surface layer of scaly epithelium with a thick underlying stratum, consisting of nuclei or very slightly developed cells of a lymphatic type, which are imbedded in a stroma or network of fine threads, so that the whole constitutes what is now called "adenoid" lymphoid or cytogenous connective tissue such as is found under the epithelial layer in several parts of the intestinal tract. This layer is traversed by vessels, which are of capacious size in hypertrophied specimens, running up to the basement membrane which supports the layer of scaly epithelium. When there is any habitual hyperæmia and consequent exudation, this submucous tissue readily gives origin to a new formation of similar substance, and so the enlargement continually goes. The morbid condition which most resembles it, is enlargement of the Peyerian patches which we shall presently describe." Enlargement of the tonsils always forms an element in the sore throat of Scarlatina, if that feature be at all developed, which enlargement is due to a hyperplasia of the cellular elements of the tissue below the epithelial layer, that it cannot be caused simply by enlargement of the blood vessels and congestion is evident, when we consider that after all inflammatory symptoms have subsided and the surface has again become pale, the enlargement of the tonsil still persists and takes some

some time & subside. I cannot help thinking, that the tonsillar affection of Scarlatina has not received sufficient attention which the surrounding catarrhal state (complicated as it always is with more or less oedema of the submucous connective tissue which in this part is of some consequence) has received more than its merited share. In Enteric Fever we direct all attention to Peyer's patches and the solitary glands, but it is highly probable that during life the surrounding mucous membrane is in as high a state of congestion as that of the fauces in the throat-affection of Scarlatina. We see abundant post mortem indications of it and we know that acute catarrhal inflammations leave little mark behind when the circulation has ceased. The question arises is the catarrhal condition existing around the tonsils, merely in sympathy with their inflammatory state or is the same specific process which causes the latter also involved in the production of the surrounding catarrhal state as well. Drs Klein has found the mucous membrane surrounding diseased Enteric glands to be primarily involved by the specific process.

It must be admitted then that we have in the Scarlatinal throat affection, not to deal with a mere catarrh, but that we have more important structures involved.

Is it, through the tonsils that the Scarlatinal poison makes its entrance into the system? Is the general infection caused by the entrance into the lymphoid tissues of a germ poison? When the pathology of the local process of Enteric infection is more thoroughly determined than at present, these questions may receive their answers. But why should Scarlatina attack the tonsil and Enteric Fever Peyers patches and the solitary glands of the Ileum? If the two former questions were answered, the last might be explained by the different nature of the germ-poison of each. The one (Scarlatinal) prone to float about in the atmosphere, (Scarlatina is an infectious disease) the other prone (My Enteric) ~~then subside~~ to remain in the fluids or solid in which it has been generated, and if forced, by drying of these

to rise into the air (dry Enteric or Cholera stools seem most capable of scattering these diseases by infection) through the agency of disturbing currents of air or otherwise, are ready again to subside into fluids or on to solids, which find their way into the human alimentary canal.

If these hypotheses be granted, it becomes explicable why the one germ poison should attack the tonsil, the other the like structures of the alimentary canal. The fact that the lowest gland is most deeply and seriously affected in Enteric fever, ~~[illegible]~~ is an argument in favour of this view though apparently against it. for it is highly probable that a delay occurs in the passage of the bowel contents through the valve and gives time for infection to occur.

Why the tonsils should become infected by a germ-poison floating in the atmosphere, I shall attempt to explain by an analogous case. I have been often struck on coming again into the fresh air and getting rid of the bad smell after being engaged at a post mortem, to perceive in my mouth a peculiar taste ~~anything~~ but pleasant and resembling as far as a taste can resemble a smell, the smell of putrid organic matter. I conceive this sensation referred to the mouth to be due to microscopical particles of putrid matter adhering to the internal surface of the mouth. ~~[illegible]~~. The tonsils, from their honey-combed surface will be peculiarly liable to form a shelter for the adherence to their surface, of such minute particles of matter. I would only say that to myself ~~was~~ has been the perception in my mouth of the presence of some particles of the putrid body I have been examining but I was never at ease until I had thoroughly cleansed it with aromatic or disinfecting fluids. Again, the affection known as Hospital sore throat is well known to occur in septic wards. it is primarily an affection of the tonsils, but accompanied afterwards by characters of a general infection process. Is it an inconceivable view to take of this affection that it is caused by the entrance into the tonsil as structures of bacteria or some kind of germ-poison, for such are known to crowd

the kind of atmosphere, which always engenders the affection referred? I have been struck with the early implication of the lymphatic glands at the angles of the jaw in these cases, which would appear to indicate that there is an entrance of the poison into them, before inflammation occurs in the tonsils. If such be the case it would render compatible the view that the Scarlatinal germ-poison attacks primarily the tonsils, with the clinical observation of cases of Scarlatina characterised by the apparent absence of Sore Throat.

The throat affection of normal Scarlatina is always on the wane by the second half of the first week. On that account probably, ulceration forms no part of its normal history.

The lymphatic glands at the angles of the jaw are involved at a very early period, as in Hospital Sorethroat, but the inflammation soon subsides and only when the throat affection passes into what I have termed its degenerated form, does it become serious.

(4) The Rash.

As to the immediate cause of this nothing is known certainly. Of the theories propounded, that referring the phenomenon to embolisms of the small vessels of the skin has much in its favour, especially with regard to the rash of Scarlatina, as the small red spots, in which it makes appearance are decidedly suggestive of that occurrence. If we grant that embolisms produce the rash, the question has still to be answered, Of what nature are the obstructing particles? Are they abnormal white cells, or congeries of spores and low fungi, or are these two elements combined in their formation? Lastly if all those points be settled the explanation of their occurrence in different forms according to the disease (for the rashes of the specific fevers must have all one common cause so far) though perhaps wanting the nature of the obstructing particles may explain the matter. We cannot assert that they do not occur, also, in internal parts, so that their being limited to the skin cannot be used against the theory of the embolic origin of rashes. All is speculation, though it seems strange to little is known on the subject. especially when in Germany the affected spots of the skin may be excised from the living patient.

The rash is very characteristic, sui generis, and makes its appearance on the second day, sometimes as early as the first. When it is delayed beyond the second day, the case is to be considered abnormal.

A year or two ago there was a discussion going on in one of the Medical papers, as to the place where the rash first made its appearance. On the whole, the bulk of the evidence went to confirm the occurrence the first on the front of the neck and chest. I have frequently observed it quite as early on the backs of the hands and I have detected it, in minute red points, in these

when it was absent from the neck and trunk — In passing, I may observe that the rash of Typhus frequently first occurs on the backs of the hands & disappears in a few hours. This phenomenon was long ago pointed out by Sir Thomas Watson. I have already spoken of the dotted appearance of the rash, as it makes its advent on the skin. I now pass on to consider it when fully developed. I have never yet seen a satisfactory description of the appearance of the normal rash at this period. Its appearance at the commencement and when fully out are as a rule mixed up together so that a most imperfect notion of the normal rash in its full development, is conveyed to the mind of a student who has never witnessed the rash in reality. I am aware that the description I am about to apply to the normal rash of fully developed Scarlatina differs from that of every writer on the subject, with whose writings I am acquainted, but I have tested the accuracy of it again and again at the bed-side and pointed out its peculiarity to the probationer nurses of the Hospital. The fully developed normal Scarlatinal rash is a speckled rash. This speckled appearance is given by the free distribution of minute irregular or faintly yellow shaped patches of healthy skin, looking very pale & perhaps only from contrast with the surrounding scarlet efflorescence. Minute points of redness have ceased to be distinguishable (they are however almost invariably found on the backs of the hands and fingers) and we have the very opposite condition of rash from that which we had at the commencement. Then it was small red points scattered over the healthy skin, now it is small white spots (about the size of a pin-head) scattered over a scarlet back ground. The skin is as a rule smooth and somewhat oedematous (this may account for the whitish appearance of the unaffected little spots). I believe this

Practice of Physic p. 604. 2nd Vol. 4th Edition

The Scarlatinal Rash speckled when fully out in normal Cases

"speckled" appearance is of importance as indicating the normal rash. Cases are by no means unfrequently met with, where the rash resembles erythema, being one uniform redness such cases should be abnormal II 1 a and they are usually accompanied by other features rendering the case abnormal. A persistance of the minute red dots would on the other hand be abnormal II 2 b. The rash as the sore throat, wanes during the second half of the first week. As to the course of the "features" already ~~consi~~ mentioned, considerable uniformity is shown. The place where desquamation commences, and at what period of the disease, are points it is quite unnecessary to determine with precision, were it possible, but cases will be found to vary much in both respects. Desquamation usually occurs earlier in cases where the rash has been intense and the flakes of cuticle are separated in larger pieces. The commencement of desquamation on the hands is often seen between the metacarpal bones of the thumb and forefinger, and ~~on the palm~~ to occur by the separation of small round distinct patches of cuticle; ~~and~~ I am inclined to regard this as characteristic of Scarlatinal desquamation. That the desquamation which occurs is not solely produced by the rash is evident from the fact pointed out by Dr. Graves that, in those abnormal cases where the rash is absent or is present only in the form of limited patches, general desquamation follows. The same is not uncommon in Enteric Fever, (very common if sudamenal desquamation be included); it is the rule in Typhus and renders the convalescent from that disease as dangerous to others as the Scarlatinal convalescent, a fact lost sight of at most fever hospitals, where it is thought a most grave matter to let a Scarlatinal patient leave hospital before he is quite "peeled" while Typhus patients are allowed to leave as soon as they are able to do so. In Relapsing Fever, a disease much accompanied

Desquamation

p. 263

Murchison p. 355 by a specific rash, desquamation also occurs, at times in very large pieces. It would appear then that we must regard desquamation, not as caused essentially by the rash, though it is very probable the latter influences the mode of it's occurrence. Before leaving the subject of desquamation, I would enter my protest against the dogma, that this state of the skin has aught to do with the frequent occurrence of albuminuria in the third week of the disease or earlier. The period of desquamation is however an important one, for the detached minute pieces of cuticle seem to possess the power of infection and are of course liable to be scattered far and wide. If this fact were more thoroughly established than it is, it would tend to strengthen the theory that the rash is due to an embolic determination of the germ-poison upon the skin.

(5) Symptoms referrible to the mucous membrane of the alimentary Canal.

This feature follows naturally that last considered as the mucous membrane of the alimentary tube may be ~~considered~~ regarded as inverted skin. The appearance of the tongue is usually considered characteristic of the disease and so far justly; still a less degree of the same peculiarities is not unknown in other diseases. May it be taken as an indication that a congestive state of the alimentary mucous membrane as a whole exists? or may it be an extension of the catarrhal element of the throat affection? The former is the more likely conjecture. Whether the tongue becomes congested before the rash or at the same time, is somewhat difficult to determine, as the tongue is usually coated and only it's margin seen, having a tendency to look abnormally red in contrast with the usually white fur, which the rash appears early.

Dr Graves while not hesitating to class a group of cases by the name, Gastro-Enteric, refers the symptoms giving origin to the name, to the nervous system_ No doubt these symptoms when occurring at the outset of malignant cases are rightly so referred, but I do not think on that account we are justified in ignoring altogether the implication of the alimentary mucous surface itself, in diseased action_ Violent vomiting at the outset, sometimes accompanied by purging and followed by speedy collapse, may most properly be attributed to nervous affection_ But leaving such ~~cases~~ symptoms out of the question for the present, there remain for consideration several less urgent ones, whose occurrence in cases not far if at all removed from the normal type, is by no means rare, and which we seem entitled to regard as the result of a congested state of the alimentary mucous surface_

I shall here refer to the result of post mortem examination with regard to the point at issue, although it is hardly fair to deduce the state of the alimentary surface, in normal cases and during life from what is found after death in abnormal cases, for I hold that no fever proves fatal in its normal type_ In fatal cases of Scarlatina some evidence of congestion of the small intestine at any rate and often of the whole alimentary tube, is rarely wanting and when it is considered, how difficult it is to ~~obtain~~ determine after death the presence of congestion during life, we may infer that it occurs in all cases_

But a more interesting feature than mere catarrhal congestion is found in the vast majority of cases, I refer to enlargement of Peyer's patches and the solitary follicles of the Ileum. In my own cases, with hardly an exception, these lymphoid structures were found more or less swelled and congested_ The affection of them was by no means regular. In one case an adult both Peyer's patches and the solitary follicles, nearly all of them, stood out in bold relief but the patient before

admission had been purged with calomel – more commonly, the solitary follicles were chiefly involved, while the affection of the patches was limited and irregular, both as to the implication, in number, of the patches and the extent of surface affected in each individual patch, thus at times the lowest patch of the Ileum would be found much enlarged and congested, the second lowest hardly morbid and the others unaffected (the solitary follicles being pretty generally involved); in other cases most of the patches, presented small roundish foci of deep congestion, the largest of these rather less than a threepenny bit – I never saw ulceration though it needed no stretch of imagination to believe that such might readily have occurred had life been prolonged in some of the cases – I have however made post mortems on cases fatal at the end of the third week, where the disease had run a malignant and continuous course from the first characterised by degenerated local lesion and complication, in which the appearances noted above were found, but no ulcers. Among other appearances of the alimentary canal, which I found very frequently, was a papillated condition of the first part of the duodenum – In cases which prove fatal, then, the lymphoid structures of the Ileum are also found more or less involved – This is peculiarly interesting not only as showing some similarity with the Enteric process in these same structures but in relation with the tonsillar affection – It would seem as if some small portion of the germ-poison, which usually attacks the tonsil in bulk, had been swallowed and found its way to Peyer's patches and the solitary follicles. As in Enteric fever the patches nearest the ileum are most commonly and most deeply congested and enlarged. Dr John Harley who has paid particular attention to the points of resemblance between Enteric and Scarlet Fevers, goes so far as to express his belief that the one may in lapse into the other, but there seems to be no doubt that

Reynold System of Medicine. Vol I. p. 381.

the two poisons are perfectly distinct, though they possess this in common, that they attack the same structures.
As to the symptoms referrible to the alimentary canal, occurring in normal cases little has to be said_ Diarrhoea is decidedly common, and when the diet is milk, the stool resemble those of Enteric Fever, somewhat.
Sickness and vomiting (not including the latter of the onset in severe cases) are seldom troublesome, though they now and then occur in normal cases, I believe often due to collections of mucus, at the back of the pharynx ~~&c~~ by reflex phenomenon_ Symptoms referrible to the alimentary canal unless of great intensity are entitled to rank among the "features" of the normal disease_

(6) Morbid Tendencies_

"These form a most interesting ~~subject~~ part of the symptomatology of Scarlatina.
Firstly as to Arthritis_ Graves remarks the frequent occurrence of this affection in the Scarlatinal patients of the Meath Hospital, and nearly all recent writers give it a place in the "occasionally occurring" department of their symptomatology. As to the period, when this rheumatism (for so I shall call it) ~~occurs~~ is likely to occur authors are as a rule singularly indefinite. Dr Gee however mentions "towards the end of the 2nd or beginning of the third week" which is ~~singularly~~ at variance with my own experience_ Among my hospital patients, rheumatism has been by no means uncommon, and all my observations on the point lead me to the conclusion that the period of "Tendency to Rheumatism" is a comparatively definite one, namely the end of the first week and the commencement of the second week. As authors of high reputation are disposed to affix a different period or to leave the limits of this tendency as to time

Syd. Soc. 258

Clinical Soc. Trans. Vol. I. p. 161.

of development, and defined ~~it is not for me~~ to be dogmatic on the point, but it is in deference to them and not from any inconsistency of my own observations, ~~I do~~ insist on the definition

Clinical Medicine Vol II. p. 181

Trousseau calls attention to the common predilection of this form of Rheumatism for the wrists and small joints of the hand and I can confirm his observation by my own experience. Rheumatism in Scarlatina is very frequently preceded by the presence of great excess of uric acid in the urine. I regret I have not examined the blood in any of these cases. Dr Mahomed in ~~the~~ his paper before mentioned, attributes the condition of the blood giving rise to rheumatism, to be due to an alteration in the function of the Liver and his observation would appear to point in the right direction. Some again associate the affection with pyaemic arthritis, a view which seems quite untenable when we consider how transient and trifling is the Scarlatinal affection, how serious and destructive the pyaemic. I have not noted suppuration in the "undegenerated" form of Scarlatinal Rheumatism!

As a rule Scarlatinal rheumatism lasts from 2– days, sometimes a few hours only, or it may assume a barely recognizable form, so slight its manifestation is. I have considered Rheumatism under this head (the Normal) though I do not include its occurrence among the Normal ~~&~~ Features, (only a Tendency to ~~occurrence~~ occurrence,) from the impossibility of considering a "tendency" without the previous consideration of that direction into which it tends. But, Rheumatism though an extremely common affection in cases all but normal, is correctly placed out of the list of Normal features, is shown by the fact that when it occurs, it renders the temperature and pulse curves abnormal, interfering with the normal mode of defervescence.

the Tendency

to develop

Albumenuria

Secondly - The Tendency to Albumenuria.

Certainly in the whole symptomatology of the fevers considered, there is no feature of greater interest than this, for it occurs not during the other characteristic manifestations of the disease, but after an apparent convalescence - In the sister diseases, there is nothing analogous to it, unless Diphtheria be included among these and the tendency to paralytic affections be considered in that light. Here I have to deal only with the Normal Type of the disease, to which developed albumenuria, does not belong, but as I have considered rheumatism under this head and for the same reasons I shall also consider albumenuria. I mentioned that authors had been indefinite as to the period of tendency to rheumatism, and the same remark applies to albumenuria. I feel more confidence in defining the time when this tendency exists, than I did with regard to the definition of Rheumatism - In this the Normal Type I hold that the second half of the third week is the time when albumenuria will appear, when it occurs. I have never known it to commence after the 22nd day and I have examined the urines of the many cases of Scarlatina that have come under my care, almost daily, to make sure of the point. The probable explanation of the cases spoken of, as occurring later is that the urine has not been examined till dropsy occurred though albumenuria may have existed for weeks before that - I shall afterwards have to mention causes which hasten the development of this tendency, but they I think only to be referred to here. The presence of these causes however have no doubt contributed to the indefiniteness, with which the period of tendency to albumenuria has been regarded by authors - Another potent factor in the production of this ill-defining of the period referred to, is the fact I am now about to mention - That in Scarlatina two forms of albumenuria occur, the one common to all the fevers, the other I believe peculiar to Scarlatina

x not in one epidemic nor even one city -

The one is the albuminuria I have above referred and the characteristics of which I shall afterward mention the other is what for convenience I shall call "febrile" albuminuria as it may occur in any of the specific fevers, in pneumonia or Acute Rheumatism. This latter forms occurs in the early part of the disease during the primary pyrexia. Clinically it is distinguished by the following characters. The urine does not contain blood or paraglobulin it is high coloured of high specific gravity and often deposits urates on cooling. If no deposition of urates occurs (as is especially common in the 2nd week of Typhus) no other deposit is visible and tube casts cannot be found. It is ordinary febrile urine + albumen. The true Scarlatinal albuminuria is altogether different, it is but alone I would define a period of liability. The urine contains blood or if not blood demonstable to the eye, paraglobulin (indicated by a blue reaction with Guaiacum and Ozonic Ether) the amount of colouring matter is either below par or its colour is interfered with from the presence of blood (smoky), its specific gravity is invariably lowered unless the amount of urine passed be very much diminished. tube casts are easily discovered by the microscopic examination of the deposit which always forms. This lowering of the specific gravity indicates therein a vital therefore a functional depression of the secreting cells of the kidney from inflammatory action. I need not tarry long over this latter form of albuminuria. It is evidently due to a very mild and insidious type of Nephritis, which however may become aggravated and produce dropsy uraemia &c. &c.

Dr Thomas's paper already referred to.

I am strongly inclined to the opinion, that the first form of albuminuria I described, the "febrile" is not due to an affection of the kidneys at all, at least primarily — Moreover that it is in some way connected with a morbid constitution of the blood, in the production of which functional derangement of the Liver is an important factor. The Liver is probably much implicated in the febrile

process and Galen's opinion "that the Liver is a great centre of animal heat" has been confirmed by modern research. I would account for the presence of albumen in the urine of fever-patients in some analogous way to that indicated in the following passage from Kirkes's Physiology p. 337. 4th Edition "From the labours of M. Bernard to whom we owe most of what we know on this subject, it appears that the low albuminous matter or albuminose conveyed from the alimentary canal by the blood of the portal vein requires to be submitted to the influence of the liver before it can be assimilated by the blood; for if such albuminous matter is injected into the jugular vein it speedily appears in the urine; but if introduced into the portal vein and thus allowed to traverse the liver, it is no longer ejected as a foreign substance, but is probably incorporated with the albuminous part of the blood"

Dr Murchison's Functional Derangements of the Liver p. 21

It is to the presence of a "low albuminous matter in the blood" however produced or from whatever source, that I would direct attention, as the cause of the albuminuria of fever and probably of Diphtheria. It must be borne in mind that these abnormal albuminous compounds passing through the kidney irritate it, and thus tube casts and even blood may appear in the urine. I have observed the one form become complicated with the other in Enteric Fever. It would be interesting to know if no subtle chemical difference existed between the albumen of the two kinds. In Scarlatina, in cases where the pyrexia is much protracted, from some cause or another, the true nephritic albuminuria may be overtaken by the other.

As an example of how these two forms of albuminuria occurring in Scarlatina have been mixed up and confused, I may mention that Dr Gee states "that" I accord noticed albumen as early as the second day". He himself records its occurrence on the 4th in another on the 8th (I should imagine the latter not a normal case). Yet these words occur in treating of albuminuria as a sequela i.e. of the true Scarlatinal form.

Reynold's S. M. 161. Vol I.

The majority of our medical text books err very much, in my opinion, by considering albuminuria as a necessary and therefore not to be prevented occurrence during Scarlatinal convalescence, but a more grievous error is committed by those who include dropsy into the Symptomatology of simple cases (and it is these which are usually selected as the cases in which its occurrence is most common). Not even albuminuria can be properly considered as a normal feature of the disease - only a tendency thereto but dropsy that is the having aggravated the mild Nephritis which commonly occurs, or allowed it to degenerate and produce permanently damage the kidney, is ever to be regarded in simple cases as an "opprobrium medicorum". That dropsy may occur in the so called Latent cases, forming the only observed manifestation of a Scarlatinal poison affords strength to the correctness of the views considering a "Tendency to albuminuria" as one of the normal features of the disease, for in such cases we have abnormality in the absence of all the ordinary features of the disease (II 2a) except one and that one albuminuria. That the albuminuria should become aggravated in such cases is what might have been expected when it is considered that the patient could not know of his calling for precautions which are to be taken up along with Treatment. This subject will again be taken up along with Treatment.

(4) Symptoms belonging to the Respiratory, Circulatory and Nervous Systems.

The Respiratory System is quite exempt in normal Scarlatina.

Circulatory System. Sufficient of the pulse has already been said. The first sound of the heart is commonly shortened, the sounds are loud and the heart's impulse vigorous. Other phenomena will be consi

under the head of Abnormal cases.

The Nervous System. Headache, giddiness (from probably the rapidity and excitement of the circulation) and slight aching pains have already been mentioned as febrile phenomena. Nocturnal delirium or transient diurnal does not alone render a case abnormal. Heberdens remark quoted by Professor Gairdner* "Haud temere alium repereris in quo aegri sanius desipiunt et cum minore periculo" is I think only partially justifiable. The early period at which delirium occurs in Scarlatina is referred by the same author "In ceteris febribus mens rara turbatur donec aegri jam in malis sunt" and Trousseau points out the diagnostic importance of this fact. Cases, where it would prove of diagnostic importance are however all excluded from present consideration, being abnormal.

*Clinical Medicine 193

M. p. 45. 2nd vol. Syd. Soc. translation

Scarlatina Abnormis.

"The first subclass under this great class includes cases where the attack is rendered unduly severe, and the first division of this subclass to be considered includes cases characterized by severity, from the intensity of normal features".

(1) Temperature. So much has been already said on this subject, with regard to prognostic indication, that it may be briefly dealt with here. I have included "prolonged duration" of a normal feature along with intensity, especially with a view of embracing in this class, those rare cases where the pyrexia runs a protracted course. Cases presenting this feature simply are very rare, but of course all cases, suffering from degenerated sorethroat, rheumatism &c. &c. are characterized

as well by protracted pyrexia. Hyperpyrexia is the most important subject for consideration here. A high temperature as a normal feature of Scarlatina and by excessive fever for that disease must be meant a temperature at least above 105°.7. The normal pulse of Scarlatina is also a very fast one. On the latter account I believe it is that a pulse rate of the normal disease standard does not confer the same amount of safety it does in Typhus, where that standard is much more moderate. It would seem that the danger of hyperpyrexia is greatly increased, when the pulse also is rapid. I have frequently seen the pyrexia of Scarlatina run a course of three weeks, all the while characterised by very high temperatures, morning remissions being fairly marked. But in all these cases the fever seemed to be kept up by local affections, it was impossible to say how much represented the latter and how much was the primary "specific" fever. I am inclined however to the opinion that the local affections are the essential element in the production of such a protracted course of pyrexia. Wunderlich refers to such cases as characterised by a "typhoid course of the disease" p. 350 They usually prove fatal, but if recovered from a very slow convalescence follows, preceded by a gradual defervescence drawn out over many days.

(2) Pulse-rate. Normal Scarlatina has a very rapid pulse, therefore abnormity in this respects means a very extreme frequency. Dr Bristowe in his recently published Practice of Medicine, agrees with the opinion I have expressed as to the danger of this occurrence p. 158 Dr Gairdner's opinion has already been referred to.

(3) Throat Affection. I reserve most of the types of abnormal, so called malignant sorethroat for after consideration, as they seem to come more naturally under the head of "degenerated normal local lesion". There are two however I shall mention here (1) Gangrene or sloughing arising from intensity of the primary inflammatory process (2) Great

swelling of the tonsils, with œdema of the fauces, threatening suffocation (œdema glottidis may also occur). I have more than once observed the tonsils distinctly gangrenous, on post mortem examination, in these cases the gangrene was secondary to "degenerated" throat affection and ~~the~~ death occurred in the second week. "Brawny" infiltration of the cellular tissue of the neck usually accompanies gangrene. The subject of gangrene will again be referred to under "degenerated normal local lesion"

(2) Great swelling about the region of the throat, accompanied or not by œdema glottidis is more correctly included under this head. Dr Gee mentions a case "carried off within 30 hours of the onset of the disease by œdema glottidis" and as a rule if death results from this affection, it does so early in the disease. Few cases are so distressing to witness, as great obstruction about the throat in Scarlatina not only is respiration interfered with but deglutition is rendered all but impossible.

Suppuration of the lymphatic glands behind the angles of the jaw, hardly ever occurs as a result of the "primary throat affection, it usually indicates a "degeneration" of the tonsillar inflammation.

Reynolds S. Med. vol I p. 153

(4) The Rash.

prognosis of the Rash

Abnormity of the rash in the direction it has been by some considered a good sign by others a bad one. That many fatal cases are accompanied by an intense rash cannot be doubted. Dr Jones records several cases in point p. 239 "In these violent cases, the efflorescence was perfectly continuous and never broken into spots and patches, the skin seemed as if dyed with one uniform colour. On the other hand cases prove fatal without any or with but a patchy development of the rash. The truth may probably be expressed thus, an intense rash is an unfavourable sign inasmuch as it betokens a large amount of Scarlatinal poisoning, and a favourable sign inasmuch as it indicates

the most favourable condition under which that large amount of poisoning may be borne. In the patchy rash we have a double irregularity, in direction II 2 b as to extent and in direction II 1 a as to intensity for the patches are usually deep and uniform in colour. In conclusion I may mention that when the rash is intense, on squeezing the blood out of the vessels, the skin appears yellowish

(5) Symptoms referrible to the Alimentary Canal

These seldom alone render a case abnormal by intensity of development. The tongue is usually very red and may become dry and glazed. Diarrhoea is very frequent, no doubt depending upon a catarrhal state of the mucous surface chiefly of the Ileum, accompanied by enlargement of the Peyerian and solitary follicles. As before mentioned I have failed to find ulceration even after the disease had run a many weeks' course of three weeks' duration

(6) Morbid Tendencies. I have considered the mere occurrence of Rheumatism as rendering a case abnormal in the direction II 1 a which ~~has~~ is under consideration. Rheumatism once developed varies in all degrees from the transient affection I have before mentioned it to be, to an affection resembling what is commonly termed an attack of "Rheumatic Fever". If it should be quite definitely determined that the arthritis of Scarlatina is really in essence the affection commonly termed "Rheumatism", it would be natural to suppose that the so called "Rheumatic diathesis" of a patient would exert an influence in the production of this affection in more or less severe degree. My own observations, as far as they go, do not support this view, but I do not consider them altogether satisfactory and would not attach any importance to them.

The mere occurrence of albuminuria properly claims consideration here, but I do not intend to fully enter into its consideration under the Normal Type, that here I need only refer to its aggravated forms. The albuminuria I refer to, is synonymous with Nephritis. That nephritis is in the great majority of cases a very mild one, but is capable of easy aggravation by causes intrinsic and extrinsic which will be mentioned under treatment. Dropsy is the result of such aggravation, which occurs precisely as it does in ordinary Nephritis unconnected with Scarlatina. I am not aware that Scarlatinal (so called) dropsy varies in any way from that due to the ordinary forms of Nephritis, if it does, the cause is rather to be found in the condition of the body generally, left by the primary poisoning, pyrexia &c. Dropsy does occasionally occur without albuminuria, inexplicable though these cases are at present. Un arrested evaporation may account for it. I know nothing as to the time at which such dropsies are liable to occur. They are extremely rare.

(y) Features belonging to the Respiratory, Circulatory and Nervous Systems.

Of the respiratory System nothing need be said, unlike what occurs in Typhus and Enteric Fevers, the lungs escape in Scarlatina of this type II 1a.

The Nervous System, notwithstanding the opinion of Heberden and Prof. Gairdner, Delirium, when at all marked must be considered an abnormal and dangerous phenomenon. Its early occurrence in dangerous cases and its diagnostic importance have already been commented upon. I would only mention in passing that delirium or rather maniacal symptoms, not very unfrequently first call the attention of the friends of a patient to the suffering from Enteric Fever, to his illness. Jactitation is not uncommon in severe cases of Scarlatina, it is only the restlessness which characterizes Scarlatina in its normal form, intensified. Convulsions and death by coma also occur.

I do not refer to uræmic affections in the foregoing consideration. All the symptoms I have described may be due to that cause. Delirium very seldom however. True Scarlatinal headache is never intense as in Typhus. It is to be remarked that the Sensorium is more acute in Scarlatina than in Typhus or Enteric Fevers, the sense of discomfort from pyrexia is much more vividly perceived, as also general anxiety. In Typhus and Enteric Fevers an unaccountable though merciful cloud of apathy seems to surround the patient as he passes into what may be to him the "valley of the shadow of death".

Circulatory System

It will be convenient here to consider the auscultatory phenomena of the heart, presented by our observations in abnormal cases of Scarlatina. These phenomena are hardly less interesting than those of Typhus. I have already mentioned that shortening of the first sound may occur in even normal cases, but in abnormal especially protracted cases the heart sounds may acquire that character in which they resemble, as so admirably described by Dr Stokes, the sounds of the fœtal heart in utero. The absence of the first sound which occurs frequently in Typhus and according to my own experience by no means unfrequently in Enteric, and apart too from the "typhoid" state has never been observed so far as I know in Scarlatina except [illegible] the second sound was also absent, as in a case I shall afterwards narrated. Cardiac murmurs are not unfrequently developed during the second or third weeks and commonly in protracted cases. Of these a systolic murmur over the so called pulmonary area is the most common and if not alone, the first to appear. Subsequently an apex mitral or tricuspid murmur may develop or both together. Such a sequence of murmurs affords support to Ramsey's explanation of this so called pulmonary murmur advocated by Dr Balf

Lectures "On Fevers" p. 217

Diseases of the Heart Page 160

namely that such murmur is produced not in the pulmonary artery, but has an auricular origin, being due to regurgitation through the auriculo-ventricular orifice, the valves either from debility of the papillary muscles or from dilatation of the orifice round which they are attached, rendering them incapable of closing the orifice during the ventricular systole. The late Dr Gibson in his article on Endocarditis in Reynolds System of Medicine, still retains the old interpretation of the like murmur occurring in that affection — As a factor in its production, he attaches chief importance to a flaccid state of the vascular walls. At page 16 of his Work on the heart Dr Balfour expresses his opinion "that careful auscultation of the auricular region would reveal a systolic murmur there as the first and earliest indication of failing cardiac power". In a limited though exceedingly fatal epidemic of Typhus, which occurred in Leeds last autumn, I particularly sought to verify Dr Balfour's conjecture but did not succeed. In the cases where one would expect to meet with it there are conditions which render auscultation of the heart and especially of the auricular region very unsatisfactory, there is rapidity of respiration, with loud râles from the always present bronchitis and not only this but the hypostatic congestion at the posterior parts of the lungs, necessitates a freedom of play in the anterior parts, that must materially obscure the auricular murmur, even though it be present.

vol IX p. 488

There is another subject in connection with the auscultation of the heart in Scarlatina, of great interest, namely the Diagnosis of Ante Mortem Clot. In nearly every case which comes to the Post Mortem Table we find, unlike what is the case in other Specific Fevers, the cavities of the heart and especially the large vessels, packed with whitish clots. I have already mentioned this circumstance in relation to other phenomena of the disease. What the cause of this peculiarity may be I shall not stop to consider but pass on to the subject

which is of greater clinical interest. Knowing the fact of the existence before death from Scarlatina of coagulation of the blood in the heart and large vessels I have endeavoured to obtain some sign of the condition by auscultation shortly before the final event. Here also as explained with regard to Typhus, there are always extrinsic circumstances which render auscultation of the heart exceptionally unsatisfactory. The patient is often delirious and noisy, besides, or he may have jactitation or convulsions. Though bronchitis does not occur in Scarlatina before death hypostatic congestion of the lungs is the rule and this with the rapid heaving up of the chest & the production of which it is a factor, causes the anterior parts of the lung to cover the heart and vessels unduly. In one case only have I been able to make the diagnosis by the aid of auscultation and other symptoms together though in any case of fatal Scarlatina, it may be said with considerable assurance that those pale clots above referred to will be found abundantly in the heart and large vessels. The patient was a male adult, he was in a state of coma with occasional interrupting delirium he was pulseless, excessively livid, and over the heart neither sound nor murmur could be heard there was an indefinite sensation of motion (if I may use such an expression) rather than a sound conveyed to the ear. I may remark that the extinction of the heart sounds is by no means a sign of death in fever, In a case of Typhus occurring in an old man I was once so fortunate as to witness the phenomenon referred to while the pulse was perceptable at the wrist. I should in this case doubt the acuteness of my own hearing, had not a similar condition been recorded to exist by Dr Stokes, and to have been observed by him. The livid patient mentioned above died in about 12 hours and the post. mortem appearances expected to be found, were markedly present —

This will also interfere with the determination of increased dullness to the right side said by Dr Walshe to occur in cases of thrombosis of the heart. p. 459

Lectures on Fever p. 217.

Heart

The Heart of this same patient presented enlargement of Peyer's patches and the solitary follicles to an extraordinary degree, but he had been purged with calomel before admission.

But this same condition of the heart sounds, may be due to purulent pericarditis which is said occasionally to occur in Scarlatina, when the sac is not distended, as I once had occasion to observe. The case was the following. A patient was admitted to Hospital towards the end of a febrile attack probably Typhus, he did not convalesce satisfactorily, his pulse it was particularly noted did not come down and finally pneumonia of the right upper lobe set in. While the pneumonic disease was running its course, suddenly the pulse became intermittent and irregular and then hardly perceptable, he had no pain, and there was no distinct enlargement of cardiac dullness, he became rather livid and his face put on a peculiarly anxious expression, suggestive of cardiac failure. On placing the stethoscope over the heart, the same perception of something moving within, rather than distinct sound was conveyed to the ear, which I have described to have been heard over the livid Scarlatinal patients heart. I need hardly say there was no impulse. The patient died in a day or two and purulent pericarditis was found on post mortem examination, with very bulging distention of the pericardial sac. If we could exclude the possibility of clot in such cases, the diagnosis would be easy, even in the absence of distention of the sac, slight degrees of which I believe cannot be recognized by percussion. The intense depression of the hearts situation along with the absence of friction sound pointed to purulent exudation, granted the pericarditis. Raising of the apex beat of course would not occur where there was no distention of the sac, as that phenomenon seems to be due to distention of the sac upwards, dragging along with it the attached heart. It is difficult otherwise to account for it, as when the patient is erect the

Development of Aortic Murmur - 1st a diastolic and then a double murmur from ante-mortem thrombosis of the aorta

heart being of greater Specific gravity than the surrounding fluid will gravitate downwards -

I have already digressed too far from the subject I set out from but in conclusion, I may narrate the following case, where ante-mortem coagulation in the aorta before death gave rise to perfectly marked auscultatory phenomena - A patient above middle age, was sent to the Leeds Fever Hospital, supposed to be suffering from fever but whose actual disease turned out to be chronic phthisis and Bright's disease. After two months residence in hospital during which time his heart was very frequently auscultated and its sounds found to be normal, a soft blowing diastolic murmur possessing all the characters of that due to aortic regurgitation developed suddenly during a sharp febrile attack, shortly afterwards a systolic aortic murmur developed while the diastolic remained persistent - This systolic murmur increased in loudness for a day or two after its commencement and both murmurs were present at the time of the patients death about a week after the first appearance of the diastolic murmur - Preceding death there had been extreme pallor of the surface and tendency to syncope on assumption of the erect position, lastly, convulsions and coma accompanied by oral stertor. A large thick pale clot was found, after death, attached to one of the segments of the aortic valve (I forget which) and which not being protruded into the ventricular cavity at all, extended about 2½ in into the aorta* - The kidneys were fatty and one lung riddled with cavities, the other being but slightly affected. There was no enlargement of the heart, nor had there been during life evidence to the finger of a great degree of arterial tension. The pathological specimen was shown to the West Riding Medico-chirurgical Society by Dr Eddison and an abstract of the case will be found in its minutes - I think the diagnosis might have been made during life from

* there was an entire absence of clot on the right side of the heart nor was there any coagulation in the left chambers

the following considerations. — There was nothing to cause rupture of the valve, the patient had been lying quietly on his back for weeks and had made no sudden effort shortly before. The arterial tension was not greatly if at all increased. The aortic regurgitant murmur is the rarest possible first manifestation of Endocarditis, that disease preferring the Mitral valve and only extending to the aortic valves. There was again no feature of the case which rendered Endocarditis at all a probable occurrence. × Bright's disease very seldom is a cause of it. The slowly development of an obstructive murmur, gradually becoming louder and finally the supervention of symptoms indicative of obstruction on the aortic side of the circulation, might I think have led to a diagnosis, but the occurrence of the murmur seemed quite mysterious during life.

Dr Gibson Reynold's System. V. IV p. 495

ibid. p. 518

Coagulation had no doubt taken place first upon one segment of the valve interfering with its proper function and permitting regurgitation while the clot gradually augmented in bulk, causing any increasing amount of obstruction, evidenced first by a murmur getting gradually louder, and then by symptoms of obstructed out-flows from the heart. Dr Walshe speaking of "Hæmic Murmur depending upon coagulation" says "It is conceivable that a murmur of this mechanism may be of presystolic or diastolic Rhythm also, when clots accumulate in the auricle or at the tricuspid orifice in such manner as to obstruct the onward current or at the arterial orifices in such a manner as to cause regurgitation but I have not actually observed any of these conditions". Since my case occurred Dr Moxon has recorded a case where presystolic murmur was produced by an auricular thrombus projecting into the auriculo-ventricular orifice, so that both of Dr Walshe's conjectures have been realized.

Diseases of the Heart. 4th Edition p. 88.

II 1 b. Cases abnormal from degenerated normal local affections –

(1) Temperature. In these cases the temperature sympathizes

(2) Pulse Still more do the pulse – The pulse not regaining the healthy standard on the subsidence of the primary fever is always a cause of anxiety and in these cases mischief is ever ready to break out – A quick pulse at a late period of convalescence however is common – It seems to indicate increased nutritive activity Neuroses of the heart occur, especially in young females and the difficulty due to them must be distinguished – Irregularity or intermittency of the pulse is common, on the advent of albuminuria from albuminoid degeneration but it may occur independently –

(3) Throat affection In Dr Gee's paper on Scarlatina in Reynolds System of Medicine, the following sentence occurs "There can be no question that the majority of "ulcers" and sloughs observed during the first four or five days of Scarlatina are nothing but excess of the secretion of the part smeared over the surface and likewise no question that that the dire sloughing and gangrene described so well (?) by the older writers (e.g. Huxham Heberden) and on this authority still attributed at times to Scarlatina appertains altogether to Diphtheria" With the first sentence I have already expressed my agreement – but I must take exception to the last, for I do not think sloughing and gangrene can be excluded from the abnormal symptomatology of Scarlatina – I have myself found gangrene more than once on post mortem examination, the substance of the tonsil being black and exhaling the horrid odour of gangrene – I have mentioned gangrene as an occasional result of the intensity of the primary inflammation, but this is rare – Much more commonly it is preceded by more or

p. 153

less superficial ulceration and occurs in the second week of the disease. During life there are very great difficulties in the way of ascertaining the condition of the tonsils, as these malignant affections, in which it is especially desired to obtain a good view of the fauces are the very cases which are accompanied by painful swelling behind the angles of the jaws and occasionally with that dreadful form of infiltration known as brawny swelling, thus it is always painful and in the latter case impossible for the patient to gape sufficiently widely to permit a good light into the posterior part of the mouth and throat. A reflecting mirror is often of great use in these cases. In degenerated sorethroat, as in the normal affection we must consider the same two elements viz in the tonsillar affection and that of the surrounding mucous membrane.

The close analogy already pointed out between the affection of Peyer's patches in Enteric Fever and that of the tonsils in Scarlatina, would lead us to suppose that ulceration, at first superficial, would occur in the latter as we know it to do in the former. The Scarlatinal process is however of very much shorter duration and on that account I hold that ulceration forms no normal part of the tonsillar affection, though it does of the Peyerian Enteric process. But when Scarlatina is protracted from the severity of the original poisoning ulceration does occur. I might, perhaps more correctly have considered ulceration under the head of undue intensity of normal features, but here it will be more readily associated with the disastrous consequences which so frequently result from it. Ulceration superficial at first having occurred in the tonsil, decomposed putrid substances often crowded with bacteria are formed and adhere to the abraded surface of the tonsil. If sloughing has occurred the sloughed tissue, itself horribly putrid acts in a similar way. If no treatment is adopted, local absorption

from the putrid substances in contact takes place the sloughing first of all superficial and the result of a superficial inflammatory process spreads widely or gangrene itself is engendered. The surrounding tissue of the tonsil seems unable to throw out a protecting suppurating surface and hence all the mischief. The lymphatic glands of the neck are rapidly involved and according to the degree of the virulence of the tonsillar process, there may be in them simple enlargement followed by suppuration, in numerous foci, more acute inflammation with partial sloughing partial suppuration, lastly the "brawny swelling" before referred to, from diffuse infiltration of the surrounding cellular tissue. In this case I have seen, when life has been prolonged, a huge slough* separate as from a bedsore. Recovery hardly ever takes place when "brawny" swelling has occurred. With regard to this subject Professor Gairdner remarks in a note "This Scarlatinal sore throat is I believe by far the best and most accurate index of danger in the later period of Scarlatina, in so far as the danger depends on the sore throat and on the putrid infection of the blood which accompanies it."

Lymph

* This result is brought about mainly by the extreme tension of the swelling.

p. 193.

There is a form of sloughing of the gums, by no means rare in fever, the consideration of whose mode of origin may throw some light on the pathology of the degenerated Scarlatinal throat affection. When putrid sordes have been allowed to collect about the teeth, at some part where the surface of the gum has become abraded and the unprotected tissue of the gum comes into contact with the intensely irritating putrid matter of which the sordes is composed a process of sloughing ensues, which rapidly extends and often lays the bone bare. This is no doubt a form of Cancrum oris, but I have never seen the cheek involved. It seems exceedingly difficult to account for this disease, I prefer to, by arterial thrombi. It seems by no means an impossibility, that even bacteria

and the lowest forms of vegetable life may penetrate the living tissues, when deprived of their epithelial surface. I regret that I have never examined the pus from a suppurating Scarlatinal bubo, to ascertain, if it contained bacteria.

Clinically the "brawny" swelling is a phenomenon of the second week, and is specially prone to occur in cases totally neglected, as in the children of the poor. I believe it always indicates a sloughing state of the tonsil either deep ulceration or true gangrene.

I have considered at sufficient length the tonsillar part of the throat affection. The catarrhal element in its degenerated form now requires some mention. Cases chiefly children are frequently brought to Hospital in the second week of Scarlatina, almost invariably with enlargement of the lymphatic glands at the angles of the jaw, which often ~~pass~~ passes into suppuration, & whose uvula soft palate and fauces generally is covered with apparently a white false membrane. These cases I soon learnt to regard not as diphtheritic but as a form of degenerated Scarlatinal sorethroat. The white matter is easily removed but leaves a superficially ulcerated surface. Such cases are usually accompanied by Coryza characterized by peculiarly acrid secretion which ulcerates the edges of the nares and upper lip. It is probable that a somewhat similar condition to that observed on the fauces, extends in these cases from the latter into the nasal cavities. Ear affections are especially common in the cases described.

(4) The Rash. A local degeneration of the skin affection in Scarlatina hardly ever takes place, still an eczematous condition is not unknown. A copious eruption of pustules containing a fluid rendered opaque from the presence of inflammatory cells, is a common occurrence. I have seen the eruption in such cases, accompanied by heat and tingling and once I observed the ordinary rash to be followed by

Eczema Rubrum? Dr. Fox. Skin Diseases. p. 164.

intense general pruritus. There is a form of acute eczema covering the whole body, commencing abruptly and tending to get perfectly well within a limited period, one to three weeks, which I have twice seen mistaken for Scarlatina, it may, or may not be accompanied by a sympathetic unusual blush of redness over the fauces, but never by a true sore throat, an eczematous surface is found in the pleasures of the joint at a very early period. The redness of the skin before the occurrence of vesicles is quite uniform like erythema, this intense form of rash with no sorethroat is almost sufficient for diagnosis even at the outset. A "weeping" surface is developed when the vesicles rupture which finally dries up, desquamation follows and the skin is restored to its normal condition. In one of the cases I saw the temperature was 104° and remained high for more than a week during the acme of the affection the patient looked quite as if he had received a universal scald. An interesting feature in this case was the development of albuminuria. If it depended on the condition of the skin, that was a very different one from that presented by any case of Scarlatina and resembled, as just remarked, a scald, after which over a large surface albuminuria is known occasionally to supervene.

(5) Alimentary canal. I know of no degeneration having been recorded, either of the lymphoid glands or of the mucous membrane surrounding these.

(6) Morbid Tendencies. Rheumatism may pass into a condition identical or apparently so with that termed Acute Articular Rheumatism or Rheumatic Fever. Pyrexial Arthritis which may occur in other fevers is a form of pyæmia and not to be regarded as the ordinary form degenerated.

The Nephritis which so commonly occurs after Scarlatina is as a rule a very mild form of the disease, but as

Eczema Rubrum Dr Fox. Skin Diseases. p. 164.

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*

Reynolds. S. M. V. IV Article pericarditis

In relation to this affection, the frequency or not of cardiac complication may help to elucidate the pathology of the slight and common forms of Scarlatinal Arthritis. If the latter be the same in essence as Acute articular Rheumatism, we should expect from the labours of the late Dr Gibson, that Endo and pericarditis would be exceedingly common, the heart having been and being at the time of occurrence of the arthritis, excited by the Scarlatinal poisoning and pyrexia. Such does not seem to be the case however, in this country at least but the temporary uric acid diathesis before referred to as so commonly preceding or accompanying Scarlatinal Arthritis may protect from the Heart complication, as, Dr Gibson has shown, the chronic gouty diathesis does - page 202.

* Trousseau Vol II p. 189 On the chorea supposed to result from the Endocarditis of Scarlatina

"The Nephritis which so commonly occurs after Scarlatina is as a rule a very mild form of the disease, but as

it is easily aggravated into the severer forms, occasionally the foundation of chronic Bright's disease is laid, when these are neglected. Scarlatinal albuminuria may pass into chronic Bright's disease without dropsy having occurred, hence the importance of examining the urine in all cases, during convalescence from Scarlatina.

II 1 c.

Cases abnormal from Complication. These cases are seldom abnormal in this respect only. I have divided complications into two groups (1) Those to predispose to whose occurrence there has been some normal feature of the disease (2) Those which arise seemingly accidentally. The second and third weeks are the times when complications are likely to occur but they may occur in the first week.

Group A. Acute inflammation of one or more lymphatic glands at the angle of the jaw accompanied by a good deal of oedematous swelling around and terminating as a rule in complete resolution is a very common occurrence. I speak here only of a lymphatic affection after the throat has healed. Those forms of inflammation more directly depending upon inspection by the throat have been already considered. I have twice seen the lymphatic glands in the axilla suppurating during Scarlatinal convalescence. Another member of this group is acute tonsillitis. Both of these affections possess a great tendency to determine the occurrence of albuminuria. Both but especially the acute inflammation of the glands of the neck, when are are accompanied by sharp fever.

Group - B. Inflammations of the serous sacs are most common. The pleura is perhaps most frequently affected. I have twice seen purulent peritonitis. Pneumonia is rare apart from Nephritis. I have seen emphysema determine the occurrence of nephritis within a few days of its commencement, hastening the period of liability to this.

II 2. b.

Cases Abnormal from imperfect development of one or more features or from complete suppression of the same

(1 and 2) Pulse and temperature

Sufficient has already been said in relation to this abnormity (II 2 b) with regard to pulse and temperature under the head of prognostic indications, in the consideration of the normal disease and temperature. It is exceedingly doubtful if Scarlatinal poisoning (Scarlatina sine febre) ever occurs without the presence of some degree of fever. I have seen cases however where the temperature on the 2nd day was only 100°, but such cases are very mild or modified by a former attack.

(3) Throat affection. I do not believe this is ever quite absent. The very early implication of the lymphatic glands both in the pyrexial affection of Enteric fever and the tonsillar affection of Scarlatina, seems to point to the entry of the poison into the former glands through the latter, before subjective abnormal sensations are experienced by the patient. In Hospital sorethroat I have been struck with the implication of the glands at the angles of the jaw, even before pain was manifested in the throat. It is readily explicable, then, how the tonsils may be affected without subjective phenomena developing and the objective phenomena if any be present have disappeared before the patient is seen.

(4) The existence of Scarlatina without Rash is much more satisfactorily determined, than that of Scarlatina without sorethroat. It occurs under two conditions. (1) In very mild cases and (2) in severe ones which properly come under class 3. As to the first condition I would remark that many sorethroats are supposed the manifestations of Scarlatinal poisoning which are certainly not so. Thus I have seen when the Scarlatina hoards got into a room — hygienic condition sorethroat, presenting all the characters of the so called

Hospital Sorethroat and none of those belonging to the Scarlatinal affection

(5) Alimentary canal. An entire absence of these can hardly be said to constitute abnormality

(6) Morbid Tendencies. I have considered these as features of the disease, and did they not, as the sister features occasionally fail to be developed (I refer to the Tendency merely) the correctness of my so regarding them might be questioned, but we occasionally meet with cases where all the conditions to determine albuminuria are present, still it does not occur and in like manner with rheumatism also. On the other hand the so called Latent cases of Scarlatina where albuminuria is the only condition (or rather the dropsy which accompanies) that has attracted attention show that the tendency to albuminuria holds its own definite place in the symptomatology of the disease and may constitute the sole intrinsic feature by which the disease is to be recognized. These cases are well authenticated

albuminuria may fail to appear when the conditions which commonly predispose to it are present.

Grains 264
Trousseau 190

(3) II 3.

Subclass (3) has still to be considered made up of cases presenting some features abnormal in the direction II 1 a, others in the opposite direction II 2 b or a.

(1 and 2) The fatal character of a pulse and temperature of this character, should the temperature be the normal feature failing in development has already been commented upon as has also the opposite condition, where with an excessive pyrexia, the pulse remained below the normal standard of the disease, which latter combination has been seen to be of good prognosis, though rare in Scarlatina.

(3) Cases where the Throat affection is severe while the rash fails to appear have already been referred to

(4) The patchy Rash is in itself an example of double abnormality as it is imperfectly developed as to extent (II 2 b) and excessively

developed as to intensity. The case of the rash as a whole being intensely developed while the throat affection is slight, is a very rare occurrence, and this circumstance is of diagnostic importance, in distinguishing the skin affection which I have termed "acute eczema" from Scarlatina

Eczema Rubrum? Dr Fox. Skin Diseases 3rd Edition p. 164.

(5) requires no consideration in this place

(6) The latent cases before referred to may appear naturally to belong to this group. but I think an excessive tendency to albuminuria does not characterize them, only the normal tendency or even less than normal, is aggravated by the total absence of all precautions.

Relapses and Second Attacks.

In the winter 1874-5 some correspondence occurred in the "Lancet" with regard to the occurrence of Relapses in Scarlatina, I was then Medical Registrar in the London Fever Hospital and had had occasion to observe that apparently such phenomena did occur. I was inclined to question the fact of some of these really being of the nature of a relapse, and not merely Acute tonsillitis in combination with a febrile blush of the skin common to all pyrexial affections, the punctated appearance of the rash was as a rule undiscernable. It is interesting with regard to these existing genuine relapses, to note that a precisely similar phenomenon has been observed in Typhus by Dr Buchanan and the frequency of Relapses of Enteric Fever is well known. The least equivocal case I have observed, I may briefly narrate. A servant girl was admitted to the Leeds Fever Hospital, during my absence for a few days, on my return I found her without any rash, a temperature of about 100°F. a pulse of 84. Sorethroat subsided but the tongue typical of Scarlatina. I had some doubts as to the diagnosis.

Reynold's S. M. V. I. 2nd Ed. p. 444. also Dr Murchison's Continued Fever p. 189.

The practitioner who sent her in, called a day or two afterwards The rash he had seen, was not quite satisfactory to him and he called for the purpose of confirming or otherwise his diagnosis, he went away perfectly satisfied from the appearance of the tongue that the case was Scarlatina - Desquamation followed and partook of Scarlatinal characters. The patient was retained in Hospital till this process was completed. Towards the end of the 5th week just as she was expecting her discharge on altogether indubitable attack of Scarlatina set in which ran a sharp through normal course - I left her in Hospital desquamating for the second time -

Second attacks come under a different category and are on the whole rare phenomena - They are by no means always modified - The fallacy of regarding all sore throats occurring in those exposed to the Scarlatinal poison has already been alluded to.

The Treatment of Scarlatina

By the end of all clinical study ought to be successful treatment. I shall endeavour in the following few observations on this subject, to apply some of the inferences to which the previous consideration of the nature of the disease seems to lead with regard to it. I shall deal as much as possible with principles not details -

It will be convenient to follow the same order, as hitherto in this consideration.

(1) Pyrexia. The necessity of treating this feature of the disease other than by avoiding the "artificial hyperpyrexia" of too many blankets, will vary with the prognosis formed from the pulse-rate and other features of the case (specially the former) - As to the method of applying antipyretic treatment. I have found Quinine inapplicable at least not to be trusted, for, I believe, it occasionally produces serious toxic effects before the antipyretic action

has been developed - But this is the less a subject for regret inasmuch as the physical extraction of heat by means of cold or tepid bathing is peculiarly adapted for use in the disease. I have already remarked that the sensation caused by abnormal heat is felt more acutely in Scarlatina than in any other fever and the application of cold or tepid water to the skin is peculiarly grateful to the patient Again Scarlatina is a short disease and as a rule (though in a case occurring in the Leeds Fever Hospital, my notes of which were published in the "Lancet" by Dr Eddison along with remarks by him, 17 baths were required before the pyrexia yielded this was a case of unusual malignity) if the temperature can be kept down for a limited period, the pyrexia soon yields - Again there is not the depression of the heart's action in Scarlatina which is so common in Enteric Fever or Typhus but rather a state of excitement of that organ which excited action we know to be wonderfully allayed by the physical application of cold to the surface of the body by means of cold or tepid bathing. For an excessively fast pulse in combination with a temperature nearly the healthy, or below that standard, we have no remedy but if there is even a moderate degree of fever say 102°F. present along with the fast pulse much benefit will follow from cold or tepid bathing. Pyrexia is ill-borne in an ascending scale accordingly as it is accompanied by a fast pulse and it is this fact that will render a temperature of 106°F. a sign of no gravity at all, if it be accompanied by a pulse say of 90. (I do not know if this rule holds good in brain disease but it does in the specific fevers). I have already considered fully the subject of prognosis, as derived from pulse and temperature. The very fatal combination of fast pulse III 1 a and low temperature II 2 b. (below the standard of the disease) possesses the significance it does, from indicating the failing power of the body to keep up the requisite amount of heat, that the severity of the "poisoning" is great in such cases, is shown by the rapidity of the pulse, and the low temperature

is not the regarded as "abnormal mildness" (2). As to the use of Digitalis, valuable as that drug is in Cardiac disease accompanied by dropsy, I do not think its use is the recommended in fever. My observations entirely agree with Liebermeister's statement that the rapid weak pulse of Enteric Fever is not benefitted by its use and where no good is done, we may be certain some harm is, by so potent a drug. In Scarlatina a failure of the hearts action is not much the feared until the case is for other reasons hopeless.

(3) Throat Affection. Treatment of this is very important. It may be divided into two ~~divisions~~ parts. (1) The treatment of the primary affection (2) The treatment of ulceration or rather the prevention of secondary mischief.

(1) Steam inhalations and the application of poultices to the neck form the chief agents the employed at this stage. It is very essential to keep not only the throat but the mouth scrupulously clean by the use of tepid non-irritating disinfecting solutions.

(2) As soon as ulcerations of the tonsils is visible they must be carefully painted with some powerful disinfecting fluid such as strong solution of Chloride of Zinc, Nitrate of Silver or what has been found very useful in Cancrum Oris and Diphtheria, Hydrochloric Acid. The object being to prevent putrid absorption. Nitrate of Silver does this, I believe not so much by its disinfecting powers, possessed in greater or less degree by all the metallic salts, but from its power of inducing suppuration in the vicinity of the part destroyed by it. The author of Diphtheria in Ziemssens Cyclopaedia of Medicine is emphatic on the protecting powers afforded by suppuration against the virulent absorption which occurs in that disease. In cases where the tonsils cannot be seen or properly painted with the strong fluids named, I think it is best to swab out the throat with some such solution as the Glycerinum Boracis, which possesses antiseptic properties and yet is not irritating. Absolute cleanliness of the mouth and throat obtained in the least irritating way possible, is the paramount condition under which the treatment of Scarlatinal Sorethroat must be carried out.

Of the affections of the Lymphatic glands — When these suppurate I think there should be no hurry to open the abscesses, for if this is done too early, numerous foci of pus formation will require separate evacuation — Even if we could arrest or retard the suppurating process, by the use of Iodoform or Belladonna as Dr Ringer affirms can be done in the case of a threatening mammary abscess, in these cases I do not think it would be prudent to do so, for the abscesses in the neck at present under consideration are entirely different in pathology being due to secondary infection from the tonsils and by checking pus formation we should be only obstructing nature in her effort to get rid of the infecting material — The acute inflammatory process which occurs after the throat has healed is also evidence of previous infection from the throat and I am fain to conjecture that the infective process is in these cases due to the absorption of bacteria or such low vegetable structures, these lying latent for a time and then undergoing development — Their entity seems however to be destroyed in the effort and in most cases they are probably absorbed as innocuous matter — The presence or absence of bacteria &c in the pus of the Scarlatinal buboes is an interesting point to determine as before mentioned.

Handbook of Therapeutics 4th Edition. p. 1044.

(4) The Rash as a rule requires no treatment — In the rarest cases an eczematous tendency or pruritus may develop, which is to be treated on ordinary principles — During desquamation the use of frequent warm baths is beneficial and precautions are to be taken to avoid spread of infection by the separated pieces of cuticle —

(5) Symptoms due to the Alimentary Canal, rarely call for special treatment when they do, ordinary remedies are to be used as if the primary disease were not Scarlatina.

(6) Morbid Tendencies. Under this head I will consider what seems to me the most important part of the therapeutics of Scarlatina — In the description of the Normal Type

of the disease there were posited as features of the disease a Tendency to Rheumatism and a Tendency to Albuminuria As to the former, I will say nothing, except that a Nitrogenous diet greatly predisposes to the occurrence of Rheumatism, and when it has occurred, if persisted in, greatly aggravates the affection –

The occurrence of Albuminuria, experience has convinced me, can be prevented in the great majority of cases of Scarlatina taken at random, and in all cases which run a normal course (i.e. are unaccompanied by protracted pyrexia, degenerated throat affections Complications &c. so also it is capable of prevention in all cases which run a case abnormal in the direction of undue mildness II 2.

The treatment which experience apart from all theory has shown to conduce to this happy preventive result is hygienic and dietetic not medicinal and may be briefly summarized thus.

(1) As in other exanthematous fevers Scarlatinal patients are to be kept from first to last, but especially during convalescence, in an atmosphere resembling as far as possible that of the open air with regard to purity (I believe the mischief which has been caused by the dread of chills in Scarlatinal convalescence is beyond all calculation). A higher temperature in no way interferes with purity of the atmosphere and a large fire may be made a means to this end.

(2) The patients must be kept at rest in bed till the 23rd day

(3) The diet throughout this period must consist of Milk, with a little purely farinaceous food for dinner.

With a rigid adherence to these principles I may truly say that of the about 200 patients suffering from Scarlatina under my care in the Leeds Fever Hospital, these cases being distributed pretty equally over a period of nearly two years not one suffered from albuminuria, except under the following

following circumstances – (1) The albuminuria was present on admission (2) The cases were characterized by the presence of protracted fever that due to as "fever rheumatism, degenerated sore throat with its accompanying lymphatic affections or Complications. I have not included in this statement two cases which seem of very great interest and which I shall now relate. In two patients allowed to get up on the 22nd day, and suddenly to change their diet from that mentioned above to an animal one, at the same time, albuminuria occurred ~~immediately~~ on their getting up. It was detected ~~next morning~~ next morning; they were at once sent to bed again, and the same milk diet to which they had been accustomed to previously resorted to again only with the absence of farinaceous food for dinner. On the following morning no trace of albumen could be detected and after continuing the treatment recommended for the first three weeks in all cases ~~three~~ a few days longer, these patients were allowed to get up and resume their ordinary diet without any recurrence of albuminuria.

It would seem that in the cases just referred to, the normal "Tendency" had been prolonged, still, at the time of the occurrence of albuminuria, it was waning, and that through the aggravation of the Tendency, caused by the combined forces of Nitrogenous diet and the muscular action so involved in getting out of bed for the first time for three weeks had been able to determine the occurrence of albuminuria yet that that "Tendency" being already feeble was not of itself able to keep up the Reparative condition, as soon as the aggravating circumstances had been removed. I have little doubt that had these patients been allowed to get up and resume animal food sooner, say on the 19th or 20th days, that albuminuria would have at once developed with the aggravating circumstances, but that on these having been removed, unlike what happened in the cases related, the Nephritis once developed during the period of "normal greatest tendency" would not have subsided by any means so soon.

Before I went to the Leeds Fever Hospital I had ample experience of Scarlatinal Albuminuria in the London Fever Hospital, few cases escaping, where though Dr Broadbent advocated the principles of treatment mentioned above, the patients being mostly private, it was almost impossible to have them carried out, the wards were moreover crowded or at least full and the windows kept shut.

I think that the necessity of adhering rigidly to the three rules, I have called attention to, for the management of Scarlatinal convalescents depends upon the fact of the presence of a "tendency" to Nephritis which (probably lying latent during the second week and first half of the third week, inasmuch as it may be called out, as it were, by inflammatory complications especially those of the throat and lymphatic glands in connection, during that period) develops in normal cases in the second half of the third week.

rather attains its maximum

The indication which follows from this, is to keep the kidneys as little functionally active as possible till the period of this morbid tendency has passed away, which object we attain best by a rigid milk diet and by keeping the patient at rest in bed. Fever that is pyrexia is well known to throw extra work on the kidneys and it is on this account perhaps that inflammatory complications are so liable to determine the occurrence of albuminuria, this will not account for the fact altogether, as some inflammations have a greater tendency to determine albuminuria than others, though both be accompanied by fever. The acute secondary affection of the lymphatic glands at the angles of the jaw occurring after the throat is well, is very powerful in this respect. That some cases accompanied by inflammatory complication escape albuminuria or that it may be escaped likewise by patients indulging in Nitrogenous diet, only proves that in these cases the Feature (5) or rather part of it is wholly absent (for Dr Mahomed holds that Rheumatism and albuminuria are developed in inverse ratio of frequency, even that they do not occur together, i.e. in the same case. I am sure they may occur together, may that

Chart 4.

the protracted fever due to the Rheumatism may aggravate the tendency to Albuminuria. I think, on the whole, there is an inverse ratio of frequency, where the Rheumatism occurs in its ordinary transient form.

The hygienic rule is not less important than the dietetic ones, its significance is sufficiently implied in the statement the truth of which experience bears out, that if it were wanted to give a clinical demonstration of all the possible so called complications of Scarlatina, the end would be best accomplished by crowding the wards and shutting up the windows and ventilators, in fact keeping the patients in as septic an atmosphere as possible.

If medicinal treatment is to be employed at all (I used medicaments Stomachics before Sedatives) I the system, of administering antiseptic salts as the Sulpho-Carbolate of Soda, so recommended by Dr Brakenridge seems theoretically most likely to do good.

If ordinary care be taken, that is if the patient be ordered bled, and kept on Milk Diet as soon as (if not before) as albumen is detected in the urine, dropsy will never occur, except in cases, rightly termed "chronic malignant", which run a course of three weeks or so with degenerated sore throat and suppurating cervical glands and all kinds of complication. In these latter cases the two forms of albuminuria I have described often meet so that the kidney has undergone a double process of irritation before the specific tendency exerts its influence.

Graham Steell

Catalogue of Charts illustrating the

The Specific Fevers.

1. Scarlatina Normalis. M. C. Leeds Fever Hospital
2. Scarlatina Normalis. M. P. do:
3. Scarlatina Abnormis. E. H. do:
4. Scarlatina Abnormis. After Wunderlich.
5. Febris Enterica Normalis. I. H. C. Leeds Fever Hospital
6. Febris Enterica Normalis. M. S. do:
7. Febris Enterica Normalis. M. S. do:

Sisters

8. Febris Enterica Abnormis. I. H. do:
9. Febris Enterica Abnormis E. M. do: } Same patient
10. Febris Enteria Abnormis E. M. do: } Same patient

11. Febris Enterica Recurrens. I. T. do: Fatal
12. Showing temperature in Enteric a few days before death. also pulse and temperature combinations in fatal Fevers.

Leeds Fever Hospital

do: 13. Showing temperature at the close of two fatal cases of Enteric.

14. Typhus Normalis. I. M. Leeds Fever Hospital
15. Typhus Normalis. W. S. do:
16. Typhus Normalis _ Private Patient
17. Typhus Abnormis. S. S. Leeds Fever Hospital
18. Irregular form of fever after Enteric. S. S. do:

One family

19. F. Enterica. Treated by Quinine. E. B. do: Fatal
20. F. Enterica. Treated by Quinine. M. J. B. do: 8½ days
21. F. Enterica. Treated by Quinine. C. B.

22 Febris Enterica. Treated by Quinine. A.P. Leeds F. H.
23. F. Enterica. Treated by Quinine. I.S. do:
24. F. Enterica. Treated by Quinine. E.E.R. do:
25 F. Enterica. Treated by Quinine J.W. do:
26 F. Enterica Treated by Quinine F.P. do: Fatal
27 F. Enterica Recurrens. Treated by Quinine C.S. do:

1.

CLINICAL CHART OF TEMPERATURE. &c Normalis.

Name Margaret Collier Age 28 Disease Scarlatina ~~Anginosa~~ Result Recovery

DATE	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Sept.																					

TEMPERATURE FAHRENHEIT'S SCALE. 106° 105° 104° 103° 102° 101° 100° 99° 98° 97° 96°

TEMPERATURE CENTIGRADE SCALE. 41° 40° 39° 38° 37° 36°

M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E

Rash

1st week

Second week

Third week

Period of tendency to Arthritis

Period of tendency to Nephritis

Return to health

Slight Rheumatic

Pulse m		126	104	90	96	80	92	60	84	92	60	96	60	96		92	92	68		84	84	Pulse m
Pulse e	120	116	104	84	92	60	92	64	92	92	60	60			60	64	92	60	92	70	68	Pulse e
Resp. m		dark loose																				Resp. m
Resp. e																						Resp. e
Motions		1	3	1	1	Regular																Motions
URINE No of ozs																						URINE No of ozs.
URINE Sp. Gr.																						URINE Sp. Gr.
URINE Reaction																						URINE Reaction
URINE Chlorides																						URINE Chlorides
URINE Albumen																						URINE Albumen

DAY OF DISEASE	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21			REMARKS

EDWARD CASEY, M.D. DESIG.

Mouth md & papillated ~

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(Observations taken at ... A.M and ... P.M
For Memoranda of Treatment, see back of Chart)

2.

CLINICAL CHART OF TEMPERATURE. &c

Name Martha Poulter Age 21 Disease Scarlatina ~~Anginosa~~ Initiva Normalis Result Recovery

DATE	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Pulse m		104	90	96	96	66	72	60	56	64	64	68	64	60	76	72	56	72	68	72	
Pulse e	112	106	108	96	88		68	64	48	56	56	48	52	60	64	52	52	52	60	64	68
Resp. m							C.O														
Resp. e																					
Motions	0	0	0	1	0	0	1	1	Fc												
URINE No of ozs.																					
URINE Sp. Gr.																					
URINE Reaction																					
URINE Chlorides			Never	absent																	
URINE Albumen				never present.																	
DAY OF DISEASE	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	

TEMPERATURE FAHRENHEIT'S SCALE. 106° 105° 104° 103° 102° 101° 100° 99° 98° 97° 96°

TEMPERATURE CENTIGRADE SCALE. 41° 40° 39° 38° 37° 36°

Rash

Sore throat

Desquamation

1st week

period of tending to arthritis

2nd week

3rd week

Return to health

period of tending to Albuminuria

REMARKS

EDWARD CASEY, M.D. DESIG.

Tongue furred. Gums pale with red papillae at first. Next day clean. red papillae.

Treatment - Nil

PUBLISHED BY HARVEY & REYNOLDS, 13, BRIGGATE, LEEDS.

(Observations taken at A.M and P.M. For Memoranda of Treatment see back of Chart)

The temperature during convalescence rather low is the only feature which could possibly be recorded as abnormal.

3.

CLINICAL CHART OF TEMPERATURE &c abnormis 1?

Name Elizabeth Hill Age 18 Disease Scarlatina ~~Enginosa~~ II a Result Recovery

DATE July	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	
Pulse m		94	84	80	76	70	72	68	64	72	60	64	68	68	68	64	60	60	60	60		Pulse m
Pulse e	116	104	88	80	72	72	84	60	56	60	52	44	52	60	64	52	76	64	66		72	Pulse e
Resp m	56	40		28																		Resp m
Resp e	44	44																				Resp e
Motions	0	D	1	0	1	0	0	1	0	0	0	1	0	0	1	0	0	1				Motions
URINE Nº OF OZS																						URINE Nº OF OZS.
URINE Sp. Gr.																						URINE Sp. Gr.
URINE Reaction																						URINE Reaction
URINE Chlorides		present					present															URINE Chlorides
URINE Albumen		none					none															URINE Albumen
DAY OF DISEASE	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21			REMARKS

TEMPERATURE FAHRENHEIT'S SCALE. 106° 105° 104° 103° 102° 101° 100° 99° 98° 97° 96°

TEMPERATURE CENTIGRADE SCALE. 41° 40° 39° 38° 37° 36°

Rash

Temperature 103 4/5 on the 2nd day

Normal period of the disease

Albumen present in the urine

Desquamation of skin

1st week

2nd week

3rd week

Urine examined

Rheumatism

Period of the disease Albumen in urine

Return to health

w.p.

EDWARD CASEY, M.D. DESIG.

Tongue thickly coated red at margin

Diet Milk.

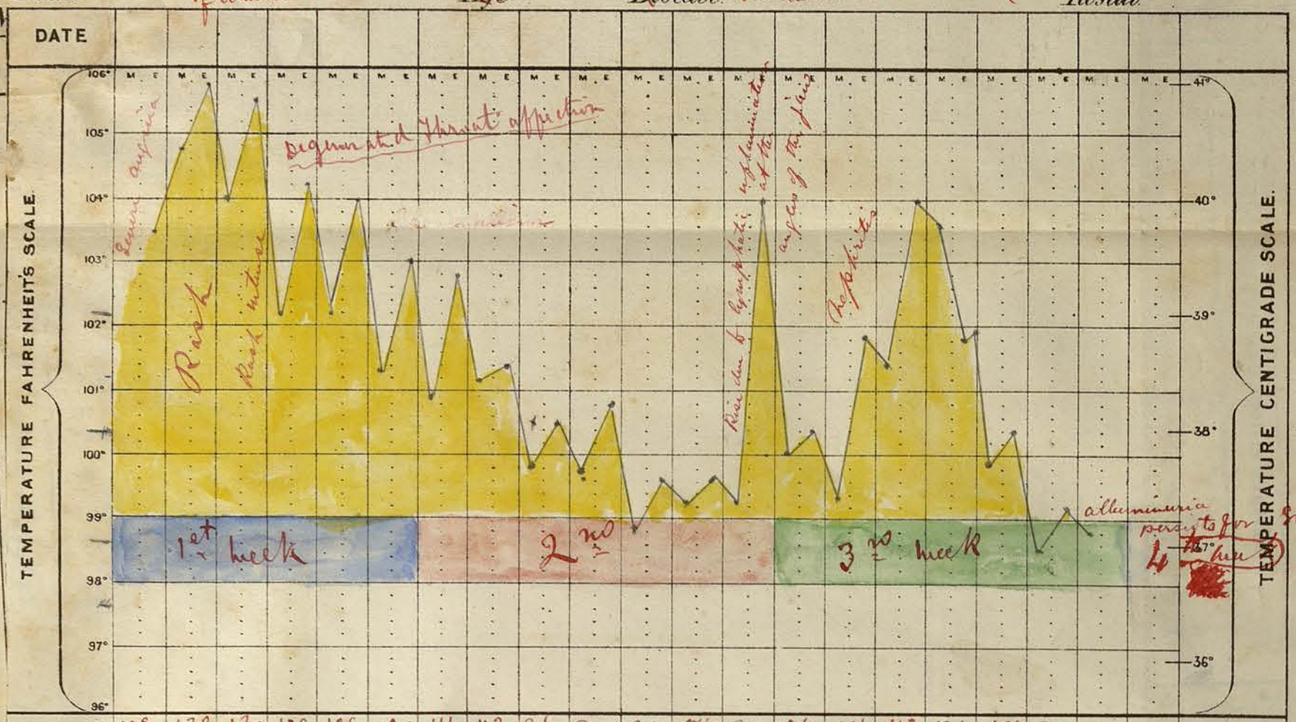
Treatment. Carbonate of Ammonia 5r v. 4ta q.q.h. Doses of Bromide ammonia for sleeplessness and severe headache. but these were no more successfully by an enema – Bath at 90° F. reduced to 72° kept on 60 minutes Temperature 101° after 30 minutes immersion. 98° after 60 minutes do:

Remarks When patient was admitted she appeared intensely ill, her breathing being 56 per minute and she seemed quite prostrate – in contrast with these her pulse was only 116. her temperature moderate. She seemed much relieved by the bath as regards all her symptoms – The general symptoms were no doubt purely hysterical –

5. 4.

CLINICAL CHART OF TEMPERATURE &c

Name From Brunderick – Conditions hypothetical for sake of illustration Age Disease Scarlatina Abnormis (II 1a and II 1c A) Result



		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Pulse	m	128	130	130	128	128	120	116	112	96	84	80	76	80	96	104	112	124	104	84		
	e	130	136	136	130	130	124	120	116	108	90	84	84	120	100	112	128	112	100	90		
Resp.	m																					
	e																					
Motions																						
URINE No of ozs																						
URINE Sp. Gr.																						
URINE Reaction																						
URINE Chlorides																						
URINE Albumen																						
DAY OF DISEASE		2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22

EDWARD CASEY. M.D. DESIG

Remarks Practically this case may be considered normal. Theoretically it is abnormal from the presence of Arthritis, modifying though very slightly the normal temperature and pulse curves.

Clinical Notes On admission patient appeared to be intensely ill, her breathing 56 per minute and seemingly from her manner very prostrate. In contrast her pulse was only 116 (not extremely weak) while her disease was Scarlatina! her temperature was moderate besides. Sleeplessness and severe headache characterised the case. Evidently the quasi-malignant symptoms did not belong to the Scarlatina, but were purely hysterical.

Diet Milk – for three weeks – Latterly combined with farinaceous food.

Treatment Carbonate of Ammonia. gr v. 4th q.q.h. Doses (grx x v) of Bromide of Ammonium for nervous symptoms. One bath 90°7. – 92°7. kept immersed one hour. Much relieved by it. Temperature in axilla 98° when taken out. 101° after 30 minutes' immersion.
Kept confined to bed for three weeks.

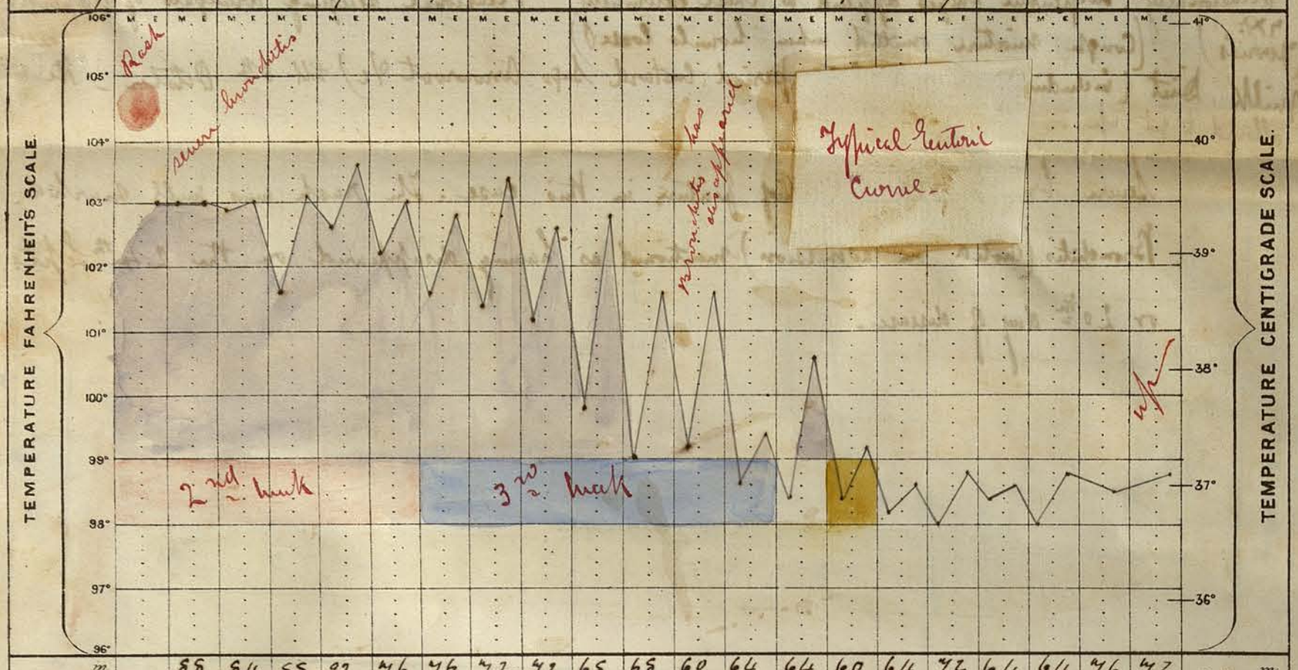
5.

CLINICAL CHART OF TEMPERATURE, &c.

Febris Enterica normalis.

Name John H. Carr Age 19 Disease Enteric Fever Result Recovery

DATE Sept. 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 1 2 3 October 1875.



Pulse m		88	84	88	92	76	76	72	72	68	68	60	64	64	60	64	72	64	64	76	72	Pulse m
Pulse e	92	80	80	80	76	80	80	72	76	68	72	68	60	64	76	60	60	64	68	64	68	Pulse e
Resp. m		motions lighter in colour & fewer				motions bronzed & fetid	got again		motion formed													Resp. m
Resp. e																						Resp. e
Motions	3	2	2	4	2	1	4	3	1	2	1	1	1	1	0	0	1	0	1	1	1	Motions
URINE No of ozs																						URINE No of ozs
URINE Sp. Gr.																						URINE Sp. Gr.
URINE Reaction																						URINE Reaction
URINE Chlorides							present					abundant										URINE Chlorides
URINE Albumen	present						present	(No blood)				None										URINE Albumen
DAY OF DISEASE	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	REMARKS

EDWARD CASEY, M.D., DESIG.

Tongue very red at tip & round on centre. Did not clean till 26th day of disease.

PUBLISHED BY HARVEY & REYNOLDS, 13, BRIGGATE, LEEDS.

(Observations taken at ... A.M. and ... P.M. For Memoranda of Treatment, see back of Chart)

Treatment recorded on back of chart

15th January 1876

I have borrowed this Temperature curve from Wunderlich as it beautifully illustrates a common form of Scarlatina abnormis. The temperature being alone recorded in Wunderlich's work, I have hypothetically, for the sake of illustration, filled up the other features of the disease.

The cases is abnormal in the direction II 1 a

(1) From hyperpyrexia and prolongation of pyrexia, both fairly marked however (2) from intensity of the rash, accompanied as such a character of the rash is usually, by delay in its appearance (3) The presence of albuminuria

In the direction II 1 b. from the degenerated throat affection

In the direction II 1 c A. from the acute inflammation of one or more glands at the angle of the jaw.

Such cases as this were very frequent at the London Fever Hospital 1874-75. I believe the severity of the primary poisoning causes the severe symptoms of the first rash as well as indirectly the degenerated throat affection and prolonged duration of the pyrexia. (the last a result of the preceding) This throat affection again determines the acute inflammation of the lymphatics. The febrile and other disturbance set up by this, irritates the kidneys, just as the normal period of the liability to albuminuria is approaching, and determines the occurrence of that mischief.

6.

CLINICAL CHART OF TEMPERATURE &c.

Treatment recorded on back
Refers entire normals of chart

Name Maria Stamp Age 33 Disease Enteric Fever Result Recovery

DATE	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
Pulse m	120	112	104	108	112	100	96	100	108	100	100	90	92	92	100	92	112	96	92	92	100	Pulse m
Pulse e	112		108	116	112	112	112	100	108	108	108	104	108	100	96	98	108	96	84	100	104	Pulse e
Resp. m												M. formed							3ij	3ij		Resp. m
Resp. e																						Resp. e
Motions		1	2 loose	2	1	4	1	1	2	1	2	2	1	1	2	2	2	1	0	0	0	Motions
URINE No of ozs.																						URINE No of ozs.
URINE Sp. Gr.																						URINE Sp. Gr.
URINE Reaction																						URINE Reaction
URINE Chlorides				present																		URINE Chlorides
URINE Albumen				trace																		URINE Albumen
DAY OF DISEASE	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	REMARKS

TEMPERATURE FAHRENHEIT'S SCALE. 106° 105° 104° 103° 102° 101° 100° 99° 98° 97° 96°

TEMPERATURE CENTIGRADE SCALE. 41° 40° 39° 38° 37° 36°

Sept. 4th

Rash

Bronchitis

Pneumonic pain

Profuse sweating Acidum ☍

1st 2nd 3rd week

Former part of Motion

Tongue large and flabby, red at margins; brownish & harsh fur in centre. Begun to improve on 10th day of disease

Observed For Me.

EDWARD CASEY M.D. DESIG

PUBLISHED BY HARVEY & HEANCOCK

J. HEGILLEY, LEEDS

Treatment. Sulphurous Acid (mxx ter in die) - Tr Bromidia. Ammonia Carbonate gr. fiftee. occasionally - Antimonium Mistura effervescens ad libitum - Retained retching throughout 4th day. (Tepid sponging) Cooler mixture omitted when bowels relaxed)

4th day. Bath (retained during the first period. Retched. Slept. Remained dull) 4th to 5th day on Milk 3ij Q.H. Bath. - Mistura effervescens omitted

Abdominal pain & tenderness in the right Iliac region. The Rash was well marked - Bromidia (Acid & Ammonia) mixture ordered on Morning of 7th day of disease.

CLINICAL CHART OF TEMPERATURE. &c.

Febris Continua Normalis – (Stim resolutione alvi)

Name Mary Smith Age 18 Disease Enteric Fever Result Recovery

DATE	August 9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	Sept.
Pulse m	e 96	100	96	104	96	104	92	100	108	108	100	110	112	108	100	108	108	100	92	88	84	80	88	84	84	92	84	72	72	Pulse m
	e 92 106	92	96	100	104	104	92	108	108	104	108	112	112	116	108	116	112	116	104	88	92	84	84	88	80		88			e
Resp. m																							3							Resp. m
	e	Simple Remens			Count Cupt							5j Castor oil				Castor oil again							C. O.				C. V.			e
Motions	0	0	0	1	1	1	1	0	1	0	0	T	1	0	0	0	1	0	0	1	0	0	0	1	0	0	0	3	0	Motions
URINE No of ozs																														Urine ozs
Sp. Gr.																														Sp. Gr.
Reaction																														Reaction
Chlorides			diminished considerably						increasing & abundance.																					Chlorides
Albumen	never	present																												Albumen
DAY OF DISEASE	8(?)	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	Day of Dis.

TEMPERATURE FAHRENHEIT'S SCALE. 106° 105° 104° 103° 102° 101° 100° 99° 98° 97° 96°

TEMPERATURE CENTIGRADE SCALE. 41° 40° 39° 38° 37° 36°

M E M E

Rash

Bronchitis

2nd wk

3rd wk

4th wk

5th wk

Bronchitis ceased

"previous condition" resembling hysteria coma &c. described by Prof. Trousseau will be marked page 1144 Clinical Medicine.

EDWARD CASEY, M.D. DESIG.

Tongue rather Clean & flabby. Red margin creamy fur. Foul breath. Began to improve on 2nd Sept.

Red margin Herpes on Lip

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(Observations taken at ... A.M and ... P.M.
For Memoranda of Treatment, see back of Chart)

This patient shortly before admission to Hospital had suffered from Religious Melancholia, under the influence of which she had made a deep gash across her arm, with a view to commit Suicide – Sleep was readily induced by Chloral and her insanity speedily disappeared – During convalescence she remained perfectly sane and there was no reason to suppose that insanity had existed prior to the fever – She was a cook in a gentleman's house, and returned to the same situation –

8.

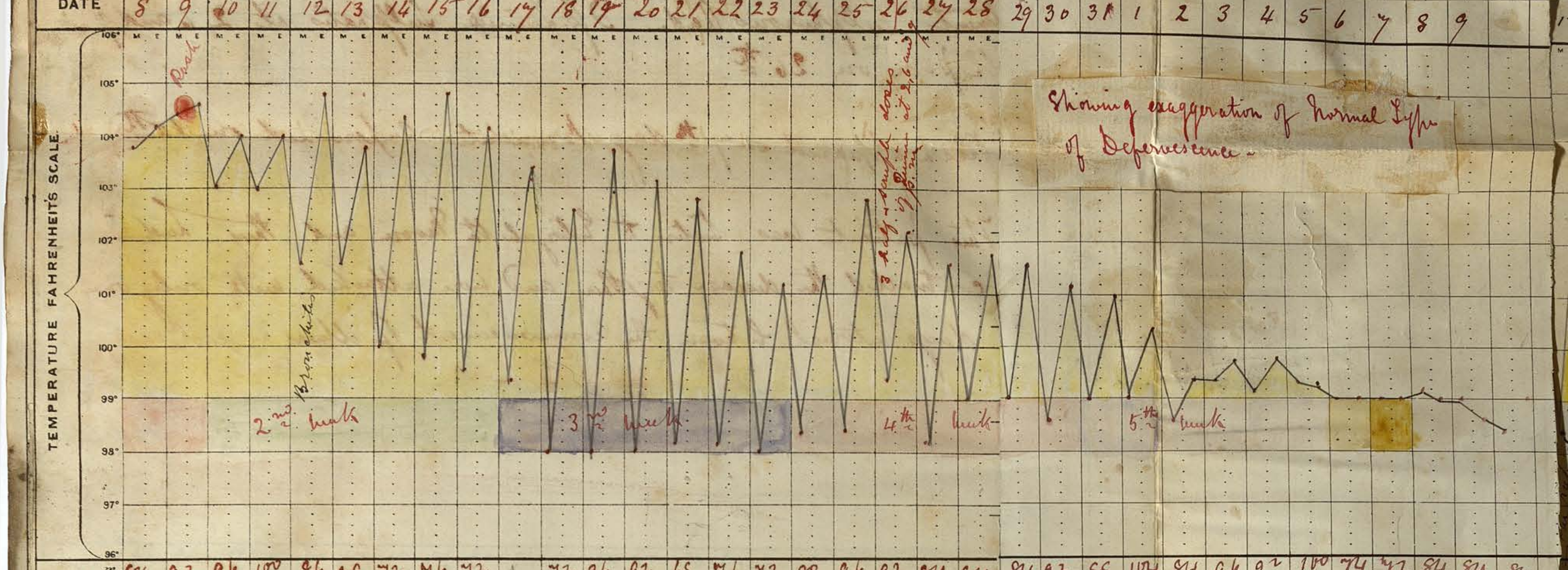
Sister to patient Moon

CLINICAL CHART OF TEMPERATURE. &c

Quinine perhaps vomited. No reason assignable for abandoning its use —

Febris Enterica, ~~[illegible]~~

Name Jane Halstead Age 16 Disease Enteric Fever Result Recovery



Showing exaggeration of Normal Type of Defervescence —

DATE	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Pulse m	84	92	96	100	86	88	72	76	72		72	96	92	68	76	72	80
Pulse E	106	108		100	100	108	96	96	100	96	108	92	96	96	104	120	88
~~Resp.~~ m / E	{	loose & light						not so loose									
Motions	{	3	3	1	4	2	4	2	1	2	1	2	2	2	2	0	1
URINE Nº of ozs																	
Sp. Gr.																	
Reaction				abnormal pigment present													
Chlorides		present		present						diminished normal in quantity				do.			
Albumen		none		none							none			do.			
DAY OF DISEASE	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22

DATE	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	
Pulse m	96	92	84	84	84	92	88	104	84	96	92	100	74	72	84	84	84
Pulse E	116	106	112		112	104	104	114	84	84	88	84	80	88	84	[illegible]	84
~~Resp.~~ m / E		formed															
Motions	1	2	0	1	2	2	2	2	1	1	0	2	1	2	2	1	
URINE Nº of ozs																	
Sp. Gr.																	
Reaction																	
Chlorides												do:					
Albumen												do:					
DAY OF DISEASE	23	24	25	26													

EDWARD CASEY M.D. DESIG.

PUBLISHED BY HARVEY & REYNOLDS, 13, BRIGGATE, LEEDS.

(Observations taken at ..... A.M. and ..... P.M.)

Treatment recorded at back of chart

Treatment. Sulphurous Acid &c. Milk Diet — Small doses of Quinine during Convalescence

Throughout the attack patient remained in the peculiar mental condition (described by Prof. Gairdner. Clinical Medicine p 144) said to resemble "Hysteric Coma". Bronchitis supervened 3rd day after admission. Noted as having disappeared on 31st. ~~[illegible]~~ Diarrhoea never present. ~~[illegible]~~ motions noted as Loose and light in colour only one day — generally normal in colour and consistence. Rash on admission — Fresh labial herpetic eruption on 20th August. No Pneumonia —

This patient had had Castor oil before admission which had moved the bowels, but not excessively ~~[illegible]~~ while they rapidly became again constipated.

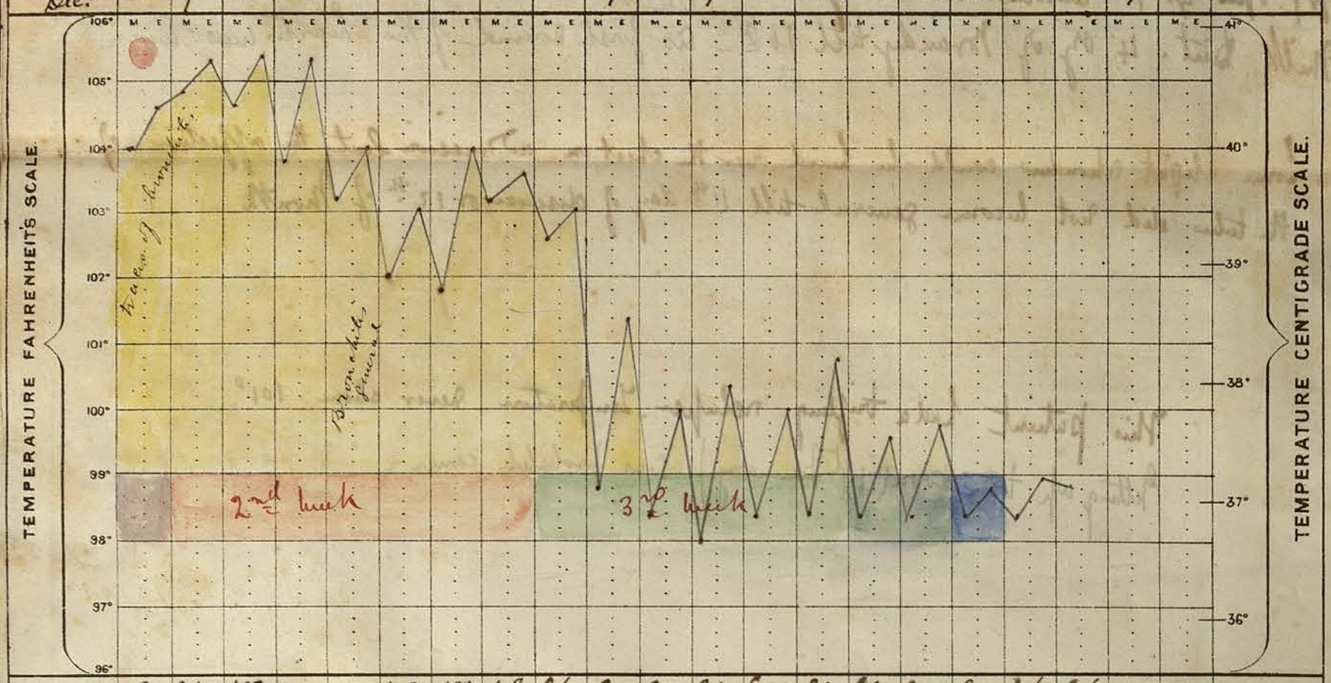
9.

Sister to patient Adelbrach

CLINICAL CHART OF TEMPERATURE &c

Febris Enterica Abnormis

Name Elizabeth Moon Age 33 Disease Enteric Fever Result Recovery



DATE Dis:	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
Pulse m	88	96	100	100	100	100	100	108	96	84	84	84	80	84	84	84	80	96	96			Pulse m
Pulse e	100	100	108	96	108	104	104	96	100	96	96	84	84	84	88		92	96	92			Pulse e
Resp. m																						Resp. m
Resp. e																						Resp. e
Motions	1	2	1	0	5	3	1	1	0	2	2	2	2	1	1	0	2	2	1	1	1	Motions
URINE No of ozs																						URINE No of ozs
URINE Sp. Gr.																						URINE Sp. Gr.
URINE Reaction																						URINE Reaction
URINE Chlorides		rather diminished			do:							unusually present										URINE Chlorides
URINE Albumen		trace	none		none							none										URINE Albumen
DAY OF DISEASE	4	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	REMARKS

EDWARD CASEY, M.D. DESIC

Tongue moist pur
red margin - Harsh
but never dry

Treatment Diphtheria tab. 3/4 minim Liquor at 2 & 6 o'clock p.m on 26th

Heat diminished on 17th day thereafter continued on low

The patient was Eliz. th Moon and was attacked with chills on
contracted the disease together and was attended with only on
slight interval from the commencement of illness to recovery

Treatment Sulphurous Acid - For diarrhoea Pills containing gr ij Cupri Sulph
gr ij Opii gr ij Extracti Haematoxyli -
Milk Diet. 4 oz of Brandy till 16th Dec. As first sound of the heart was weak

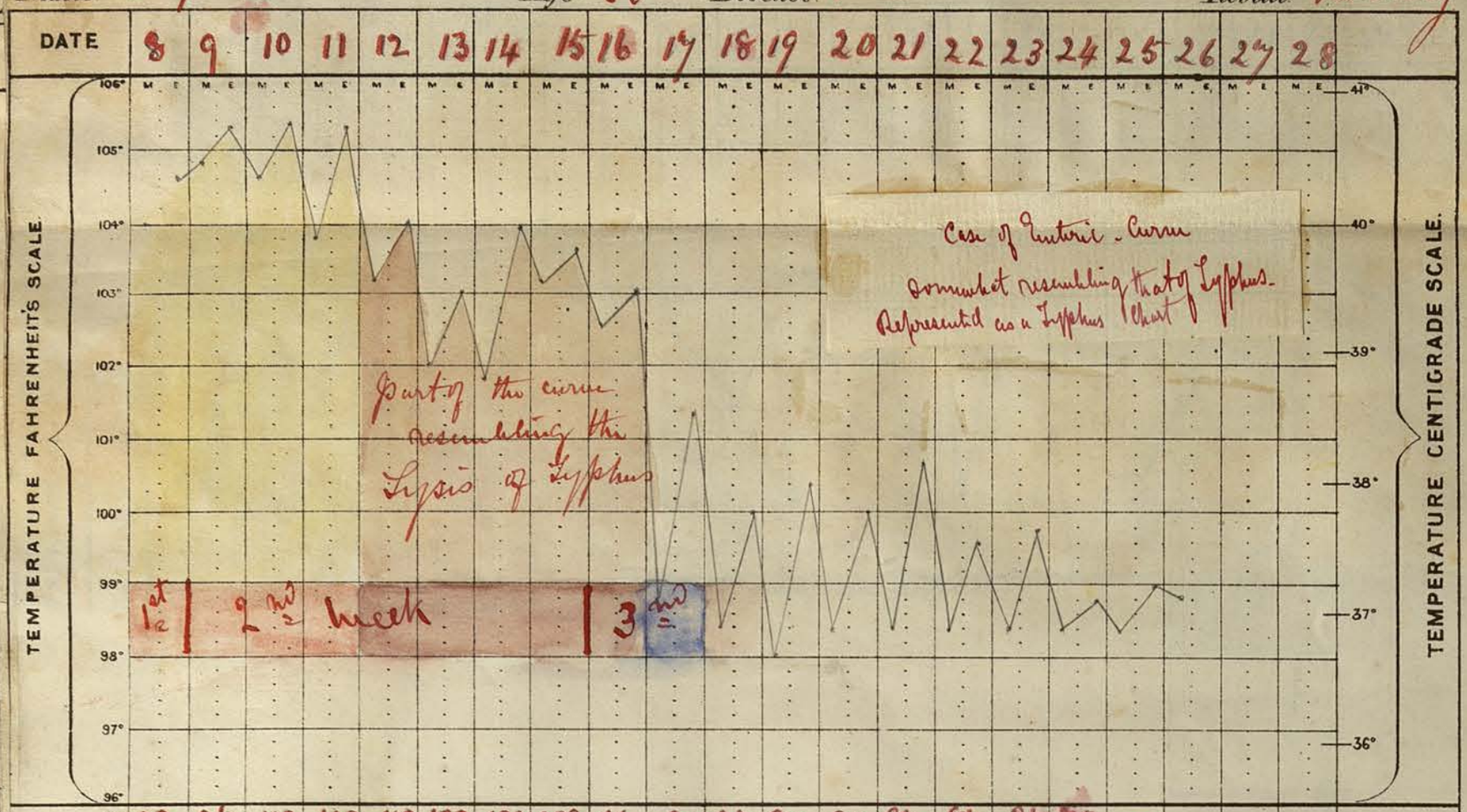
Some slight Rhonchus could be heard over the chest on admission but the affection of the tubes did not become general till 11th day of disease or 12th of Month.

This patient had a trifling relapse. Temperature never above 101°.
Getting up too soon (1st January) was probable cause.

10.

CLINICAL CHART OF TEMPERATURE. &c

Name Elizabeth Moon Age 33 Disease Febris Enterica Abnormis Result Recovery



Pulse m	88	96	100	100	100	100	100	108	96	84	84	84	80	84	84	84	80									Pulse m
Pulse e	100	100	108	96	108	104	104	96	100	96	96	84	84	84	88		92									Pulse e
Resp. m	To show how the Enteric curve may somewhat approach the typical form of that of Typhus.																									Resp. m
Resp. e																										Resp. e
Motions																										Motions
URINE No. of ozs.																										URINE No. of ozs.
URINE Sp. Gr.																										URINE Sp. Gr.
URINE Reaction																										URINE Reaction
URINE Chlorides																										URINE Chlorides
URINE Albumen																										URINE Albumen
DAY OF DISEASE	4	8	9	10	~~11~~	12	13	~~14~~	15	16	~~17~~	18	19	20	21	22	23	24	25							REMARKS

EDWARD CASEY M.D. DESIG.

J. HEGELEY, LITHO., LEEDS

PUBLISHED BY HARVEY & REYNOLDS, 13, BRIGGATE, LEEDS.

(Observations taken at A.M and P.M.
For Memoranda of Treatment, see back of Chart)

This case is remarkable as showing an approximation to the Typhus type of temperature curve. That this case in its mode of defervescence should somewhat have resembled Typhus is the more remarkable from the fact that she was sister to the patient Halstead, whose temperature curve shows such an exaggerated example of the normal type of Enteric defervescence. The sisters were admitted together, kept in the same room and treated under the same conditions. They had also both been taken ill within 24 hours.

I add another chart of this case showing it in the same way as I have done the Typhus curves a different colour representing the period of lysis.

11.

CLINICAL CHART OF TEMPERATURE &c

Name John Frances Age 38 Disease Enteric Fever. Relapse Result Fatal

DATE	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Pulse m	100	92	96	100	104	92	108	112	112	104	108	104	112	104	104	104	100		104	116	124	128		136	132	128		140		140					144	Imperceptible at wrist. Patient died very slowly.					
Pulse E	112	108	104	96	112	100	108	108	108	112	116		108	108	106	108	108	108	116	124	124																					
Resp m																											44		32													
Resp E																																										
Motions		4	3	6	5	3	4	2	0	2	1	2	2	3	2	3	1	1	3	3	2	4	5	5	4	4	4	3	3	3	1	1										
URINE No of ozs																																									
URINE Sp Gr																																									
URINE Reaction																																									
URINE Chlorides																																									
URINE Albumen																																									
DAY OF DISEASE	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46				

TEMPERATURE FAHRENHEIT'S SCALE

Rigor.

Hardly any change in general symptoms

Copious bloody sputum continuing to the end.

2nd½ week | 3rd½ week | 4th½ week | 5th½ week | 6th½ week | 7th½ week

Subnormal

Relapse

Falling temperature rising pulse

Low temperature in afternoon

Death

Coughing generally very troublesome

Pneumonia

PUBLISHED BY HARVEY & REYNOLDS, 13, BRIGGATE, LEEDS. EDWARD CASEY, MAD DESIG.

I have no note of the condition of the [illegible] – Granted phthisis subsequent to [illegible] supposed to [illegible] disease [illegible] – [illegible] education –

there was no improvement in the general symptoms between the 1st attack and relapse, but an aggravation of these after the relapse set in. Emaciation and the general aspect of phthisis very marked. The blood in the sputa seemed to come simply from the congested bronchial membrane. There was no viscidity of sputa. Against the diagnosis of phthisis there were the following circumstances. No physical signs in chest which bronchitis would not account for. No dyspnoea. History of an acute attack and that patients wife had died shortly before of fever.

× The pneumonia found on post mortem was recent while the sputa containing blood had existed

Diet Milk Beef tea & Brandy.

Treatment Sulphurous Acid. Carbonate of Ammonia _ Copper and Opium pills &c _ Ice Linimt _

Remarks The whole general aspect of this case resembled that of phthisis and not Enteric _ The points ~~in opposition~~ opposing this diagnosis were _ No physical sign was present which could not be accounted for by Bronchitis. There was no dyspnoea _ (the respirations only became rapid when the patients condition was profoundly "typhoid" and were quickened through nervous influence chiefly as is so common in the "typhoid" condition. There were the facts (not known till after patients death) that a fatal case of Enteric Fever had occurred in the house where he resided and also that his health had been good until the commencement of his present illness _ His countenance was exceedingly characteristic of wasting lung disease _ Large eyeballs the tissues around being sunk in _ A circumscribed hectic flush over the cheeks occasional sweating (Sudamina occurred) _ Post Mortem examination revealed numerous ulcers and enlarged patches and follicles in the Ileum _ The two lowest patches appeared as if cicatrising _ Lower lobe of left lung in a condition of pneumonia _ dark purple in colour imperfectly consolidated (at parts) and friable _ Otherwise the lungs ~~were~~ showed only the signs of bronchitis & congestion _ The pneumonic condition must have come only a few days before death when his chest was not examined as it was believed he was moribund _ Spleen enlarged &c &c

* with Pleurisy adhesions of Left Side

12.

CLINICAL CHART OF TEMPERATURE. &c

Name Michael Ryder Age 20 Disease Enteric Fever Result Fatal

DATE	Sept. 6	7	8	9	10	Sept.	21	22	23	24	25	26	Sept. 9th	10	11	12	13	14	15	16
Pulse m	114	112	128	144	144			104	108	108	124	144	112	108	112	108	112	116	128	132
Pulse e		130	132	144			108	104	108	120	130			112	112	116	112	124	130	144
Resp. m		32	40	44	56						40			36	33				36	60
Resp. e																				
Motions	Coco	3 green	4	2	2			2	4	3	4	0		1	2	1	1	5		
URINE No of ozs																				
URINE Sp Gr																				
URINE Reaction																				
URINE Chlorides		pretty dim present								dim. present				present			do.			
URINE Albumen																				
DAY OF DISEASE	?	?					10(8)	11	12	13	14	15	11?	12	13	14	15	16	17	18
REMARKS																				

Thomas Corcoran at 21

arthur Walsh at 23

Tongue red dry glazed & fissured

Taken with special precautions

Showing Temperature in Enteric Fever a few days before death

Shaster at 5.6

Lipthub

Showing common combinations of pulse and temperature before death from Fever.

Case of Ryder

Normal temperature of Health

Normal Pulse rate of Health

EDWARD CASEY, M.D. DESIC

PUBLISHED BY HARVEY & REYNOLDS, 13, BRIGGATE, LEEDS.

(Observations taken at A.M and P.M.)

Tongue on admission raw as if a strip had been removed with

13.

The commencement of illness unfortunately could not be ascertained in either case

CLINICAL CHART OF TEMPERATURE. &c.

Mrs Pratt said she had been ill a fortnight previously to admission - a part of the period of incubation

Name Susannah Pratt Age 31 Disease Enteric Fever Result Fatal

DATE August	24th	28	29	30	31								August 28	29	30	31								
Pulse m		104	128	126									144	128	144									
Pulse e		116	128	128									152	128	168									
Resp m		32	36	132											64									
Resp e																								
Motions														3	2	Green								
URINE No of ozs																								
URINE Sp. Gr.																								
URINE Reaction																								
URINE Chlorides														dim.										
URINE Albumen														trace										
DAY OF DISEASE	6?				9	10																		

TEMPERATURE FAHRENHEIT'S SCALE: 106° 105° 104° 103° 102° 101° 100° 99° 98° 97° 96°

TEMPERATURE CENTIGRADE SCALE: 41° 40° 39° 38° 37° 36°

Showing Temperature preceding death from Enteric Fever. Details of cases on back of chart.

Samuel Pratt ät. 5 Years

Typhoid Stage

Defervescence

Intermittent Stage

Typhoid Stage

Temperature taken at 10 a.m. & 6 p.m.

REMARKS

EDWARD CASEY, M.D. DESIG.

Tongue thickly furred. Red margin. Dry on 29th

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(Observations taken at A.M. and P.M.
For Memoranda of Treatment, see back of Chart)

Tongue on 28th Dry and brown in centre

Susannah Pratt. Admitted Aug. 24th from home.

Died Aug. 31st (not 30th) Friday - 3 p.m. (not evening.)

All the cases were admitted with Typhoid, Infantile Remittent Fever - The Typhus had died out before it. Temperature ranged after 3 or 4 days when the rose - In all the cases the Temperature in the evening, & highest 9pm - The Typhus cases were completed & settled.

14.

CLINICAL CHART OF TEMPERATURE &c

Name John Groove Age 28 Disease Typhus ~~Fever~~ Normalis Result Recovery

DATE	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6
Pulse m	compl.	124	120	120	124	124	120	108	108	100	88	88	78	84	72	76					
Pulse e	144	120	120	132	124	120	116	116	108	108	84	84	88	84	76						
Resp. m		28		40																	
Resp. e				tumultuous																	
Motions	0	0	3	3	5	3	1	1	11	0	1	0	1	1	1	1					
URINE No of ozs																					
URINE Sp. Gr.																					
URINE Reaction																					
URINE Chlorides																					
URINE Albumen		0																			
DAY OF DISEASE	4	8	9	10	X	12	13	X	15	16	X	18	19	20	21						

TEMPERATURE FAHRENHEIT'S SCALE: 106° 105° 104° 103° 102° 101° 100° 99° 98° 97° 96°

TEMPERATURE CENTIGRADE SCALE: 41° 40° 39° 38° 37° 36°

REMARKS

Rash copious & confluent on chest & abdomen

Bronchitis & pneumonia

Epistaxis

Perspiration clean and general

Deglutition difficult & painful

Diarrhoea

Hearing impaired

Delirium during night

Coma vigil

Tongue clean & moist

Sordes

Tongue dry brown & glazed

Deglutition easier

Tongue clean & moist

Convalescence

In Typhus Defervescence takes place by Lysis - In mild cases from 11th to 14th days - In severe ones from 14th to 17th day - A combination of both types in this case.

crisis in general symptoms when Lysis is complete.

EDWARD CASEY M.D DELIC

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Tongue Clean Flabby dewy
Dry but brown
critical days -
11, 14th day of Disease

15.

CLINICAL CHART OF TEMPERATURE. &c.

Name William Shuter Age 29 Disease Typhus Fever (Febris Normalis) Result Recovery

DATE August	19th	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8
Pulse m		104	108	124	120	120	116	114	108	104	94	96	92	72	68						
Pulse e	110	112	108	119	120	116	112	112	114	96	92	84	82		68						
Resp. m						32															
Resp. e																					
Motions	0	0	3	2	3	6	6	4	3	3	3	2	3	0	1	Regular.					
URINE No of ozs																					
URINE Sp. Gr																					
URINE Reaction																					
URINE Chlorides		present	less			diminished		do:	diminished												
URINE Albumen		from	none			from			from												
DAY OF DISEASE	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19						

TEMPERATURE FAHRENHEIT'S SCALE. 106° 105° 104° 103° 102° 101° 100° 99° 98° 97° 96°

TEMPERATURE CENTIGRADE SCALE. 41° 40° 39° 38° 37° 36°

Pulse 1

ante-critical rise of temperature.

Lysis from 11th – 14th day.
Fall of pulse preceding fall of temperature and in spite of ante-critical rise of temperature –
Best prognostic sign.

period of Lysis

1st week | 2nd week

fall of pulse ante dating the Lysis of real significance.

The rise of temperature accompanied by a fall in the pulse was of very favourable significations –

So called critical day

So called critical day.

REMARKS

I have no further notes of this case –

EDWARD CASEY, M.D. DESIC.

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(Observations taken at 4 Mond P.M.

J. NEWELL & SONS, LEEDS.

Pulse fully developed –
Natural – On the 22nd Natural Temperature 97½° – The day-
dicrotic tracings taken on the 10th day. Pronounced dicrotism on the
11th. Pulse was soft – natural stature – on the 16th day – The pulse
very copious and pulsated strongly – on the 18th – Temp 98 pulse
slow and strong –

The return of the pulse towards the heart previous on the
point that it fell to Natural tension – and rapidly
with retardation – and rapidly
It came up the artery after a while. and fell as
at the usual stage of the disease in health of recovery.

16

CLINICAL CHART OF TEMPERATURE. &c

Name ____ Age 22 Disease Typhus Mormalis Result Recovery

DATE (Jan. 1874)	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Pulse m					105	108	108	112	108	108	108	90	84	84/78	72	60	64	56				Pulse m
Pulse e				108	108	96	108	112	108	108	112	96	72	72	78							Pulse e
Resp m																						Resp m
Resp e																						Resp e
Motions			0	1	0	0	0	0	1	0	0	1										Motions
URINE No of ozs																						URINE No of ozs.
URINE Sp. Gr.																						URINE Sp. Gr.
URINE Reaction																						URINE Reaction
URINE Chlorides																						URINE Chlorides
URINE Albumen																						URINE Albumen
DAY OF DISEASE	1	2	3	4	5	6	7	8	9	10	~~11~~	12	13	~~14~~	15	16	17	18	19	20	21	REMARKS

TEMPERATURE FAHRENHEIT'S SCALE: 106° 105° 104° 103° 102° 101° 100° 99° 98° 97° 96°

TEMPERATURE CENTIGRADE SCALE: 38° 37° 36°

M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E

Rash

Retention of urine

Headache very severe

Headache some Delirium

Delirium more active

ante = critical diarrhœa not abated

Diarrhœa crisis in the general symptoms - Patient woke out of a dream in the morning

1st week

Second week

period of Lysis

crisis in general symptoms

Sleepiness

Sleepiness

Lysis from 11th to 14th = day. Crisis in general symptoms not till Lysis is complete.

any trifling rise of pulse with high temperature of good significance

Retention of urine continued for some days into convalescence, then disappeared.

critical days

EDWARD CASEY, M.D. DESIG.

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(Observations taken at ____ A.M and ____ P.M.)

14.

CLINICAL CHART OF TEMPERATURE &c

Name Samuel Shuter Age 21 Disease Typhus ~~Fever~~ abdominalis Result Recovery

DATE July	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	
Pulse m	120	108	106	100	90	86	78	76	86	90	84	84	84	92	84	76	76	80	Sr			Pulse m
Pulse e	108	108	100	96	92	84	88	88	86	88	78	88	80	80	76	78	76	70				Pulse e
Resp. m																						Resp. m
Resp. e																						Resp. e
Motions		2	2	1	1	2	1	1	1	0	1	0	1	regular								Motions
URINE No of ozs																						URINE No of ozs
URINE Sp. Gr.																						URINE Sp. Gr.
URINE Reaction																						URINE Reaction
URINE Chlorides	dim.		increasing																			URINE Chlorides
URINE Albumen	present																					URINE Albumen
DAY OF DISEASE	6(?)	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	REMARKS

TEMPERATURE FAHRENHEIT'S SCALE

106° 105° 104° 103° 102° 101° 100° 99° 98° 97° 96°

TEMPERATURE CENTIGRADE

41° 39° 38° 37° 36°

M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E

Rash

Eruption subsiding on V. Ter. etc.

Sp. V. 3° Sp. T. H. shewing the point colour

Typhus –

Irregular curve of Temperature resembling Scarlatinal – patient gave Typhus to friends –

Day of commencement of illness could not be ascertained –

Typhus Temperature curve resembling that of Scarlatina as to its period of defervescence

This patient communicated the disease to his friends – all the other cases were perfectly typical of Typhus.

Tongue Coat flabby clouds coated at times flayed – At tips very bright red –

The date of commencement is not reliable

EDWARD CASEY M.D DESIG

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(Observations taken at ... A.M and ... P.M.)

J. MEGILLEY, STAM, LEEDS

18.

CLINICAL CHART OF TEMPERATURE. &c

Name Samuel Sykes Age 10 Disease Enteric Fever Result Recovery

DATE	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Pulse m	116	112	120	108	120	120	120	120	100	108		120	120		108	96	96		96	96	96	84	84	96	148	100	132	92	104	116	120	148	136	148	156	116	116	130	108	108
Pulse e	104	108	140	120		130[12]	108			100[12]						96								64	80	120		120	72		132	128	100	112	112	92	104	92	100	
Resp m																																							
Resp e		loose slightish colour		5 greenish																																				
Motions	0	2	5	loose	do.	2 do.	2	2	just so loose	1	1	2	1	formed	2	0	0	1	1	2	2	1	3	2	0	0	1	2	1	1	0	2	1	2	2	1	1	0	2	1	2	1
URINE No OF OZS																																								
URINE Sp. Gr.																																								
URINE Reaction																																								
URINE Chlorides		absent					present																																present	
URINE Albumen		now					now																																now	
DAY OF DISEASE	?	15?																																						

TEMPERATURE FAHRENHEIT'S SCALE: 106° 105° 104° 103° 102° 101° 100° 99° 98° 97° 96°

Showing remarkable type of fever resembling Ague occurring during Convalescence from severe Enteric Fever.

Vomiting

Caustor oil

EDWARD CASEY, M.D. DESIC

Tongue furred thick and pale white

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(Observations taken at ...

14.

CLINICAL CHART OF TEMPERATURE &c

Name Emily Brewster · Age 10 Disease Enteric Fever Result Fatal

DATE November	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	8	9	10	11
DAY OF DISEASE	3?	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32		
Pulse m			120	96	108	108	104	116	112	124	108	116	92	96		108	120	136	132	124	124	130	124	124	128	134	124	132	Nil		
Pulse e		120	112	104	108	96	104	112	124		108	150	92	128	120	108	120	132	124	134	120	124	130		132	132	128	136	Nil	–		
Resp. m				28	40	32	40	44	38	44	34	30	30	32		40				40	44		48									
Resp. e																																
Motions		3	3	1	2	1	1	3	1	5	2	1	2	2	0	1	1	1	3	5	5	Many Loose	3	1	3	3	3	8	1			
URINE No of ozs																																
URINE Sp. Gr. Reaction																																
URINE Chlorides Albumen																																

Showing good effects of Quinine while it could be borne by Stomach –

TEMPERATURE FAHRENHEIT'S SCALE: 106° 105° 104° 103° 102° 101° 100° 99° 98° 97° 96°

Great Head Of. Brandy

Pt. vom'd Quin. 3ss q. h.

Quin. omitted

Quin. & Kali Bromid

Pt. vom'd Quin. & Brandy

Hom. gtt. Thirty drops

Quin. & Turpentine

Perforation

EDWARD CASEY, M.D. DESIC

Course drawn in Blue which patient was taking Quinine

PUBLISHED BY HARVEY & REYNOLDS, 13, BRIGGATE, LEEDS.

(Observations taken at A.M and P.M.
For Memoranda of Treatment, see back of Chart)

Treatment. Large doses of Quinine had to be abandoned owing to the u
of the Stomach occasioned by the accompanying Acid – Bronchitis formed
the leading feature of the case and for it various remedies were applied
Externally Sinapes – Internally Carbonate of Ammonia, Turpentine &c &c
Turpentine inhalations were also used – Digitalis was given laterally
in the hope that it might control the pulse – When symptoms
of Peritonitis set in Opium was given –
Diet Milk with Brandy ℥iij – ℥j. ℣. per diem.

P. M. examination revealed an exquisite example of the typhoid lesion
in its different stages – perforation was discovered about 9 inches
above the Ileo-cæcal valve – The usual appearances of peritonitis were
present about the seat of perforation with matting together of the intestinal
loops &c – Spleen enlarged – Lesion in the Lungs was confined
to the bronchial tubes which were intensely congested & swelled – No
consolidation at any part –

The fact that the laws which govern the efficacy of Quinine are precisely the same that apply to anti pyretic treatment carried out by the physical abstraction of heat by means of cold water points very strongly to the conclusion that Quinine acts simply as an anti pyretic agent – For instance there is no better indication of the severity of an attack of Enteric Fever or Scarlatina than the resistance of its pyrexia to treatment either by physical abstraction of heat or by Quinine – So again both act with increased potency towards the end of the disease – Lastly mild cases may be greatly shortened, practically checked, by the persistent application of the treatment by one or other of the agents referred to, or both in combination – In all these statements Liebermeister's great experience of anti pyretic treatment bears me out – How then are these different results to be reconciled? I think there has been too great a tendency in Germany to regard the pyrexia too much as the root of all the mischief in severe cases, per se and not, as I imagine, as merely furnishing a condition for the growth of the germ – poison, which is really the hidden cause of all the mischief, including the pyrexia itself – When there is a large amount of active poison in the system, it is so strong and vigorous, that it can as it were, dispense with the favouring condition of pyrexia, but as the time approaches, when according to natural law the vital poison must die, if the patient but survive, pyrexia becomes to it a more essential fostering condition, and the deprivation of it for a very short time may determine its rapid decline and death – So also in the mild cases where the poison is but feeble, the fostering condition of pyrexia, is essential to its progress and activity so that it cannot survive if that condition be cut off from it for some time, the length of which will vary with the energy of the poison –

In this chart there are many interesting features, to enter in detail into which would occupy pages and the course of the disease, with the results of treatment is indicated better on the chart than it could be by words –

20.

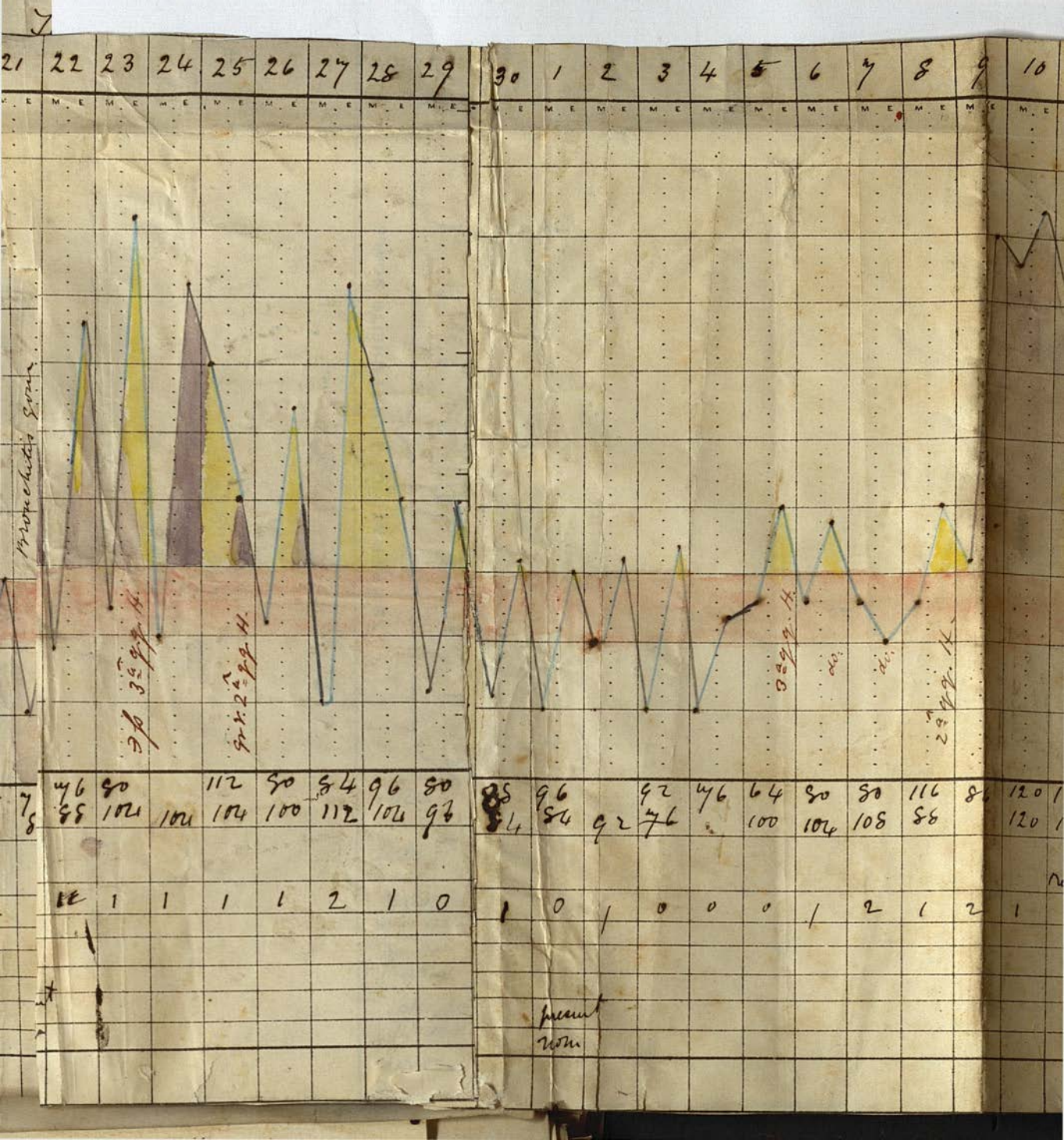
CLINICAL CHART OF TEMPERATURE

Name Mary Jane Brewster Age 11 Disease Enteric Fever Result Recovery

DATE October	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Pulse m		108	116	108	112	116	92	96	120	88	112		84	88	84	72	96	92	92	92	84	100	92		80	80	80	92	84	96	92	64	92	96
Pulse e	108		112	112	108	120	116	116			112	88	96		68	88	104	92	108				92	108	92	96	84	68		92	96		96	80
Resp. m																																	
Resp. e		dark green		light																			forced								dark loose		formed
Motions		3	1	2	3	2	3	1	1	1	3	3	3	3	2	2	2	1	1	2	1	1	2	2	2	1	1	1	2	2	3	1	1	2
URINE No of ozs.																																	
URINE Sp Gr.																																	
URINE Reaction																																	
URINE Chlorides		Rim																									present	absent					present
URINE Albumen		low																									a little						none
DAY OF DISEASE	1																																

Pulse in centre – Temp in red
Resp + dry during ; Motions –

(Observations taken at A.M. and P.M.
For Memoranda of Treatment, see back of Chart)


21 22 23 24 25 26 27 28 29 30 1 2 3 4 5 6 7 8 9 10
M E
Temperatur Scala
3 Sept. H.
2 Sept. H.
3 Sept. H.
do.
do.
2 Sept. H.
96 80 112 80 84 96 80 96 84 92 96 64 80 80 116 120
88 102 104 100 112 104 92 84 76 100 104 108 88 120
1 1 1 1 2 1 0 1 0 1 0 0 0 1 2 1 2 1
present
rom

Name Mary Jane Brewster Age 11 Disease Enteric Fever Result Recovered

Observations over 84 days
Showing results of Quinine Treatment.
To all appearance it saved patients life when returned on the 19th Dec.

	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10
M.	120	108	96	104	100	108	120		124	128	104	92	96	88	100	108	100	88	96	84	96	84	92	92	92							
E.	120	100	96	108	96	118	132	132	128	116	92	96	100	80	92	126		88	108	88	88	88				92	92	92				well
																																Ufa
	Relaxed light																															
M.	1	1	1	1	1	many loose	do.	0	0	2	0	2	1	3	2	6	2	0	2	1	2	0	1	1	0	1	1	1	0	2	1	2
E.																																

Considerable dim.

present present

abundant None.

Observations on Quinine Treatment

21.

CLINICAL CHART OF TEMPERATURE. &c.

Gr. 2 ℔ Quinin. Sulphatis 3ss q.q.q. 4ta
begun 30th October. Increased to 9ss on 3rd Nov.

Name Charles Brewster Age 4 Disease Enteric Fever Result Recovery

DATE October	29th	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
Pulse m		124	92	84	96	108	88	96	80	·	96	96	60		72							
Pulse e		108	80	92	104	104	96	88	108	88	96											
Resp m								not taken														
Resp e																						
Motions		loose 1 light	3 ds.	3	2	2	2	2	1	2	1	1	1	0	1							
URINE No of ozs																						
URINE Sp Gr																						
URINE Reaction																						
URINE Chlorides				diminished					plenty													
URINE Albumen																						
DAY OF DISEASE	1																					REMARKS

TEMPERATURE FAHRENHEIT'S SCALE. 106° 105° 104° 103° 102° 101° 100° 99° 98° 97° 96°
TEMPERATURE CENTIGRADE SCALE. 41° 40° 39° 38° 37° 36°

Bronchitis — sister ill of Enteric

5 grains every 3 hours

Slight diarrhœa every time

Case of Enteric(?) which seemed to be cut short by Quinine.

EDWARD CASEY M.D. DESIG

Tongue furred and very red.

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(Observations taken at A.M and P.M.
For Memoranda of Treatment, see back of Chart)

The part of the curve in blue represents the period in which Quinine was administered —

J. HEGILLER, LOW, LEEDS.

Charles Brewster was admitted into the Fever Hospital on the 29th October 1877 suffering from Enteric Fever. He was 4 years old. He was in a very weak state when admitted. He had been ailing for a few days previous to admission. He had been under the care of a doctor for a week previous to admission. He had been vomiting and had a bad cough. He was very thin and pale. He had been under the care of a doctor for a week previous to admission. He had been vomiting and had a bad cough. He was very thin and pale.

22.

CLINICAL CHART OF TEMPERATURE. &c

Name Ann Pearson Age 24 Disease Enteric Fever Result Recovery

DATE October	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Pulse m	~~108~~	120	112	88	92	96	108	88	80	92	76		72	72								Pulse m
Pulse e	108	112	104	84	96	108	92	76	84		88	88	76	76								Pulse e
Resp. m																						Resp. m
Resp. e		loose						not loose									castor oil					Resp. e
Motions	~~2~~	2	1	3	1	1	1	2	1	2	0	2	0	1	0	0	3	0	0	2	1	Motions
URINE No of ozs																						URINE No of ozs
URINE Sp. Gr																						URINE Sp. Gr
URINE Reaction																						URINE Reaction
URINE Chlorides		dim. present								present												URINE Chlorides
URINE Albumen			now							now												URINE Albumen
DAY OF DISEASE																						REMARKS

Rash

5 grains of Quinine every 2 Hours

Case of Enteric (?) which seemed to be cut short by Quinine.

Quinine stopped

TEMPERATURE FAHRENHEITS SCALE

105° 104° 103° 102° 101° 100° 99° 98° 97° 96°

TEMPERATURE CENTIGRADE SCALE.

41° 40° 39° 38° 37° 36°

M E

EDWARD CASEY, M.D. DESIG.

Curve drawn in blue while patient was taking Quinine

PUBLISHED BY HARVEY & REYNOLDS, 13, BRIGGATE, LEEDS.

(Observations taken at A.M and P.M. For Memoranda of Treatment, see back of Chart)

Rose Spots distinct
No bronchitis

Tongue very red moist
pustules stud

Natural Sleep — Coma Vigil — Delirium —

Skin Hot —

Patient suffered from pain in first few days from headache. Rash appeared on 13th. Quinine ordered after. Commenced without intermission. Rose spots distinct. Temperature & pulse decreased after 4 days. Quinine was discontinued on 9th. Quite left in bed.

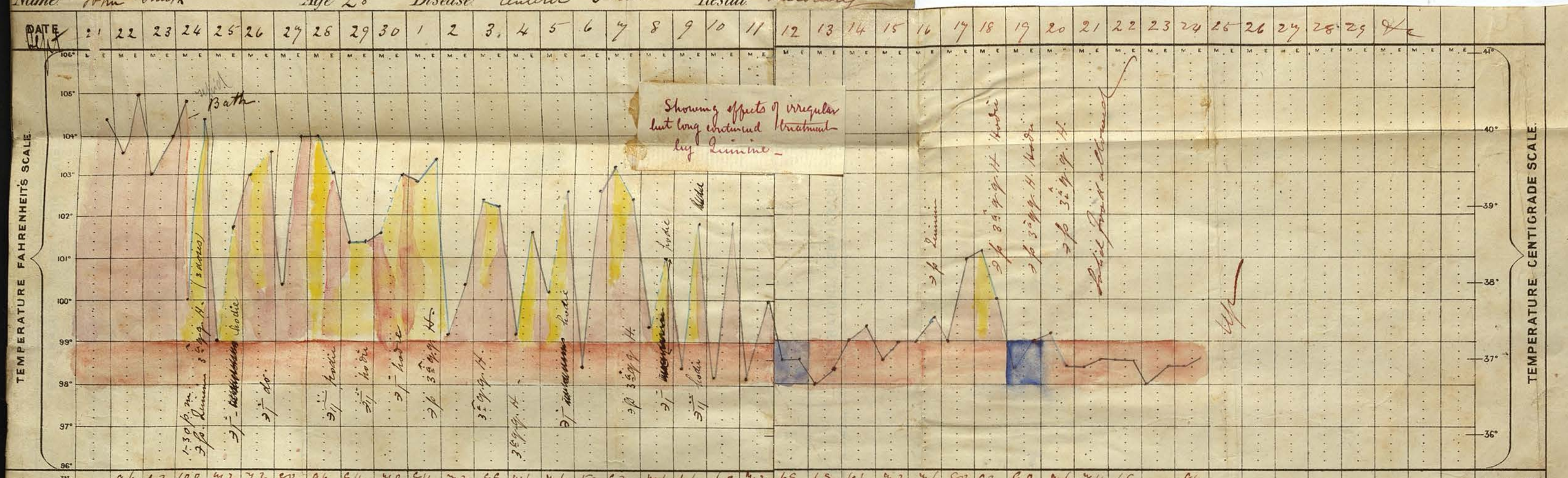
Treatment Sulphurous Acid at first soon changed for Quinine which had to be stopped owing to its causing vomiting = Small doses of Quinine were afterwards given but did not seem to influence the temperature —

Milk Diet

2°3.

CLINICAL CHART OF TEMPERATURE &c.

Name John Smith *Age* 28 *Disease* Enteric Fever *Result* Recovery



Showing effects of irregular but long continued treatment by Quinine –

	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	8	9	10
Pulse m		96	92	100	72	72	80	96	84	70	84	72	88	76	76	52	92	76	64	60
Pulse E	96	96	96	88	88	76	84	84	76	76	80	72	68	84	76	92	84	76	68	60
Resp. m																				
Resp. E					light not loose			loose greenish do: light												
Motions	0	0	1	0	1	1	1	1	2	2	4	3	4	2	0	2	0	0	2	2
URINE No OF OZS																				
Sp. Gr.																				
Reaction																				
Chlorides																				
Albumen																				
DAY OF DISEASE																				

	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	&c
Pulse m	72	68	68	64	72	76	80	92	80	76	74	68		84						
Pulse E	64		64	84	64		92		76	60	52	60	72	84						
Resp. m																				
Resp. E				C.O					C.O											
Motions	2	0	0	0	3	0	0	0	2	0	1	3	2	&c						
URINE No OF OZS																				
Sp. Gr.																				
Reaction																				
Chlorides			plentiful																	
Albumen																				
REMARKS																				

38 39 40 41 42 43 44 45 46 47 48 49 REMARKS

EDWARD CASEY, M.D. DESIG. M.D. DESIG.

Curve drawn in Blue while patient took Quinine

PUBLISHED BY HARVEY & REYNOLDS, 13, BRIGGATE, LEEDS.

(*Observations taken at A.M. and P.M.*
For Memoranda of Treatment see back of Chart.)

24

CLINICAL CHART OF TEMPERATURE. &c. □ = 1st Bath ✕ = 3ss Sulphat of Quinæ ⊡ = 2nd do: ☒ = 9r. XV do:

Name Emma Elizabeth Royston Age 21 Disease Enteric Fever Result Recovery

TEMPERATURE FAHRENHEIT'S SCALE. 106° 105° 104° 103° 102° 101° 100° 99° 98° 97° 96°

TEMPERATURE CENTIGRADE SCALE. 41° 40° 39° 38° 37° 36°

M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E

Patient a delicate girl with curvature of the Spine

1st week 2nd week 3rd week

Hyperæsthesia of lungs

Bronchial phthisis

DATE	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	
Pulse m	102	100	106	108	116	116	96	96	104	88	84	88	104	112	92	84	88	92	84	92	92	Pulse m
Pulse e	108	116	120	100	96	116	108	120	132	132	130	104	80	108	92	96		92	96	92	80	Pulse e
~~Resp.~~ m			36		40	36																Resp. m
~~Resp.~~ e																						Resp. e
Motions	Loose	Greenish	Light	2	0	0	1	0	1		1	1	2	1	1	1	1	1				Motions
URINE No of ozs.																						URINE No of ozs.
URINE Sp. Gr.																						URINE Sp. Gr.
URINE Reaction																						URINE Reaction
URINE Chlorides		nearly absent		do:	Normal		much deficient		do:			increasing					abundant					URINE Chlorides
URINE Albumen				none	none		none		none			none					none					URINE Albumen
DAY OF DISEASE	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	REMARKS

Tongue red papillated, fissured & glazed. On 21st Stomatitis.

EDWARD CASEY, M.D. DESIG.

PUBLISHED BY HARVEY & REYNOLDS, 13, BRIGGATE, LEEDS.

(Observations taken at ... A.M and ... P.M.
For Memoranda of Treatment, see back of Chart)

25

II

CLINICAL CHART OF TEMPERATURE &c

Quinine 2 grains 3ª q.q. Hora

Name Fabey Watson Age 13 Disease Enteric Fever Result Recovery

DATE	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	12	2	3
Pulse m	108	120	124	120	108	128	124	132	124	132	120	116	128	104	112	128	124	116	100	80			96		100	92	76		84
Pulse e	120	132	124	124	116	120	120	124	124	132	132	124	132	108				116	116		116			80	84	96			
Resp. m																													
Resp. e																											Just loose		
Motions	0	loose	input	4	4	3	2	3	2	2	2	4	1	3	1	1	2	3	1	1	2	2	2	2	0	2	2	1	
URINE wt of ozs																													
Sp. Gr.																													
Reaction															Acid														
Chlorides	Hardly any			dim											more														
Albumen	Trace			?											more														
DAY OF DISEASE	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	24	28	29	30	31	32	33	34

Showing efficacy of Quinine late in the course of Enteric Fever. No symptom whatever of improvement preceded administration of Quinine —

2 m. walk — 3 m. walk — Quinine 2 grains 3ª q.q. Hora

EDWARD CASEY M.D. DESIG

Tongue furred all at margin breath fetid —

PUBLISHED BY HARVEY & REYNOLDS, 13, BRIGGATE, LEEDS.

(Observations taken at A.M and P.M. For Memoranda of Treatment, see back of Chart)

Curve drawn in blue while patient was taking Quinine Rash present —

Typhoid Fever

Nov 17th — 7th day of illness — Temperature 103° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Nov 18th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Nov 19th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Nov 20th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Nov 21st — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Nov 22nd — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Nov 23rd — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Nov 24th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Nov 25th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Nov 26th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Nov 27th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Nov 28th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Nov 29th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Nov 30th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Dec 1st — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Dec 2nd — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Dec 3rd — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Dec 4th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Dec 5th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Dec 6th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Dec 7th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Dec 8th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Dec 9th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Dec 10th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Dec 11th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Dec 12th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Dec 13th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Dec 14th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Dec 15th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Dec 16th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Dec 17th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Dec 18th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Dec 19th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Dec 20th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Dec 21st — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Dec 22nd — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Dec 23rd — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Dec 24th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Dec 25th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Dec 26th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Dec 27th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Dec 28th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Dec 29th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Dec 30th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Dec 31st — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Jan 1st — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Jan 2nd — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Jan 3rd — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Jan 4th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Jan 5th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Jan 6th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Jan 7th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Jan 8th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Jan 9th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Jan 10th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Jan 11th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

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Jan 20th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

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Jan 23rd — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Jan 24th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Jan 25th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Jan 26th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Jan 27th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Jan 28th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Jan 29th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Jan 30th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Jan 31st — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Feb 1st — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Feb 2nd — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Feb 3rd — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Feb 4th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Feb 5th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Feb 6th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Feb 7th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Feb 8th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Feb 9th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Feb 10th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

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Feb 18th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Feb 19th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Feb 20th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Feb 21st — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Feb 22nd — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Feb 23rd — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Feb 24th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Feb 25th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Feb 26th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Feb 27th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Feb 28th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Mar 1st — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Mar 2nd — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Mar 3rd — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Mar 4th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Mar 5th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Mar 6th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Mar 7th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Mar 8th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Mar 9th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Mar 10th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Mar 11th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Mar 12th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Mar 13th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Mar 14th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Mar 15th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Mar 16th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Mar 17th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Mar 18th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Mar 19th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Mar 20th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Mar 21st — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Mar 22nd — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Mar 23rd — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Mar 24th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Mar 25th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Mar 26th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Mar 27th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Mar 28th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Mar 29th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Mar 30th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Mar 31st — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Apr 1st — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Apr 2nd — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Apr 3rd — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Apr 4th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Apr 5th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Apr 6th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Apr 7th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Apr 8th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Apr 9th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Apr 10th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Apr 11th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Apr 12th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Apr 13th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Apr 14th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Apr 15th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Apr 16th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Apr 17th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Apr 18th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Apr 19th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Apr 20th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Apr 21st — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Apr 22nd — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Apr 23rd — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Apr 24th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Apr 25th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Apr 26th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Apr 27th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Apr 28th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Apr 29th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

Apr 30th — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

May 1st — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

May 2nd — Temperature 102° — Pulse 120 — Respirations 24 — Tongue furred & moist — Abdomen tender in right iliac fossa — Bowels relaxed — Urine scanty 31 v deposit & traces of albumen —

May 3rd — Temperature 102° — Pulse 120 — Respirations 24 — Tongue

26.

CLINICAL CHART OF TEMPERATURE. &c

Name Frederick Pearson Age 30 Disease Enteric Fever Result Fatal

DATE October	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Pulse m	112	128	108	104	100	100	96	100	96	108	100	96	100	140							
Pulse e	108	120	128	108	108	108	104	104	100	100	104	100	104	116							
Resp. m	28 dark clothes																				
Resp. e																					
Motions	1	3	3	4	3	3	4	1	3	1	1	2	2	0	2						
URINE No of ozs.																					
URINE Sp. Gr.																					
URINE Reaction																					
URINE Chlorides																					
URINE Albumen																					
DAY OF DISEASE	4	8	9	10	11	12	13	14	15	16	17	18	19	20	21						

TEMPERATURE FAHRENHEIT'S SCALE: 106° 105° 104° 103° 102° 101° 100° 99° 98° 97° 96°

TEMPERATURE CENTIGRADE SCALE: 41° 40° 39° 38° 37° 36°

2nd week

3 ss Quinine Sulphate 3rd 3 ij Hora

3rd week

Symptoms of perforation of the bowel set in

Bowel action on right

Bowel action on left

Temperature taken in rectum

REMARKS

EDWARD CASEY, M.D. DESIG

Tongue on admission foul & moist with 2nd getting dry afterwards & moist till 14th day but only for a day

Urine drawn in Rubber bottle while patient was taking Quinine

P

13, BRIGGATE, LEEDS.

propus sweating frequently occurred under the use of Quinine

J. MEGILLEY, LITHO., LEEDS

Scarlatina Acuta mensis Augusti -

Treated Belladonna Acid Mix ℥ss - ℥j - Camm Acid ℥ij ℥ss Aqua ad Omne Mane

Post Mortem -

Carotids Jugulis Sanct.

Opium for peritonitis –

Treatment at first consisted of sulphurous acid – Diet Milk – Brandy 3j – per diem

Remarks. On admission patient presented features of a dangerous form of the fever. His mental capacities were suffering severely – the first sound of his heart weak and toneless. There was a certain amount of congestion at the bases of the lungs – On the evening of the 27th his breathing was nervous and "whiffing" – on the 28th he was still worse and death by coma, with high though probably not hyperpyrexial temperature was threatening – Opium was then commenced when all his symptoms became alleviated and the threatening danger speedily removed – He continued improving till the 8th when characteristic symptoms of perforation of the bowel set in suddenly – Great abdominal pain shivering – slight abdominal tenderness – Sweating – Vomiting of a green bilious fluids – On the 9th he was fast sinking There was marked abdominal tenderness & elevated. Dullness there and distention of the abdomen – One half of the abdominal walls (the right was) tense rigidly contracted –

p.m. Rigor Mortis well marked – A fair amount of adipose tissue under the skin. Heart Left ventricle contracted and empty – Right ventricle flaccid and pale – Bronchial mucous membranes presents ordinary signs of catarrh. Abdomen alimentary canal – Great Spleen much enlarged & dark Omentum glued down at the right corner – & recent lymph and at parts covered by lymph which also they are somewhat matted together. On careful raising the different coils of the intestines

Remarks.

From the time of admission this patient appeared to be suffering from a dangerous form of the disease - His mental faculties were suffering scarcely, the first sound of his heart was weak and toneless; there was a certain amount of hypostatic congestion at the bases of the lungs - On the evening of the 27th or only the 8th day of disease his breathing was "nervous" and whiffing On the 28th it was still worse and death by coma accompanied perhaps by hyperpyrexia, at any rate by high pyrexia, was threatening - Quinine was then commenced as indicated by the chart, when all his symptoms became alleviated and the threatening danger was speedily removed ~~for the time~~ - He continued improving till the 8th day of the month or 21st of the disease, when characteristic symptoms of perforation of the bowel set in ~~suddenly~~ and the temperature run up to 106°, though not till the Quinine had been stopped some hours, when the first symptoms had made their appearance - Great abdominal pain, shivering slight abdominal tenderness sweating, vomiting of a bilious fluid, together with this sudden setting in, rendered the diagnosis almost certain - On the 9th he was sinking fast. There was little abdominal tenderness and no marked distention of the abdomen - One half of the abdominal muscles (right of the linea alba) were rigidly contracted. Death soon occurred - Post Mortem results are mentioned at the back of the chart -

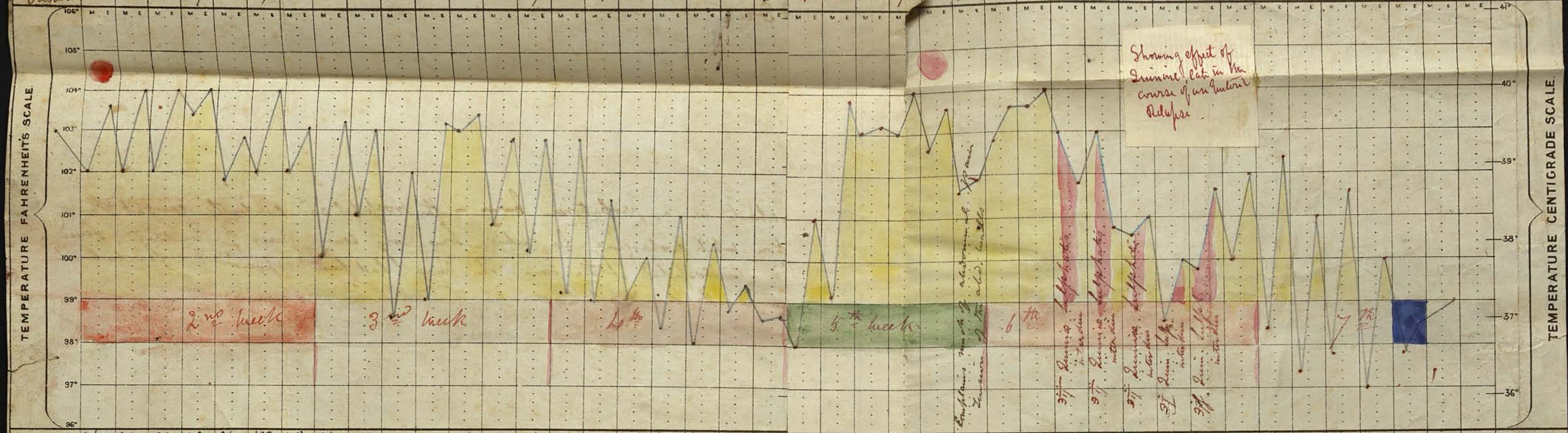
27.

I

CLINICAL CHART OF TEMPERATURE &c

Treated by Quinine during Relapse

Name Ann Smith *Age* 18 *Disease* Enteric Fever *Result* Recovery



DATE October	14th	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Pulse m	96	80	96	92	96	100	100	96	80	100	100	92	80	96	92	84	76	84	92	~~80~~	88	104	96	112	112	96	104	100	112	104	88	80	84	92	88	88	88	96	80	92	84	
Pulse e	104	92	96	96		84	96	96	88	96	88	96	96	96	88	84		76		92		92	112	108	116	112	116	108	↓	92	88	96	92	96	100	96			96	96	84	
Resp. m / e				Simple enema					do:	loose ochry colour			greenish						constipated				Castor oil																	Formed, of natural colour		
Motions	1	0	0	↙1	1	1	0	0	↓2	2	1	0	3	0	2	1	0	0	2	1	0	0	0	7	0	1	1	0	1	3	2	1	2	0	0	2	1	0	2	2	1	
URINE Nº of ozs.																						Day of relapse																				
URINE *Sp. Gr.* / *Reaction*																						-1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
URINE *Chlorides*							never diminished																																			
URINE *Albumen*									never present –																																	
DAY OF DISEASE	8(?)	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49

REMARKS

EDWARD CASEY, M.D. DESIG.

Curve drawn in blue while patient was taking Quinine –

Tongue furred, red at margin. Breath fetid

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No bronchitis

Rash very characteristic – Reappeared in relapse

(Observations taken at A.M and P.M.
For Memoranda of Treatment, see back of Chart)

Treatment - Sulphurous Acid - Quinine in large doses during Relapse -
occasional Small doses throughout -
Milk Diet

Patient was a probationer Nurse in the Hospital and evidently caught the infection while discharging her duties - Some very severe cases of Enteric Fever were in the Hospital at the time - The Nurse had been exposed to Scarlatinal poison as well from which disease she had not suffered