Rheumatic fever.
I have been led to the choice of Rheumatic Hyperpyrexia as a subject for my thesis for the reason that my attention has been forcibly drawn, and my interest strongly excited through having within recent years laid under my care in the Leech Hospital three cases of Acute Rheumaticum associated with this fortunately rare but truly formidable complication. The subject is also one of very great clinical interest, hyperpyrexia being principally encountered in and the chief cause of death in Acute Rheumaticum.

The attention of the profession in this country was first drawn to hyperpyrexia in patients suffering from rheumatic fever by Dr. Sydney Ringer, who recorded three cases of rheumatic fever in which, after continuing for 3 weeks during which the patients exhibited only the usual appearance of acute rheumatic symptoms but was accompanied by very high temperature, the patients ultimately dying comatose. Dr. Kreusen, a German physician, seems to have observed the same facts about a year previous to Dr. Ringer.

Dr. Wilson to belong the credit of having first successfully treated these cases by the internal application of cold, he having recorded the cases of Recovery in patients in Medical Times and Gazette. October 1867.

- Lancet
Those temperature bars reached respectively 110°F and 107.3°F, though priority in claims by Dr. Fargue for determining the successfully employed cold affusion and ice infusion in a patient whose temperature had attained 108.6°F.

Before the recognition by these observers of the true cause of the symptoms, all such cases were classed as cerebral rheumatism on account of the new and phenomenon which accompanied them though at the same time no just motion lesion of the brain or other organs were found sufficient to account for their fatal termination.

Hyperpyrexia temperatures occur in the progress of many diseases and as Typhoid fever, Rheumatism, Alcoholism, and in Relapsing Fever frequently attaining great heights 107°F or more. Temperatures between 105.5°F (41.0°C) and 106.5°F (41.5°C) are commonly observed but are not generally attended by cerebral symptoms or loss of upon with apprehension. On the other hand, cases of Rheumatism with temperatures of 105°F (40.6°C) or over are regarded with anxiety though in addition to the active little cases recoveries after temperatures of 110°F (43.3°C), 109°F, 109°F have been recorded.
I shall now proceed to give as succinctly as possible the histories of three cases which have come under my personal observation and care and in the order in which they occurred.

The patients were all treated by means of cold externally applied. The first case had a rectal temperature of 109.2°F and was fatal; the other two, auxiliary temperatures of 108.5°F and 106.3°F respectively both making good recoveries.

Of the first case it will only be necessary to give a short resume, a full account having already been published.

Margaret R. — a domestic servant aged 22 was admitted to Beth Hospital under my care on the 25th of May 1864 having developed Acute Rheumatism on the previous day after an attack of diarrhoea of about 10 days' duration. Her temperature on admission was 100.8°F, and in the evening had risen to 103.7°F. The pain in the hands and knees was considerable and also in both ankles which were very much swollen. There was free pericarditis. Salicylates of Soda were ordered to be given in 15 grain doses along with 2 grains Carbonate of Ammonium, every 4 hours.

At 8 o'clock on the following morning her temperature was 102.7°F and the joint pain considerably relieved. The patient was

| Lancet Vol. II. 64. p. 400.
Cheerful but apathetic nervous the Respiration was hurried. About 2 o'clock she complained of severe headache, shortly thereafter falling asleep, and waking up in a fever-fright between 3 and 4 o'clock. She then became very restless and excited but answered questions correctly. At 5 o'clock she was performing freely, her axillary temperature being 106.2°F. Her gums were green and cold applied to the head. At 6:45 o'clock (having been quiet in the interval) she began talking loudly and irrationally, the temperature having risen 2 points. The head was now shaver and ice once applied to the head. She moaned over the body. Half an hour later she became wildly delirious, the thermometer registering a temperature of 109°F. The patient was enveloped in sheets wrung out of ice water and frequently changed. She became quite unconscious. The axillary temperature at 7:30 o'clock being 109°F. The pulse was rapid and feeble and the breathing accelerated. At 8:30 am, one dose of a dram of opium was administered. By 8:30 o'clock the Rectal Temperature was 109.2°F, the pulse very rapid and almost imperceptible, the Respiration sighing and irregular as her Respiration seemed to be dying. She was now ordered to be bather mounted and on the body and 3% Ether given hypodermically. At 9 o'clock 3% halothane was
Still comatose but the breathing was more natural and the Rectal temperature had fallen to 106.6°F. A quarter of an hour later there was a slight return of consciousness, the temperature had fallen a little and the pulse though thready improved.

At 9.30 o'clock the temperature was 100.6°F.

The ice pack was now discontinued, the patient dried and put in an armless bed between blankets. Half an hour later the Rectal temperature was only 98.4°F the surface of the body being very cold. Hot bottles were applied to arms, face and hands and Brandy given as a stimulant. The temperature (Rectal) at 10.30 o'clock was 99.7°F and pulse 112, but though the patient were acting well and there were signs sensitive to external impressions, consciousness had not returned. A quarter past 12 o'clock she started as if in a delirium, screaming loudly as if in extreme terror. The patient could not be touched or a light brought near her without causing her to rise from silent groaning to violent fits of agony, alternately convulsions and vomiting. The breathing was very hurried and the temperature 101.9°F.

Darkening the room seemed to have a soothing effect.

On the morning of the 27th at 12.15 o'clock the temperature was 104.7°F and the Rectal 105. The patient being still in the same Pawnary condition the approach of a lighter candle causing the gaseous agitation. By 1 o'clock All the temperature.
The pulse was 102 per minute and the Respiration 24 per minute. Twenty minutes later the patient died somewhat unexpectedly, the temperature immediately after death being 103.4°F.

The first post-mortem examination reveals no notable appearance differing from acute or chronic brain or nervous symptoms. There was present a slight engorgement of the brain matter, fullness of the veins on the brain surface. The heart was soft and flabby, congestion of the lungs, kidneys were later in observed.

The chief points of interest in this case were the rapid onset of the very high temperature (generally coming on as it does in the 2nd to 3rd week of the illness) and the fact of persistence of a fever with an axillary temperature of 106.2°F.

The temperature beginning to rise after 11.15 PM, ice bags were applied to the head but with no effect. The patient, however, complained of aching of all parts of the body and aching of the arms had to be discontinued. Had it been a similar case again under my care, I would absolutely withhold placing the patient in ice packs until as often as required. Having been in the extreme illness of the patient a plan of treatment.

After a lapse of about 18 hours my patient, Case of Acute Rheumatism complicated by Hypersensitive. The patient being critically ill.
Edward G. - a labourer aged 26 was admitted to the Leith Hospital on the 5th of December 1885.

Nothing particular was elicited regarding family history.

The patient who was about the average size and well developed of age that 2 years ago he suffered from Rheumatic pains and a year ago had an attack of Rheumatic fever which laid him aside for several weeks.

His occupation exposes him very much to the variation of the weather. In regard to his habits he admits having been intemperate but has been suffering from Rheumatism.

His present illness dates from the 1st of December when he first fell down in his back and left foot. His right foot in him became affected, then the hands, arms and legs.

On admission both wrists were swollen and painful to the touch. The other joints were normal but the complainants of pain in the muscles of both arms and thighs especially on the right side. He was also suffering from slight Bronchitis and a slight dyspnoea which was detected. The temperature was 103.2° F.

He was first kept between blankets and a hanging administered and was a recover...
In the 15th, 16th, 17th, 18th, and 19th days every 2 hours, the patient to be continued on the breathing stimulant. The next morning the patient was considerably relieved and the temperature down to 99.4° F. The breathing stimulant to be given every 6 hours. The patient improved satisfactorily. For the 9th day, when the patient became worse, the morning temperature was 104.7° F. the evening 101.2° F. The patient was in extreme pain, the pulse being 130, and cyanosis of the face. On the 10th, patient felt better, the morning temperature being 100.2° F. the evening 99.4° F. but on the 11th he was not so well as before. The pain in worst joint being more severe. There was free perspiration, the temperature being 103° F.

During the next 2 days the morning temperature was over 104.7° F. the evening over 102° F. The patient was very weak the pulse being 90. The Respiration 24. On the 14th, patient was no better, pain and fever being still present. A loud mucus coughing murmur was heard for the first time to day. Not only was it heard at all the valvular areas, but over the whole chest anteriorly and posteriorly. It was loudest propagated along the large arteries, being distinctly audible in the Femoral and Radial. The morning temperature was 100.4° F. the evening 103° F. Next day (16th) the morning
In the above has risen to 102.7 +, the evening to 103.6 +. Fifteen grain dose of Lactose of Sodium were previously, to be given hourly.

On the morning of the 17th Dec (17th day of illness) the patient did not feel well, rather very restless. The pulse was quite large, the micturition had entirely ceased, not thin being red and dry. He was carefully watched but passed no day without any further ominous symptom. At 9.30 A.M. the pulse and respiration were respectively 84 and 24, now they have increased to 126 and 44. The hourly temperature was very low (see chart). At 10 o'clock the temperature has not risen (10 grains Lumina given) and at 11 o'clock it was still the same. By midnight however it was 104.27 and at 1 A.M. (18th) 4 hours higher. At 3 A.M. it was 105.27, and 10 grains Lumina were administered. One hour after the thermometers were taken the same temperature 105.27 was repeated. At 9 o'clock the temperature was 105.67, half past 8, 106.7, 4 o'clock 106.27, 11.30 106.82 and at 4.30, 108.47 when certified. Thermometers being used. At this time the patient's body was rigid, the arms and legs flaccid, the jaws firmly closed. He was quite delirious, muttering through his clenched teeth. A pulse was now prepared and the patient immersed
in 45 for 30 minutes. The bath temperature was 90°F being gradually reduced to 65°F. While in the bath the patient vomited once. All attempts to lower his temperature failed on account of his being so restless and unmanageable.

Immediately after being placed in bed he became violently maniacal and remained in the same condition for an hour and a quarter. At 5.45 o'clock the temperature had fallen to 112.6°F.

Saline was now presented in 13 grain doses to be given every 2 hours. By noon the temperature had again risen to 103.7°F and at 10 o'clock was 106°F.

The head was now ordered to be shaved and the ice bag applied continuously till the temperature fell which it steadily did from this time to normal on the 20th day of the illness.

On the 19th he was much improved and quite free of pain (Temp. 101.7°F Pulse 92 Respiration 24). From this date he made satisfactory progress. He was however very weak and anemic and full of Salicylates of iron and Senna and altitude of iron and salicylates of iron were given under his treatment he gradually improved.

On the 31st December my rotation time of duty ended and he handed over my care, utterly, however leaving the Hospital cured on the 21st day of March 1856.

In this case the Malaria had developed in the third week of the illness, it was
there is little room to doubt that it was 
true Rheumatism and not Acute Arthritis which had it occurred earlier in the disease 
then might have been seen to supersede owing to 
the patient intemperate habits. At the point 
of interest the dose was the fruitlessness of 
remedies in large doses (40 grains were given 
every 1 1/2 hour) to reduce the high temperature and 
the prompt effect of the external use of 
cold which lowered it about 5 degrees in less 
than an hour. Another fact to be observed was the good effect of the Ice for coolness 
that was thrown here on checking a rising 
temperature and gradually returning it to normal.

Case 3

George G., aged 27, clerk, was admitted to 
Leeds Hospital under my care o. the 3rd January 
1878 complaining of severe pain in the back of 
Her left Thigh and knee joints these symptoms being 
accompanied by fruitlessness. He had been ill for 
a week before admission.

History - Father, Mother alive and healthy, the 
father subject to slight attacks of Rheumatism.

In 1878 he suffered from a severe attack of 
Rheumatism. Rheumain has been quite healthy, never 
suffering from Rheumatism in any form.

On the evening of Tuesday, December 27th. he felt 
chilly and unable to get warm. During the night
The sweating profusely. On Wednesday he was in the same condition feeling alternately hot and cold. Now day he suffered from pain in the back and on Friday his knee joints became painful. It remained at home until yesterday when he was obliged to give up on account of the pain and weakness.

I have called on to see him at his home a few days following Thursday and advised him immediate removal to the Hospital.

He is a well developed man but on admission he complained of pain over all the body when being put to bed. Pain very severe in the knees when touched or moved. Right elbow has a little swollen but the knee joints were unaffected. He was sweating profusely and had a painful expression of countenance. The tongue was moist but there is considerable circulatory system normal. A few moist rales in the chest and cough. Mucous membrane healthy. Urine amber color. 

<table>
<thead>
<tr>
<th>Pulse</th>
<th>Respiration</th>
<th>Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>110</td>
<td>22</td>
<td>102.8°F</td>
</tr>
</tbody>
</table>

Saline in 15 grain doses has ordered to be taken every three hours. Milk did not given. The affected joints were enveloped in bandaging.

At 9 PM the Pulse & Respiration were unchanged but his temperature had risen to 103°F. He com-
plains of Parn (mirrana) in the chest that
was relieved by a few drench of Nepenthe.
At 11 Am 1st of January the joint panniculus
was so severe that an intravenous drench
of Osmium hemogenate over the entire body
On the 5th the plasma were much relieved. The
bicarbonate was now ordered to be given every 4 hours. At
Evening (1st) 10 grams sugar 15 minutes Nepenthe
was prescribed
6th Jan. Pulse weak and compressible the anterior run of
depressed. To get 4 ounces of thurify in the 24 hours.
At 10 PM has a deep attack of bleeding from the nose.
Again the 9th from the nose. In the morning 7th 7th.
the patient was delirious in the middle of the day.
On the 8th January the patient was very delirious, all
right and in the same condition than morning.
The expression is very anxious that face cyanosed
the pulse was weak thrald the Respiration run of
accelerated.
The above table shows the further progress
of the case from 2.30 PM to this moment.

Note: The tempeature at 2 AM was 104°, L=AM,
103° 6 oc, 103° 6 at 10 oc. It had risen again to 106.
At 11.0 oc was still 106°, and then was 106° 4°
and at 1.20 had reached 106° 3° F.
<table>
<thead>
<tr>
<th>Time</th>
<th>Temp</th>
<th>Puls</th>
<th>Ret.</th>
<th>Memo</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.30</td>
<td>106.3°</td>
<td>116</td>
<td>44</td>
<td>Good appetite, nausea, nausea. Complains of headache.</td>
</tr>
<tr>
<td>9.15</td>
<td>106.3°</td>
<td>116</td>
<td>44</td>
<td>apple juice.</td>
</tr>
<tr>
<td>10.30</td>
<td>108°</td>
<td>118</td>
<td>46</td>
<td>No change.</td>
</tr>
<tr>
<td>11.40</td>
<td>115.6°</td>
<td>136</td>
<td>28</td>
<td>15 gr. Antipyrin.</td>
</tr>
<tr>
<td>12.30</td>
<td>115.2°</td>
<td>132</td>
<td>32</td>
<td>Complains of nausea.</td>
</tr>
<tr>
<td>12.45</td>
<td>117.6°</td>
<td>138</td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>14.30</td>
<td>124°</td>
<td>134</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>15.15</td>
<td>103°</td>
<td>120</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>15.30</td>
<td>103°</td>
<td>120</td>
<td>32</td>
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<tr>
<td>16.45</td>
<td>103°</td>
<td>120</td>
<td>32</td>
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<tr>
<td>17.30</td>
<td>103°</td>
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<td>32</td>
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<td>18.45</td>
<td>102°</td>
<td>118</td>
<td>36</td>
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<td>19.30</td>
<td>102°</td>
<td>118</td>
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<tr>
<td>19.45</td>
<td>102°</td>
<td>118</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>20.30</td>
<td>101.1°</td>
<td>112</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>20.45</td>
<td>101.1°</td>
<td>112</td>
<td>36</td>
<td></td>
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<tr>
<td>21.30</td>
<td>101.1°</td>
<td>112</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>21.45</td>
<td>101.1°</td>
<td>112</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>22.30</td>
<td>101.1°</td>
<td>112</td>
<td>36</td>
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</table>

Prescription: Antipyrin.
9th January. 2 o'clock A.M. Patient looking more
leathery and a little less bright than usual. Great
change in his appearance. The skin is moist.
The temp. is 103°, pulse 128 and Resp. 44. At 2:15
15 g. of Antitoxin was given. At 2:30 patient has
an attack of Epistaxis. At 3 A.M. The Temperature
was 103°. At 4:10 A.M. 5 102.6°. At 6:10 A.M. 5
102.8°. At 10:10 A.M. 101.4°. The same at 10:10 A.M.
and at 11 o'clock A.M. the temp. has not changed. The pulse being 120 and
the Respiration 30.

He had had short intervals of sleep during the night
and as my presence went relieved himself on
feeling comparatively having his garments. He still
spoke in a low voice and seemed to breathe
rather labored in both lungs, although he was
in 15 feet. During every 2 hrs.1 spoonful of a
pulverized mixture of belladonna, ator and
atropine ordered on the 1st. K. 1 x 1/2.

At 5 P.M. the temp. was 103, Pulse 120 and Resp. 34.

At 6 1/2 o'clock the ice cap was removed. At 7 o'clock
there was no change in the temp., Pulse, or Respiration.

The skin was moist. At 9:30 there was little
improvement or alteration as regards the temp. or the patient
was feeling comfortable but very thirsty. To have
an Enema of 9 parts: 1 part bid for 4 ounces of
Glycerine 30.

10th January. The patient has passed a very
good night and feels better. Some pain in the

returned only a moderate degree of sweating. He is very thirsty, taking a large quantity of milk. The temp. at noon was 103.5, pulse 120, Respiration 34 and at 12:10 to 363.5 grams Antipyrinum 12:45. Treating more freely by to feel temperature 1.15. Temp. fallen 2.01
1.10. Another 5 gram dose of Antipyrinum given.
2. Be came slightly delirious. Face flushed
9 P.M. Patients feeling very warm. Still sweating freely. No signs of fever in slightly delirious state. Call used when just falling asleep. Temp. 103.5 Pulse 140 Respiration 42
9:30. Patients more restless and delirious. Complaining of pain in the arm again (not in the joint particularly) and also in the back.
Midnight - still delirious with rambling talk. Must be answered questions correctly when spoken to.
Is also very enebulous, still complaining of pain. Twenty drops Morphinum given. The temperature was 103.5 Pulse 130 Respiration 46.
11 P.M. Temp. 102.8 Pulse 120 Respiration 34
No nausea.has a restless night. Still complaining of mass constipation. Malaise in joints of Right hinder Temp. double swollen Throat. Typhus to be continued.

At 9 o'clock on the Temp. was 103.5 Pulse 120
Respiration 32. He has a quiet day without any delirium. No return of pain or sweating except in forearm. The cough has been at off during the afternoon.
12th Jany. 4th At 4h Alm he was quite delirious during the night had aches and pains in his arms and legs. Fifteen grams of Antipyrine given.

11th Alm. Patient expressed himself as feeling a little better. Joint pain has not returned.

For the skin is his desolate morose. His cap has been in all night. Yabace every 4 hours. 100mg. to be continued and half an ounce of Thustig every 4 hours.

Temp. 103° Pulse 120 Resp. 34.

At 9 P.M. Temp. was 103° Pulse 134 Respiration 48.

Then left to himself in delirium, but when loosen answered reasonably.

7th Jan. 11.15 Alm. He has been very restless and had delirious flames walk in bed. Temperature has gone up to 104°. Hitting from occasional feverishness. Fifteen grams of Antipyrine

At a quarter past 1 Alm he was perfectly

In the morning (11.30 Alm) his temperature has fallen to 103.4°. The pulse was 134 and Respiration 34. He has rested all night and now very delirious. The thirst and drinking milk in large quantities. Yabace and Thustig continued to be given.

Then quite moist though no expectoration. 20 grams more of Yabace prepared to be given every 2 hours.

At midnight 12° Temp. was 103°. Pulse 145 and Respiration 240. The medicine Yabace passed in bed. 175
The patient was delirious.

On the 14th January the patient has been in a better condition. At 10.45 A.M. the temperature being 101° 21 gr. of Ammoniac was given. The fever continued and ammonia hydrocyanic acid was given. By 11 A.M. his skin was quite dry. At 11.45 A.M. 20 gr. of Ammoniac given.

8 P.M. Temp. 104°. Pulse 150. Respiration 40. The patient has been quite delirious the whole day. The delirium was slight, and the patient was very weak. At 7 P.M. the temperature still being 101° 21 gr. of Ammoniac were given. The same dose to be repeated every hour till the temperature falls to 100°. At 8.30 P.M. patient was slightly less delirious and face was flushed. Great flush of the face. At 11.30 P.M. looked brighter during the preceding hour. Had not been given any water. Had occasional prosecution of sleep.

On the 15th January the patient was quite delirious. During the night the nurse by mistake has given the patient four doses of 20 gr. each, hourly for 7 hours. Thought the nurse was to give 1 gr. of Ammoniac hourly to be repeated if necessary in one hour. So it is applied to hands and abdomen.

On the 16th the pulse was very weak and difficult. The pulse was stopped and 21 gr. of Ammoniac was given. The patient continued to be delirious. The skin quite dry. On the 17th he was in great pain, 37 gr. of Ammoniac was given. The temperature was
10th. Pulse 120 & R.P. 40. Has been delirious all day. Very delirious. At 5.00 am. her eyes were squinting. Fever & a quarter of an hour later. Her body was rigid. She seemed almost to have a fit.

18th Jan. Has been very restless all night. Eating occasional weak drinks. The pulse being very weak. The medicine (melemea & opium) has stopped. 3/120. which ordered 8.00 the following morning.

Ry. Dewal 1. oz. 3 d./
Dewal Ammonia 1. dram 3 d.

A tabletжал to be given 8 am. Half a S.G. to be given twice next meal.

19th. Pulse 120. R.P. 40. The temp. was 102. Pulse 120 R.P. 40. Has had a quiet day sleeping a good deal. The pulse strong. He is more men.

20th Jan. Pulse fairly strong now.

Has had a quiet night and more concern having take hot milk. During the night he had not produced to in the bed. His face is more red. He complains of severe headache.

21st Delirious during the night. Has gases since 7 am. They have gone off as flushed to complaints of pain in both shoulders. Right elbow. Still urinary & drinking freely of milk. Yellow 3/120 to be given on 9.30 hour.

On Jan. 23rd the pulse was weak & thin. It to be given hourly. Suffer from hensness & feeling
better than I point from

At 2 a.m. of January 26th patient very low and
delirious, having urine in bed. Think he gush.
Every time makes it hang, and I can think the warranty
might be part due to its influence.

9 A.M. Has been vomiting all day. Temperance
has been at 6 and at 7 1/2 withe at 70 no delirium. Temp.
in 101 1/2° Pulse 134 Rpp 36. Temp of patient 86
at 11 1/2

Jan 24. 17. Temp. at 11 1/2. 101 1/2° Pulse 132
Rpp 36. Has been vomiting and delirium until about
6 A.M. He is restless, nervous and irritable,
himself in. The face is not flushed. The skin moist,
looking plenty of milk

Jan 25. 9 A.M. Has been delirious all afternoon and
face a little flushed

Jan 26. 17 A.M. Has been sleeping better. Still
vomiting 3 times. Pulse 130, Rpp 35
irregular, while asleep. He required then awake the lab
being 15 per minute. Think 131 or more
Every hour. At 11 A.M. Has been vomiting 1 delirium
the greater part of the night but less. He feels better
now. Temp. 101° Pulse 134 Rpp 36

8 A.M. Very little cough but numerous swallow
rattles heard in a consulting the Right Tem. anterior.
Face seems more flushed. Has passed small t
urine in her

At 3 o'clock in the morning of 27th January
the pulse being weak and irregular 20 minutes of 9
Sweat on forehead other wise well and each dose of tincture
11 AM. Delirium & delirium. Pulse very
weak & compressible. The patient is at times
conscious & at times unconscious. Drunken look of mind. The
skin is moist, face slightly flushed. Heart 120
beats per minute.
8 PM. The temp. was 100.2° pulse 130 R.P.M. 40.
Has been delirious & occasionally delirious during
the day, but not uninventive or delirious.
Skin dry & free
of perspiration
28th Jan. At my previous visit (11 1/2 days) the
patient was apparently improved having 71 and a
good night. The skin was quite dry. The face
considerably less flushed. Pulse free from
25th Jan. The patient has been more or less as all
day.
The skin is moist & the respirations more
rapid. But no improvement.
9 PM. Temp. 101° pulse 130 R.P.M. 68.
Delirium & delirium. Has been more or less as all
day.
The skin is moist & the respirations are more
rapid. Planner 120 R.P.M. To be continued
29th Jan. 130 AM. Temp. 100.6° Pulse rate 76.
Unconscious at 120 when can ask, strange and
fuller
26th Jan. The patient is in delirium.
Unconscious. Feeling comfortable having
some and a family nurse writer but not free for delirium.
Temp. 100.4° pulse (68 & compressible) 130 R.P.M. 40.
Face slightly flushed. While taking a few doses
of milk.
"Priscilla: I'm going to make it rain."

"Oh, Priscilla, you can't make it rain."

"But I can!"

"No, you can't."

"Yes, I can."
Ropr 14th. No delirium or grandness. Tongue is moist and the breath feels quite Regular.

Evening (6 clock) Temp. 99.8° Ruke 12.6 (not so strong as in the morning) V Rop 25.

3rd February. 11 AM. Temp 98° Ruke 12.9. Rop 24

Ruke as rather strong but occasionally irregular. Took a wolf root to give a sudden - taking plenty brandy.

The depression was stopped the gdt emotion a doctor of Ammoniated in chin quinine every 4 hours.

15th has made strong progress but his now.

Today a soft earthy muskum in the initial area was detected. Ruke full rising.

18th Feb. The following mixture was ordered to day.

Rop 11st 3
13th 2
9th 3
Columbian 1

9 o 50 p a.m.

Sp. 36 for the e. q. annum.

The muskum density in the 24 hours.

21st 100. Preparing for many. Taking plenty

Regan's muskum state present


9th night. Chp. 4 a.m 1st day + 2 eggs

27th 10 a.m. Cardiac muskum less distinct

1st Mon. 9 a.m. very bad this day for the first time. Remained up for an hour. Fell very sick in his 1st
Mar. 5<sup>th</sup> have been out of bed for 2½ hours
Mar. 10<sup>th</sup> have been up for some days the while
Afternoon London Memorandum Disappearing
Mar. 12<sup>th</sup> Walker moved more steadily feeling
much better
Mar. 17<sup>th</sup> keep getting stronger every day
Mar. 21<sup>st</sup> Heart seems quite normal
Mar. 22<sup>nd</sup> Van de Graaff to-day from the
Hospital comes to the Convalescent Home at Carshalton

Remarks: The temperature highest recorded
in this case being 106.9°F (9 Thermometers were
kept in such rooms for comparative purposes) equal
amongst it are Redcell in the atines of over 108°F.

It has at my present visit that the temperature
has chased to have attained this height—though
during the preceding nights the patient has been
delirious—and preparatory to a bath with 10
immediate orders, the ice bags were applied to
the heart and no hope of his head. I am of
opinion that the prompt application was in
means of checking this rising temperature. The heavy
fashion of mortality 2 out of 100 occurring in the case
of hyperpyrexia is 88 other by the clinical Society
Committee was assented to them. The remedy
on being heart was made at for last a period.
Another noteworthy feature in this case was
1 Clinical Society Lancet 765 XV 1812
The long continued feverish (without apparent cause or reason of feverishness) & any recent injury (in my knowledge) the symptomatic attack occurring on the 12th day of the Rheumatic illness and the kamke alan remains considerably above normal late the 21st day. This was an episode of ice almost continuously applied to the arms, abdomen, and the administration of Talcine, Lumina, Anclistom, Amebopyrin and Kacrin oil in large quantities. In addition to the disturbance of the heart regulating Centre, the other centre appears to be implicated viz. the respiration, Cardiac & Respiratory, as evidenced by the long continuing flushed face, the quieter & slower pulse and the very much accelerated breathing.

Another point of interest was the fact of the patient being quite rational with a temperature of 106.3°F.

As regards the age of my three patients, they were all in the third decade of their life, and as to the season of the year, one of the cases occurred in early summer, the other two in mid-winter.
In discussing the subject of Rheumatism
Hyperpyrexia. It will be most convenient
To consider it under the following headings
viz:-

1. Hyperpyrexia: Temperature
2. The frequency of its occurrence in
   Acute Rheumatism
3. In whom it occurs
4. The predisposing causes
5. The Symptoms
6. The Treatment
7. The Mortality
8. The Pathological appearances
9. Caution of its Phenomena
10. Conclusion

1. What may a temperature be considered
   Hyperpyrexia?

The range of normal axillary temperature
in man is from 97.25°F (36.25°C) to 99.5°F
(37.5°C) and the mean normal is 98.6°F (37°C).

A temperature beyond 105°F (41°C) may
be looked upon as Hyperpyrexia. Though some are
of opinion that it is not so unless the temperature
rise above 107°F (41.7°C). While others consider that
Hyperpyrexia does not occur with a lower temperature
than 107.6°F (42°C).

Medical Thermometry by Dr. J.S. Hendrich. 2nd Ed. London 1871
Inclusive of the Lyman crew on Assiniboine,
Hove, Longene, & Hoyt Longene.
Frequency of Occurrence

That dys paraphrenia is a happily rare complication of Acute Rheumatism is certain, occurring almost once in several hundred cases. During my 15 years connection with St. Bartholomew's Hospital, I have had under my care, as also my colleagues numerous cases of Acute Rheumatism, this disease being one of common occurrence in this town (on account I presume of its low lying situation, want of shelter and proximity to the sea) but of all these cases only 6 had hyperpyrexia temperatures. In my 30 years private practice also, I have met with only one case of Rheumatism so complicated.

Dr. Fagge mentions that out of 953 cases of Acute Rheumatism occurring in Guy's Hospital between the years 1876-1878, the complication of hyperpyrexia occurred in only 2 patients.

Dr. J.B. Williams states, that in his years he met with a case of hyperpyrexia. During the 12 years he had charge of patients in University College Hospital, during which time 113 cases of Acute Rheumatism occurred. Dr. Thümpel states, that of a single case of hyperpyrexia, that occurred in one of the many hundreds patients suffering from Acute Rheumatism, treated at the Leper Hospital.

Further, out of 653 cases of Rheumatism, Dr. Fagge, tabulates.

1. Practice of Medicine, by Dr. E.H. Fagge, London 1886. J. 54.
by the Collective Investigation Committee of the British Medical Journal; only 47 cases were reported on complain of hyperpyreia. Dr. Church has collected 693 cases of acute rheumatism occurring in the practice of St. Bartholomew Hospital, one only of whom described hyperpyreia, while Dr. Warden, by the same Hospital, has recorded the particulars of 172 cases of Rheumatic Fever, occurring during a period of 18 months, wherein the occurrence of hyperpyrinia. Of 196 cases of acute infective Rheumatism occurring in Middlesex Hospital between the years 1876-1879, there were only 92 cases of hyperpyreia. Of the cases of acute rheumatism happening in St. Bartholomew's Hospital, collected by Dr. Warden, one had hyperpyreia. Finally, Dr. Smith has recently stated, that only in 2 cases of Rheumatic hyperpyreia has come under his notice for his last 7 or 8 years.

3. In whom does it occur?

Patients who are comparatively young and suffering from their first attack of Rheumatic Fever, are prone to attack of hyperpyreia. This is probably to be accounted for by the fact, that by far the greater number of
1 British Medical Journal Vol. 7. p. 324
2 St. Bartholomew's Hospital Reports Vol. 27. p. 288
3 Ibid. 1875. p. 2145
5 St. Bartholomew's Hospital Reports Vol. 27. p. 287
6 British Medical Journal Vol. 7. p. 324.
The following table gives the ages of the 34 cases of Rheumatic Polyarthritis collected by Mr. Chiefly from the British Journals of the last 10 years:

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Number of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 years to 20</td>
<td>6 cases</td>
</tr>
<tr>
<td>21 to 30</td>
<td>17</td>
</tr>
<tr>
<td>31 to 40</td>
<td>9</td>
</tr>
<tr>
<td>51 to 55</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>34</strong></td>
</tr>
</tbody>
</table>

It will be seen from the above that the greatest number of cases occurred in the third decade of life - when as we have said Rheumatism is most prevalent - the average age being 28 or deducting the 2 oldest cases an exceptional reduction the age to 26 years.
Cases of acute rheumatism, occur in the 2nd or 3rd decade of life, i.e. between 16 and 30 years of age.

1. Redecoping Causes

Prof. Linnæus of Berlin is of opinion, that this complication is from equally met with in

 rpmolands and those with better than constitution.

On the other hand, the Committee of the Clergy of London upon hypertensive disease, has no special determining influence in the

be found in these previous history or habit of

patients, and that other the interpenetration

by no means a marked feature. This myself

from his own experience confirms this view,

and adds that in case is absolutely remote

from the occurrence of hypertension.

Has the previous treatment of the patient anything to do with the occurrence of hypertensive disease? As has already been stated, this

complication occurs principally in mild cases, in young patients, and is very rare. If the treatment has in any way been for originating the

hypertension, then would it certainly occur more frequently than it does. Thus treatment does not influence as prevent the development

of high blood pressure, in as much as generally conceded, though some believe that hypertensive


3 Linnæus, vol. 1. 1852.
Pyrexia has become rarer since the introduction of the antisyphilitic treatment of Acanthosis, by means of the salicylate compounds, while otherwise the length of staying, that when Hypopyrexia does occur, its compound, referred to have not been given in sufficient quantity. Thus Dr. Fagg writes: "as yet I know of no instance, in which the temperature had in the usual manner been falling under salicylic acid and this suddenly, perceptibly, and beyond all ordinary limits. But if this remedy in any case fails to bring down the pyrexia, the physician should use. 2 I think, that it is being administered in insufficient quantity, or any intolerably doses. Sometimes, indeed, where smaller ones have failed." Strumpell supports Fagg another, an inting the complete immunity from attacks of Hypopyrexia in Syphic Hospital & The use of Salicylic Acid. An approach to this view is & made from an analysis of 2000 cases of acute Rheumatism and to the conclusion, that Hypopyrexia occurs as frequently among patients treated by Salicylates, as among those treated in general principles, and that the complication occurs when the Salicylate compounds have been given regularly and in full doses. As supporting this view it will be found of reference 1 Locan ei. p. 557.

In my 347 tabulated cases of Hyperpyrexia, then 217 of the patients had been previously treated by the salicyl compounds.

"Finally, Sir James" described the "griping" Hyperpyrexia to the Tincture of Ipecacuan, treatment then in vogue, while D. Wilson Fox maintained (what is now most generally believed) that Hyperpyrexia occurs independently of any form of treatment.

5 Symptoms.
The most prominent symptom in a case of Hyperpyrexia, is the great, usually sudden, rise of temperature. The patient generally suffers from peculiar restlessness, and complain greatly of thirst. The pulse is rapid and weak, becoming almost imperceptible, and the Respiration are much accelerated. The countenance has an anxious expression; the face is either pale or flushed, and frequently cyanotic. Delirium often precedes, accompanies, or follows the high temperature, the form, usually mild at first, becoming very marked in a maniacal form, the patient passing into a state of coma, which, if not speedily relieved, terminates soon in death. In some cases accompanying the high temperature, a

[Illegible]
Proper perspiration and copious urinary excretion present themselves, though at the temperature rises to an alarming height, the skin may frequently become hot, rough, and the touch. The joint pain also disappears in the majority of the cases.

The cerebral symptoms may however vary, the patient becoming drowsy and apparently falling asleep, become comatose and die, or again, suffer from convulsions and tonic spasms, merging into coma.

6. Treatment.

Numerous remedies have been proposed with the view of preventing and remedying the Hyperpyrexia met with in Rheumatic Fever. Plutonium was strongly recommended by Dr. Herbert Davies, and in doses of 1/12 grain by Dr. Russell Reynolds.

Kyneectomy has also its advocates, but as stated by Dr. India Fox, while it calmed the delirium, was valued in reducing the high temperature. The administration of Alcohol, Alkalies, Antipyretics such as Quinine and its salicylic compounds (or other hot, hiper aqueous enteric) when first introduced Antipyrin, Antifebrin, Kaurin, etc. while valuable as aconites, have all been found wanting.

1. Medical Times Gazette Vol. 1 1870
2. British Medical Journal Vol. 1 1875 p. 417
3. Lancet 10 Nov. 1870
But luckily we have in the external application of cold, a most powerful and reliable means of combating cases of high pyrexia.

Dr. Wilson was the first (as already stated previously) to claim for doing so to have become a frequent plan of treatment. By this means he successfully treated 2 patients with temperatures respectively of 110° F. and 107° F. Although previously he had not known of a single case occurring after attaining a temperature of 106° F. de fortune he refers to Dillwyn having known of a case occurring after reaching 106.5° F. He regarded this possibility as very exceptional.

Within recent times, it occurs from time to high temperatures under the treatment by cold are comparatively common. 1 Dr. Childs recording 9 cases, each with 110° or 110.4° F. (Lancet, 1870). 2 Case of 109° F. Martin (Lancet, 1870). 3 Case of 108.6° F. 4 Case of 108° F. 5 Case of 108.2° F. 6 Case of 108° F. 7 Case of 108° F. 8 Case of 107° F. 9 Case of 107° F. 10 Case of 107° F. 11 Case of 107° F. 12 Case of 107° F.

The prognosis in the case of patients with temperatures of 107.5° F. and under may be considered most favorable, provided this.

1 Lancet Vol. II 1870
2 Ibid. Vol. I 1870 / 1871
3 Ibid. Vol. I 1870
5 Lancet Vol. I 1877 / 1878
6 Ibid. Vol. I 1877 / 1878
7 Medical Times & Gazette Vol. I 1877.
Fever. Judging from his limited experience, though it safe to maintain a temperature of
107°F was reached, but now it is considered that a temperature of 105°F justified it was
the treatment by cold.

In connection with this matter, I may be
allotted to quote the concluding remarks as by
the Committee of the Clinical Society of London in
their Report on Hypothermia. They say, amongst
its various methods employed for the reduction
of temperature by the external application of
cold, this of the Bath is the one most generally
employed. Forty per cent of the number treated
of the cases were so treated, in some instances
as a last resort. Nearly the mortality was high viz.
22 deaths & 34 recoveries, the mean deathly among
11 deaths & 16 recoveries. The average maximum
temperature in their fatal cases, was in the non-
fatal either 107°F, and in the Fatal 108.2°F. Differences
exist in various cases, with reference to the most
suitable time for leaving recourse to the localities
and
the Committee emphasize the precautions laid
down by others. That indications for its employment
must be sought in the occurrence of the prostrated
symptoms, together with a high temperature. There is
1 The absence of Hypothermia by Dr. Scrope, London 1871
much to show, that the treatment not only reduces temperature, but also delirium, reduces the frequency and gives strength to the pulse, and induces sleep. The fact, however, that a certain number of cases are in which the temperature does not reach 106°F. In one case, if not treated by bathing, and then only one of the 22 fatal cases which had been treated, had a maximum temperature below 105°F. Points to the advisability of having temperature of the Bath, when the temperature reaches 105°F. There seems little doubt, that if this was systematically done, the mortality in Rheumatic Hypertension would be materially diminished.

The Bath should be used at a temperature of about 96° and gradually reduced by the addition of ice to make it 65° in 20 min. As the length of time the patient ought to remain in the Bath, must be regulated according to the effect in reducing the Hypertension, always bearing in mind that the patient's temperature continues to fall for some time after removal from the Bath.

The treatment by cold may be carried out in various other methods, than the use of the Bath, e.g., Affusion and straining the entire surface of the body, packing with ice, using sheets, and towels, pouring out cold water, ice, or enemas. The Affusion of Bath of ice to the head if drops of the head. Ice to the head is found very useful in the case of Edward in arresting or using delirium, already formed.
down by the Bath, and in the case of George G- has by its prompt application I believe, the means of preventing a temperature inclined to rise, from attaining a more dangerous level, than it fortunately did.

As showing the extreme utility of the Bath in & curing semi-delirium, one of its most remarkable cases, I know of, is the one mentioned by Dr. Fagge as occurring in one of his pupils.

He suffered from a severe attack of Rheumatism, in the course of which the temperature on 26 became rose to a point between 105° to 107° 3 or 4, being brought down each time by the use of the deep Bath, the patient ultimately making a good Recovery.

Then first introduced by Dr. Forster, the Bath has continued by some as a too rigorous plan of treatment, thus Dr. Williams writes, "he (i.e. Dr.) seems to have another a fatal result in some of these cases by which appears a very hazardous means — Cold Bath & Ice applications — but the struggle between life and death has fearfully long and doubtful; and one feels constrained to ask, can not the hypertrophic be met by gentler means? 4 God knows, if willing to hear, whether the Bath in the he alms of hypertrophic, either cool cold or graduated, prefiguring however the latter.

1 locus cit. p. 5248.
2 Medical Times & Gazette Vol. 7 1872.
3 British Medical Journal Vol. 17 Oct. 05.
He says, he has again and again, seen the use due to temperature and saved life, when laema, laeum, palhyate of laeum, and other feverishness, had failed to arrest a steadily rising temperature, already above 106.

As auxiliaries in the treatment of hyperpyrexia, antipyrinics are undoubtedly useful, though sometimes very disagreeable in their action. Thus in the case of dyes and the hyperpyrexia temperature was developed on the 7th day of the intestinal attack, and in spite of the continuous application of ice and the administration of large quantities of laeum, laeum, antipyrin, antipyrin, lanatum, and other remedies, did not reach normal level for twenty-four days, being the 26th day of the patient's illness.

Alcohol stimulants are frequently required, in many cases being indispensable.

Lauum in large doses, and laeum are recommended by Dr. Landa Brunton, as next in efficiency to the application of ice in hyperpyrexia, and Dr. Landa Brunton advises the supplementary use of the fornt-mentioned drug, either simultaneouly or by the mouth.

Very recently Dr. Barton has described a method of applying cold, not so formidable as the bath. This consists in pouring cold water from a height, or 4 the 1 Text Book of Pharmacology by Dr. Landa Brunton, London 1879.
2 Ziemsen, Cyclopaeedia.
patients, lying in bed on a waterproof sheet, is inclined and arranged, as to carry off the water into a vessel at the foot of the bed.

It remains to be said, that cases of hyperpyrexia occasionally get well, there no special treatment has been followed, as in the case reported by Sir Faraday, which under food and stimulants only, recovered from a temperature of 107.7.

7. Mortality.

Hyperpyrexia is one of the chief causes of death in acute rheumatism, nearly one-half the patients so attacked dying, but as it had been, in fortunate a very rare complication. Then death results, it generally does so in the second or third weeks of the Rheumatic attack.

Of the 67 cases collected by the Clinical Society Committee, 34 Recovered and 33 died, equal to a mortality of 49.2% cent, and of the 34 cases tabulated by myself, there were 13 deaths and 21 Recoveries. Of the Patients on these accounts treated by cold, 24 Recovered and 9 died, and of the non-treated, 4 in number, all died.

Before the introduction of the treatment by cold, the mortality was very higher. Thus in the 22 cases treated by hot water, there were 2 Recoveries and 19 deaths, the former having all 1 Precise Medical Journal 1st I. 1877.

2. Lucas (14th Appendix)
been subjected to treatment by cold, and 98.5°
the latter. This can only and be treated.

§ Post Mortem Appearances

Post-mortem examination does not throw any light on the subject of Rheumatic Hypertension. A constant pathological appearance is the fulness of the heart. Meningitis is seldom observed, nor are changes in the appearance of the lungs, the brain, or the blood, found. An increase of the blood, with its attendant tension of cerebral symptoms. These conditions in the second brain are frequently met with. There is generally congestion of the lungs and the organs, and a low density of rapid decomposition of the body, has usually been noted.

§ Cause of the Phenomena

Many theories have been advanced to account for the phenomena of Rheumatic Hypertension. The differences of opinion being almost endless due to the absence of pathological data on which to go.

The combustion theory has been favored by many observers; 6 Edward Long has, con-

ducous the hypertensive was due to the accompanying measures. 6 'Mann' also has in mind

1 Med-advances of ages. 7". 8, 1876.
2 ibid 1872.
to account for the high temperature. The tendency to Endocarditis and fibrinous deposits, existing in cases of Acute Rheumatism, these deposits originating perhaps in the pimall vessels of Marie. The first-mentioned theory (increased tissue metabolism) may explain the rise of temperature occurring in the specific action of the body itself, but appears to me insufficient to account for the high temperature, encountered in RheumaticHyperpyrexia. Heat stroke and the non-inflammatory lesions of the nervous system, my opinion being based on the fact that the hyperpyretic complication occurs chiefly in mild attacks of Rheumatism, and not as might have been expected has they have held good, in the more severe cases, in kind of course metabolic changes are made as close to my mind sufficiently obscure. Hyperpyresia to be merely an exaggerated pyrexia.

The second and third theories I have referred to, are untenable for the simple reasons (1) that there are many cases of Rheumatic Hyperpyrexia without accompanying Endocarditis, or any unusual cause, and (2) the permanent good following upon the treatment of Hyperpyrexia by cold which of itself would be powerless to clean plugged arteries.
I will now consider the theory which is very generally adopted at the present time, as the cause of Hyperpyrexia, viz. the Neurasthenic (though many Physicists are unwilling to recognize the important part the nervous system plays in its production) and see what evidence can be adduced in support of this, from the Pathologist, Physiologist, and Clinician.

Animal heat is generated chiefly in the Muscles (metabolism) and Glandular organs and principally dispelled by means of the Skin and Lungs. The Temperature of the Human body is stable at about 98.4°F (37°C) and thus, notwithstanding the difference, one may exist in the surrounding air and feel heat and cold. Thus the temperature of many inhabitants of the Arctic Pole is the same, or nearly so, as are living in the Arctic Regions. The functions of heat production and elimination are thus explained, but the question arises, by what means are they to regulate as to keep this uniform temperature?

That there is a System of Thermal Nerve freely distributed to the Skin and throughout the body is now generally believed by Physiologists. These nerves must probably have a system ancillary to have - a centre in the Brain. This is the so-called Thermo or
Heat Centre, its function being the regulation of heat production and dissipation. It is this disturbance of this part in various degrees that gives rise to the phenomena of high temperature witnessed in hyperpyrexia.

What first led to the belief that the nervous system played an important part in heat regulation, was Sir Benjamin Brodie's observation of a case of traumatic injury to the cervical spine, followed by a great increase of the body heat, the temperature reaching the height of 116°F. Following upon this, he and other experimenters artificially produced the same phenomena. Many observers have since corroborated the above. The most remarkable case yet recorded being that of a child in whose patient suffering from injury to the cervical cord a temperature of 112°F was registered, though this has since been alleged to be accounted for on the ground of being hysterical. Though, however, the temperature most frequently rises after such injuries, it has been referred to, yet it occasionally falls, as in all Wundrum's case in which the rectal temperature fell as low as 95°F.

1 Medical Chirurgical Transactions 1837
2 Clinical Society Transactions
3 Lancet Vol. 1 1876
These and other cases are fully referred to by Myres, 3 who makes the important observation, that no case has yet been published of excision covering of the temple alone after any injury below the first dorsal vertebra.

Bechterew 2 has probably the first experiments to show, that the brain decreased any influence over these functions.

L. H. Tisdall, 3 in the result of experiments on dogs and rabbits, concluded that in the cervical portion of the cord, a temperature inhibiting center is formed, the sensation of which causes a fall, and the paralyzing is a rise of temperature, and further, that this center was to be sought for in the ascending column of the cervical cord.

Quellenberg and Landau 4 discovered an area in the posterior column of the dog, close to the lateral root of the Bellonian plexus. The stimulation of which produced an undoubted effect on the temperature, and destruction of which caused increase of temperature of the opposite extremities. These results were confirmed by Nietzsche, Recheres from 5 others.

1 Holms System Jinderg 3d Ed. 1st p. 652
2 Recheres Arch 1868
3 Centralblatt für die Medischen Wissenschafte Berlin A. 1889 p. 26
4 Human Physiology by J. A. London 3d Ed. London 1888 7th p. 991
5 Ibid 1888
There is a Cerebral Nucleus centre, which induces the combustion processes in the body by means of fibres descending through the pons, medulla and spinal cord, so that the destruction of this centre or its controlling paths increases the production of heat.

Food, in an elaborate series of experiments, on dogs and rabbits confirm these observations. He found that section of the Medulla at its junction with the pons, was followed by increased heat production, and increased heat distribution. The latter was usually keeping pace with the increased production, the consequence being an increase of the body temperature. Further he stated, that the only way to prove if any capable of influencing the heat production, without affecting the general circulation, is situated in the form of a central

...while it may be a murmur or was monitored centre, if it were probably an 'inhibitory heat center.' Of whatever nature it may be, it must act through inordinate centers situated in the spinal cord, and these in some cases of sudden and excessive fever, occur from of this so-called Cerebral Pyremia, the Enormous, almost instantaneous, rise of temperature, apparently due to a complete paralysis of the nervous center, preceding one.
Heat production and dissemination.

The most important contribution of recent years, in support of the theory of a heat-regulating centre, have been furnished by Tachis and Aronskon. Their experiments consisted of punctures made with a fine needle in the brain of Rabbits, at a point in the grey matter, somewhat to the side of the junction of the coronal and sagittal sutures.

In the first Animal experiments upon, of the first indication, the puncture gave rise to fever symptoms. At the end of 2 hours the Rectal temperature had risen between 2° C. and 3° C. and the temperature of other parts of the body of the Rabbit, had equally and simultaneously increased. The Respiration and Pulse were accelerated. During the second day after the puncture, the temperature remained practically the same and did not reach normal level until on the third day. The Animal's health was disturbed in no other way, its appetite and spirits being extremely good.

The puncture may sometimes run away, and either be quite without, or may give rise to highly unpleasant complications. This shows how very circumscribed the centre must be.
Concerning the question whether this is the only spot in the Brain puncture of which causes immediate use of temperature, they consider it proved beyond all doubt. Punctures were made at every 1/20, the few mechanisms were attacked through the orbit, causing disturbance of the motor function, inflammation of the Brain, and sometimes death, but with any immediate disturbance of temperature.

The second question is whether the lesion of the Cerebrum or that of the deeper lying parts of the Brain is the cause of the rise of temperature. They answer this by saying that the centre does not exist in the Cerebrum, because whether in men, animals, or any other of them, any effect on the temperature.

The third is an established that a Thermoregulatory mechanism does exist and the importance of such a mechanism in explaining not only the maintenance of the normal temperature, but its abnormal variation in disease, cannot hardly be exaggerated.

The inhibitory heat centre is probably situated above the Medulla. Experiments seem to suggest that under normal conditions it exercises the inhibition of cold is conveyed to it. Physiology by D. J. Todd. London 1858, p. 468.
and from it, by different nerves, impulses pass to the muscles, whereby an increased metabolism is produced and an increased amount of heat generated.

It is highly probable that within the body there exist mechanisms that determine the molecular transformation upon which the evolution of heat depends. This is accomplished chiefly in a reflex manner. The peripheral ends of cutaneous nerves (by thermal stimulation) may be irritated, whereby impressions are conveyed to the brain centre, which sends out impulses through different fibres to the regions of essential energy, either to increase or diminish the greatest transformation occurring in them.

Having considered thus fully the pathological, physiological evidence and opinions of competent observers, as to the probable existence of a thermal centre, we will now see what clinical support is forthcoming in support of the theory.

In an extensive range on the subject of the existence of a heat centre in the brain, it is held that numerous cases, bearing on the point and going to prove the

2. London Physiologist. p. 468
3. Guy's Hospital Reports 1844. 1. 49
Some cases include instances of the Central God from Vandel, having thrown into the latter, argument to the serious harm to all being attended with nervous non-inflammatory phenomena. Do think adopt the theory they have in a caloric nerve centre on the surface of the brain in the region of its middle thalarn node that is key in the neighborhood of the fontanelle of Rolandic, and suppose further that a centre exists on each side of the brain. These centres are perfectly increasing or remaining influence on the temperature of the body and thus from these fibres go to the thermographic tissue of the body, passing from the central ganglia down the inner capsule, through the fibres, decussating somewhere below this, and going by means of the dorsal and spinal nerves. The presence of an ocean in the case referred to, is explained by the existence of other centres being in situate and to be almost impossible for them, rendering or destroying the heat fibres in their course from the

Central Nucleus. (The thermographic tissue Rumin

1st hierarchy) can only be satisfactorily explained by the theory of a heat centre and in hypothetical figures in the patient most likely suffer from a broad caloric centre, just as in thyroidism from thyroplasia, the patient may be expected that arm in a prevented motor area.
In explaining the fall of temperature which sometimes takes place after injury to the brain, it is necessary to bear in mind the existence of a base motor centre, situated in the lower portion of the floor of the 4th ventricle near the point of the caudal fornix that centre fibres run down the cord to all the muscles of the body and it is by consequence culture of destruction consequent long after injury a destruction of these fibres that the fall of temperature is probably due.

Ratbaron states that if a patient suffering from Apathy of the pneum. lives long enough, the temperature of both sides of the body standing erect, and may reach 10° or 110°, and Grosz adds that hypothermia is not uncommon in cases of acute brain of the pneum.

These high temperatures are to my mind due to a factory referred to the injury caused to the heat center passing through its fibers

According to Dr. R. Ramathal and more recently by L. Hueser, there is at least very strong to the heat center theory.

He maintains that these centers somewhere in the brain, a center controlling the production of heat, and that lesions affecting them may cause the temperature to rise. Admitting

1 Wittmam, Otojann, Pneumathes, confirmed by Groez
2 Donalles, General or J. Charles Ratbaron
3 Diseases of Nervous System by J. Pomeroy, Vol. 11, London 1886, p. 228
4 Rheumatism, its nature, Pathology by S. T. D. H. open London 1875
5 "System of Aphorisms," London 1871. 1887
The existence of a thermoregulatory center, we have difficulty in certain maladies of infancy in attributing the increased body heat to interference with that function. The lesions above the cuneus are encountered. The sequence of events seems to explain the other explanation. Carrying on that line of argument, we cannot fail to note only that the rise of temperature thus induced must be directly, as its extent to which heat in the skin is impaired, but these for analysis of the thermoregulatory center, by abolishing inhibition and leaving heat production uncontrolled, producing the field, must lead to hyperpyrexia. And the more we consider the pathogenesis of febrile heat, the more apparent does it become, that impairment of inhibition is a much more likely cause of hyperpyrexia, than is direct stimulation of heat production. Heat in inhibition, being unimpaired, tissue metabolism does not necessarily cause tissue very high temperatures. The characteristic of cases of hyperpyrexia. Heat inhibition being paralyzed, there is no difficulty in seeing that the temperature cannot fail to rise, and go on rising, so long as tissue metabolism and heat production continue. All cases of hyperpyrexia are therefore, either as being produced by local destruction or some cause that is causing a paralyzing influence on the thermoregulatory center.
I think in my previous opinion as to the role of the Hypothalamus and its influence on the Thermoregulatory Centre, and believe, Hypothyroidism results from the loss of this controlling influence of this centre over the production.

The Thermoregulatory System consists of three parts, viz. the Thermogenic or adjusting, Thermogenic or producing, and Thermolytic or degrading mechanism, all of which are combined, giving rise to

D'Aguesseau's Rule, or the Effect, viz.

That Hypothyroidism is due to an overactivity of the heat-regulating centre, and that the central symptoms result from this action of the heated blood on the brain. To this latter view I have not been able to ascribe, as there is no periodic increase of the blood temperature.

The theory of hyperpyrexia or that Hypothyroidism arises from the attack on the human system by the Rhenenian virus.

Conclusion. The opinion of many other observers must have been adduced in

1. 'On hyperpyrexia' by D. Seckling London 1887
2. 'Respirations' by L. and N. London 1887
3. London med. J., 1887
4. London med. J., 1887
Appendix
Name: Margaret R.  
Occupation: Domestic Servant  
Residence: Leith  
Age: 24  
Sex: Female  
Disease: Acute Rheumatism  
Termination: Death  
Causes of Death: Hypersomnia
Name: Edward G.  
Occupation: Labourer  
Residence: Leith  
Age: 26  
Single  
Disease: Acute Rhumatism  
Temperature: Recovery
Hourly Chart

1888 January 7th

<table>
<thead>
<tr>
<th>Date</th>
<th>Temp</th>
<th>Pulse</th>
<th>Resp</th>
</tr>
</thead>
<tbody>
<tr>
<td>3rd</td>
<td>104°</td>
<td>116</td>
<td>22</td>
</tr>
<tr>
<td>4th</td>
<td>103°</td>
<td>114</td>
<td>22</td>
</tr>
<tr>
<td>5th</td>
<td>102°</td>
<td>112</td>
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<td>22</td>
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<td>7th</td>
<td>100°</td>
<td>108</td>
<td>22</td>
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<td>8th</td>
<td>99°</td>
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</tr>
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</tr>
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<td>16th</td>
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</tr>
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<td>90°</td>
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<td>22</td>
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<td>18th</td>
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<td>88°</td>
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</tr>
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<td>87°</td>
<td>82</td>
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<td>21st</td>
<td>86°</td>
<td>80</td>
<td>22</td>
</tr>
<tr>
<td>22nd</td>
<td>85°</td>
<td>78</td>
<td>22</td>
</tr>
<tr>
<td>23rd</td>
<td>84°</td>
<td>76</td>
<td>22</td>
</tr>
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<td>24th</td>
<td>83°</td>
<td>74</td>
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</tr>
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<td>25th</td>
<td>82°</td>
<td>72</td>
<td>22</td>
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<td>26th</td>
<td>81°</td>
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<td>27th</td>
<td>80°</td>
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</tr>
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<td>28th</td>
<td>79°</td>
<td>66</td>
<td>22</td>
</tr>
<tr>
<td>29th</td>
<td>78°</td>
<td>64</td>
<td>22</td>
</tr>
<tr>
<td>30th</td>
<td>77°</td>
<td>62</td>
<td>22</td>
</tr>
<tr>
<td>31st</td>
<td>76°</td>
<td>60</td>
<td>22</td>
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</tbody>
</table>

Name: George G
Occupation: Clerk
Residence: Leith
Age: 27

Disease: Acute Rheumatism
Termination: Recovery
In疾患: Rheumatism

27 March 1888
<table>
<thead>
<tr>
<th>No</th>
<th>Name</th>
<th>Age</th>
<th>Sex</th>
<th>First</th>
<th>Date</th>
<th>Duration</th>
<th>Fever</th>
<th>General Symptoms</th>
<th>Notes</th>
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<tbody>
<tr>
<td>1</td>
<td>D. H.</td>
<td>35</td>
<td>M</td>
<td>12-day</td>
<td>1872</td>
<td>10 days</td>
<td>Recov.</td>
<td>Fever, delirium</td>
<td>1872</td>
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<tr>
<td>2</td>
<td>B. H.</td>
<td>18</td>
<td>M</td>
<td>5-day</td>
<td>1875</td>
<td>13 days</td>
<td>Recov.</td>
<td>Very delirium</td>
<td>1875</td>
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<tr>
<td>3</td>
<td>J. A.</td>
<td>17</td>
<td>M</td>
<td>6-day</td>
<td>1876</td>
<td>5 days</td>
<td>Recov.</td>
<td>Restless, thin</td>
<td>1876</td>
</tr>
<tr>
<td>4</td>
<td>J. T.</td>
<td>35</td>
<td>M</td>
<td>25-day</td>
<td>1877</td>
<td>13 hours</td>
<td>109°F</td>
<td>Unconsciousness</td>
<td>1877</td>
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<tr>
<td>5</td>
<td>J. W.</td>
<td>35</td>
<td>M</td>
<td>19-day</td>
<td>1878</td>
<td>11 hours</td>
<td>106°F</td>
<td>Unconsciousness</td>
<td>1878</td>
</tr>
<tr>
<td>6</td>
<td>J. B.</td>
<td>19</td>
<td>M</td>
<td>16-day</td>
<td>1879</td>
<td>11 hours</td>
<td>106°F</td>
<td>Unconsciousness</td>
<td>1879</td>
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<tr>
<td>7</td>
<td>H. W.</td>
<td>15</td>
<td>M</td>
<td>10-day</td>
<td>1880</td>
<td>6 days</td>
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<td>Unconsciousness</td>
<td>1880</td>
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<td>8</td>
<td>J. L.</td>
<td>38</td>
<td>M</td>
<td>10-day</td>
<td>1881</td>
<td>12 days</td>
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<td>Unconsciousness</td>
<td>1881</td>
</tr>
<tr>
<td>9</td>
<td>J. M.</td>
<td>18</td>
<td>M</td>
<td>5-day</td>
<td>1882</td>
<td>5 hours</td>
<td>108°F</td>
<td>Unconsciousness</td>
<td>1882</td>
</tr>
</tbody>
</table>

General Symptoms of Attack:
- Delirium, fever, unconsciousness, breathing difficulties.
Post Mortem Observations

Remarks & Treatments

Baths (2) and Affirmative

Sweat in 30% doses 3rd daily

Applying towel over the 90% of cold water

Intramural Racket of Potash & Morphia

Bath (46 minutes) ended

Dotted Affirmative

Bath (4)

Bread of Potash, Acetate & Opium

104.7°

Bread of Potash, Acetic & Opium

109.7°

No Bath on account of haloes suffusing

Blood fluids from Racket

Bread of Potash & Opium

109°

Bread of Potash & Opium

110.6°

No Bath

105.6°

Iced Bath (6 times) + Ice Pack (4 times)

Blood fluids

Iced bath, and

Bread & Malt of Potash

116°

Bread (unrecorded)

107°

Bread of Potash & Opium

Iced bath, & Malt of Potash

Iced bath & Malt of Potash
<table>
<thead>
<tr>
<th>No.</th>
<th>Reference</th>
<th>Age</th>
<th>Sex</th>
<th>Duration before symptoms</th>
<th>Duration after symptoms</th>
<th>Temperature</th>
<th>Pulse</th>
<th>General Symptoms</th>
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</thead>
<tbody>
<tr>
<td>11</td>
<td>Albert 115</td>
<td>25</td>
<td>M</td>
<td>?</td>
<td>Mild</td>
<td>Recovery</td>
<td></td>
<td>Face flushed, delirium, sweating, alternating every few minutes, becoming completely unconscious. slept, pulse very rapid.</td>
</tr>
<tr>
<td>12</td>
<td>M. Paul 25</td>
<td>45</td>
<td>M</td>
<td>?</td>
<td>Mild</td>
<td>Recovery</td>
<td></td>
<td></td>
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<tr>
<td>14</td>
<td>B. P. 28</td>
<td>72</td>
<td>M</td>
<td></td>
<td></td>
<td>Death</td>
<td>104 °F</td>
<td>104 °F</td>
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<tr>
<td>15</td>
<td>J. B. 52</td>
<td>74</td>
<td>M</td>
<td></td>
<td></td>
<td>Death</td>
<td>98 °F</td>
<td>102 °F</td>
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<tr>
<td>16</td>
<td>D. Russell 24</td>
<td>79</td>
<td>M</td>
<td>5 days</td>
<td>Delirium</td>
<td>Death</td>
<td>112 °F</td>
<td>112 °F</td>
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<tr>
<td>17</td>
<td>D. Carter 70</td>
<td>33</td>
<td>M</td>
<td>7 days</td>
<td>Mild</td>
<td>Recovery</td>
<td></td>
<td>Delirium, fever, very high temperatures, alternating with vomiting, delirium heightened, becoming deeply comatose.</td>
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<tr>
<td>18</td>
<td>D. Reed 24</td>
<td>67</td>
<td>M</td>
<td>4 days</td>
<td>Faint fever</td>
<td>Recovery</td>
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<td>Restless, delirious face, vague cough, rapid respiration, fever, alternating vomiting.</td>
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<td>19</td>
<td>J. J. 37</td>
<td>37</td>
<td>M</td>
<td>13 days</td>
<td>Delirium</td>
<td>Recovery</td>
<td></td>
<td>Partial unconsciousness, shivering, face and limbs flushed, rapid respiration.</td>
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<tr>
<td>Time</td>
<td>Description</td>
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<tr>
<td>109°</td>
<td>Bath: Yalan and Dumais</td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>109°</td>
<td>Ice packing of heart and chest</td>
<td></td>
<td></td>
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<tr>
<td>111°</td>
<td>Ice packing of heart and chest</td>
<td></td>
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<tr>
<td>109°</td>
<td>Cold pack and rubbing with ice</td>
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<tr>
<td>107°</td>
<td>Bath at temp. of 90° for one hour with ice</td>
<td></td>
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<tr>
<td>105°</td>
<td>Application of ice to the abdomen and thighs</td>
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<td></td>
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<tr>
<td>169°</td>
<td>Lethargy and coma</td>
<td></td>
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<tr>
<td>111°</td>
<td>Ice pack</td>
<td></td>
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<tr>
<td>169°</td>
<td>Yalan and Dumais</td>
<td></td>
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<tr>
<td>111°</td>
<td>Yalan and Dumais</td>
<td></td>
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<tr>
<td>107°</td>
<td>Remarks &amp; observations</td>
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Remarks & observations:
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<td>Incubation Length</td>
<td>Body Appearance</td>
<td>Remarks &amp; Treatment</td>
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</tr>
<tr>
<td>1 hour</td>
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<td>Cold Bath, Ice bag &amp; Ice</td>
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<td>Saline (1210 gms) Salicylate of Sodium</td>
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<tr>
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<td>? ?</td>
<td>Cold Pack, Gumm &amp; Salicylate of Sodium 107.4°</td>
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<td>? ?</td>
<td>Which indicated severe Discomfort, but rapid failure in 10 hours 107.4°</td>
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<td>? ?</td>
<td>Brain Anatomic Heart, Cold Bath (2) Salicylate of Sodium 170.4°</td>
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<td>? ?</td>
<td>Tissue on section presented Antigenic Gumm. Elke hypophrenically among Alimentary Path of Intestinal Habit</td>
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<td>? ?</td>
<td>Ice Pack. Tissues removed from body, the temperature falling 10.5° in 40 minutes Salicylate of Sodium &amp; Gumm 108°</td>
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<td></td>
<td>? ?</td>
<td>Bath (3) Ice bag &amp; Ice of neck 107.4°</td>
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<td>Saline (1250 gms) Salicylate of Sodium (100 gms)</td>
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<td>? ?</td>
<td>Cold packing, Ice packing Graduated Bath 109°</td>
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<td>? ?</td>
<td>Bath (4) Poussier ice bath a hand 109.8°</td>
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<td>? ?</td>
<td>Antigenic by mouth &amp; nose injection Salicylate of Sodium &amp; Saline</td>
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<td></td>
<td>? ?</td>
<td>Ice then Ice of back 108.6°</td>
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<td>? ?</td>
<td>Gumm, Salicylate of Sodium, Powder 108.6°</td>
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<td>Date</td>
<td>Age</td>
<td>Sex</td>
<td>Condition</td>
<td>Symptoms</td>
<td>Duration</td>
<td>Action</td>
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</tr>
<tr>
<td>29</td>
<td>32</td>
<td>M</td>
<td>25 days</td>
<td>Severe</td>
<td>Recovery</td>
<td>Violent delirium. Restless uncommon with hiccups.</td>
<td></td>
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<tr>
<td>30</td>
<td>27</td>
<td>F</td>
<td>17 days</td>
<td>Improved</td>
<td>Recovery</td>
<td>Very delirious.</td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>26</td>
<td>M</td>
<td>10 days</td>
<td>Recovery</td>
<td></td>
<td>Violent delirium.</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>84</td>
<td>F</td>
<td>11 days</td>
<td>Recovery</td>
<td></td>
<td>Violent delirium. Body rigid uncommon uncommon. Writing.</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>78</td>
<td>M</td>
<td>7 days</td>
<td>Recovery</td>
<td></td>
<td>Violent delirium. Continual hiccups. Breathings. Note taken every 4 hours. Slight delirious confusion. Questions could be answered. Patient thought Governor had been delirious. Throughout the preceding night they remained frequent &amp; delirious.</td>
<td></td>
</tr>
</tbody>
</table>
Ice Pack (2)

Per candida & dyspepsia present
Rhabdomyolysis (Hepatorenal)

Iced Cold Bath (2)

Iodine (10
doses) + Antipyrine: Iodine (3 doses)

No fever or skin changes

Iced Cold Packs

Temperature fell from 110.4° to 110.3°

& 104° in one hour. First few doses 25 when 100 doses
were used. Then fell to normal in 10 days. Iodine & Antipyrine of
Yielding. No complications were present.

Freely void. Tachypnea & dyspepsia present

Head & neck. Appears tense.

Kidneys congested.

Iodine (10

doses) + Antipyrine: Iodine. (3 doses)

Ice: Cold packs

Saline & Iodine. (Dullness & Other high demoralize)

The slightest motion of the patient at any stage of light
 jedicamentos. Cerebral tension + rapid Nerve. The patient
 absent.

Cold Bath. Ice cap & head. Patient in warm, 108°

Iodine (10 doses). Tachy, Dicin.

Ice bags to thighs, head, mouth to molar. 106.8°

Tachy, Antipyrine Iodine Antipyrine Laxin.

Dry stool, Stomach

Dyspepsia, Thirsty

Maxima

Temperature

108.4°

110.4°

109.2°

106.8°
Case I (Case No. 1 of Memo)

Lymph Seroma, following removal of elephantiasis of scrotum.

O., aged 35. Five years ago he was attacked with fever and inflammation of the scrotum, and ever since then the latter has gradually enlarged.

He was operated upon & a tumour weighing 10 lbs was removed.

Seven years after the operation he returned to hospital.

He states that for five years after the operation he remained quite well. He was then attacked by fever which has recurred about a dozen times.

Each attack has been accompanied by swelling of the scrotum & a feeling of painful constriction.

There has also been occasionally a discharge of milky fluid.

The state of the genitals prior to the operation was concerned, was satisfactory & nearly free from elephantiasic thickening. At the most dependent part of the right flap there is a large, an inch in diameter, a half in diameter of tightly elephantiasic tissue. The existing tissues are normal.

Upon the back of the scrotum are countless minute vesicles, milky white, the larger than pin's head. Opening one of these, a quantity of milky fluid was obtained. The vesicles & several glands of the left side are large & solid.

Those of the right side are nearly normal.
Case II (No XVIII of Memoir)
Elephantiasis of leg following removal of lymph node.
O, age 19. At 15 years of age had an abscess in left groin & another in right ankle, at the same time the right leg began to swell. The swelling subsided in a month's time. At 16 or 17 years of age began to suffer from frequent attacks of fever & relapsing inflammation of right side of chest, & enlargement of glands on both sides. A year ago the chest began to discharge & attacks of lymphangitis have constantly recurred & boil or from inflammation of the chest.
The chest is the size of an ordinary funnel, skin of penis elephantised; skin on both groins, lower 2 inches of abdominal wall, & scapular triangle palpably thickened. The upper thigh surfaces of the chest covered by fine, silky skin freely movable over the thickened subcutaneous; a little low down the skin is thickened & firm, & in elephantiasis; base still small umbilicus are visible, some 2 inches of bowel.
Pricking there cannot leak fluid.
Gum glands large but not troublesome. Drainage of a gland on right side yielded lymph containing filariae. Blood from veins contained filariae.
The chest was removed; the wound healed.
Patient, and the swelling of the glands diminished.

He remained quiet here for five months after the operation. Two weeks then attached itself near the right groin, with occasional discharge of straw-coloured fluid from the operation cavity. From the thickened skin over the right groin and thigh. The right leg inflated and swelled to a great size, friable and inflamed, occurred.

The skin of the flaps and the cavitary crease was tough, hard, and infiltrated, as in the phantasm of men standing; the vein over the abdomen groin was coarse and considerably thickened; while the swelling of the thigh and leg is best described as damped, the flaccid lymph being not as yet a solid tissue. The blood contained many filariae. We says that he had a large swelling at one time on the upper and inner surface of the left arm, which threatened to suppurate, but disappeared spontaneously. This was probably caused by some obstruction of the lymphatics brought about by filariae from the persistence of the stubs in the blood. After the infection was removed, from the large number of them, it is probable that there are several.
In both the above cases, it is evident that plaits of teeth were retained by the operator & over the cheeks, had this not been done there could have been no recurrence of dental disease.
Case III (Case XII of Manson)

Elephantiasis of the leg & lymph-adenitis combined

T., aged 28. At 13 years of age had rigor, fever, & inflammation of left leg & both groin-glands; recurrent
and attacks recurred at irregular intervals; With
each attack, size of leg increased; left thigh
similarly affected at same time; occasionally the buttocks
swelled, perhaps daily, perhaps once in
3 or 4 days. General health good.

Left foot & leg in a state of advanced elephantiasis.

Glandulars in left side much enlarged, 7th
varicose & prominent; those in left side
similarly affected, but to a less degree.

The serostain is an excellent specimen of
lymph-adenitis. A needle opened at inner
point emit a stream of bloody lymph.

Aspiration of left groin-gland yielded bloody lymph
with active filariae abondant. Blood from
fringe contained filariae.

Case IV (Case XVIII of Manson)

Elephantiasis of leg & lymph-adenitis combined

B., aged 28. At 20 years of age attacked with
two mild, partial attacks on inner surface
of left thigh followed by rigor & fever.
Similar attacks followed at irregular in-
tervals, the swelling becoming more marked.
A year ago, the serostain became inflamed.
and since then been inflamed 7 or 8 times.

The integuments of the left thigh are thickened, tense, and posterior surfaces are distinctly elephantised from the knee to a point above the third up the thigh, and the skin here is thicker than that corresponding part of the other thigh. The veins in course, somewhat especially along the column of the affected patch, be punched up in a few folds, but feel hardening, as if anatomically continuous with the subcutaneous cell tissue. Then one of his usual attacks of fever set in, this patch of skin became red and distinctly swollen — the groin — glands on both sides, with original of fever a very much swollen and distinctly varicose. The section is a good specimen of lymph — section. A portion of right groin — gland yielded milky lymph containing filariiae — Rho-7 mm from the finger examined, but no filariiae found.

**Case V. (Case XXI of Manus)**

Elephantiasis of the leg with Chyluria.

T., age 19. At 4 years of age attacked by eczema, fever, and swelling of skin in right popliteal space — an abscess formed at base of knee, but ever since a clear, yellow...
yellow lymphous fluid has distiller from the
pain over the side of the abdomen & from the
back of the calf of the leg... has had many
attacks of fever since this first... common
published by pain, but in particular swelling
do swelling of leg or groin... glands
general health good... glands in both groin
(largen in as well a femoral) enlarged &
taneous... there in the right side... the
side affected with elephantiasis... are
not as prominent as those on the left &
are more dense & firm to the touch
the right leg is enlarged from upper
third of thighs downwards; thin in
characteristic of elephantiasis... from the
thigh to the lower third of leg, the whole of
the calf, & part of the tibia. Most of
the leg are covered with a sort of
weeping leucorrhoea... the skin than
affected is defined at its margins &
slightly elevated, red, dry on the surface
finely papillated... the breast of wer
foam can be detached, but in pressing
firmly with the point of the tongue a
clear, yellow lymph is made to well up
from the surrounding tissue, as if
from a sponge... there are two small
creations in the papillated region about
the legs of prepair; eggs, rough & elongated.
in the surface, body, defined as the base + yielding smooth discharge. These elevations represent the bear of the oedema. Unlike ordinary elephantiasis, the calf of the leg is the bear; the oedemate part; and it is just this part that the discharge comes from so efficiently.

Suspension of glands of legs from yields dark red fluid containing action filaria. No filaria can be found in blood from the fringes.

The patient was hospitalized, but returned two years afterwards with the leg and glands in much the same condition; chyluria however had appeared. The urine was loaded with albuminuria containing lymph. Filarias again found in lymph extracted from groin glands but not in blood from the fringe.

Case VI (Case XV of Manson)

Lymph, secretion passing into elephantiasis.

T., aged 49. At the age of 18 or 19 had rigors and fever, bleeding from the nose & general dyspnea. Dyspnea lasted a month & then disappeared from every source except the secretion which remained red & thickened. Since that time he has had many attacks of fever & discharge from
the serostum - appears to have had an attack of chyluria.

The serostum is very large for an ordinary lymphatic serostum, it is greater than a large pumelo 4 is dense. inguinal and femoral glands on both sides large & varicos.

A small brown in penis discharge, esp. a milky, not coagulable fluid.

A lymph from serostum as well as blood from fore arm contained albumin.

Case vii. (Case xvi of Manson)

Lymph - serostum passing into elephantiasis.

T, aged 48. About 10 years ago attack with fever & inflammation of serostum, which was relieved by discharge from the latter.

Since that time many attacks at irregular intervals. discharge is now independent of attacks of inflammation & occurs frequently.

The serostum is a large on his head, and in a stage of genuine elephantiasis, & the penis is quite embedded. In fact, but for these or four large vesicles the size of a cow's thymus, & muscle in being packed, discharge a large venous lymph, it is an ordinary example of elephantiasis.

Gum - gland slightly enlarged but little varicos.
the cause of reddish sangvinolent lymph.

Distilled glutation from a bottle, in about a quarter of an hour. In the surface of the section are several small tumours resembling in size & shape the bile-ducts, only differing from them in being solid; evidently at one time they had been bile-ducts, but had solidified; others again from semi-fluid state, apparently in a transition state.

Dental lymph contained many bile-ducts.

Blood from shrunken contained bile-ducts.

Case VIII (Case XIV of Manxman)

Tubercles were seen in lymph from small glands.

H, age 38. Enlarged Section for 3 or 4 years. After 6 or 7 attacks, of fever & influenza of the section, in the year. Last year there was discharge from section, but none since then.

Section has the appearance of one affected with elephantiasis but differs from usual cases in both globular enlargement & some varices. Aspiration of glands living yielded lymph containing bile-ducts.

Two embryos, none in blood.
Case IX (Case XXII of Manum)

Parent pelvis found in digital lymphatics

P., aged 46. Ten or five years ago had pain in leg, virus after much walking, but there or seldom associated with fever. As pne than now. Feeling of & pain in groin-lymphatics; but in the burning of vesicle which has progressed in the breast, & discharge of brown fluid, thick turbid, serous discharge has gradually become more frequent & during last three months nearly constant.

Organic nivoral glands on both sides enlarged especially in region sides. Slight sensitivity. Bulk of breast only slightly increased & covered with innumerable small boils. Owing from ruptured vesicle discharges constantly. Secretion slightly whitish, elephantiasis of legs. Lymph from breast clear & watery. Tissue plasmin - no plasmin found in blood. Has periodically in appearance of fibrosis in lymph.

In this case I believe the obstruction in the lymphatic circulation is very low down probably not higher than the inguinal nivoral glands, & that it is complete. Because, I had the lymph regurgitated after passing through glands it would persist...
probably be much, or very unprofitable, it much
matter no expense, than it is; 2°, it is
also swelling, as it is near the sinuses
of the lymphatics; 3°, there is an
absence of marked turgescence of the
lymphatic glands; 4°, there is not
the obstruction higher up the lymph
circulation than lower glands could be
obvied by accumulating lymph;
5°, fluid is in the lymph, but not in
the blood—proving that the obstruction
to complete. I think it probably
considering the facts, that the
parent worm is between the surface
of the rectum and the four lymphatic
glands, and that we will find it there.

Oct. 15th. No. rectum removed. After
operation, a cut surface of rectum,
was seen drizzling "my own unity a
long slender worm, of a cat's-egg-like
ovarian look, the thickness of a
medium-sized horse-hair—one end
of the worm was free, the other exten-
sed the end of the lymphatic sew.

Pendling & that from which I expres-
sed the lymph on the right side, almost
two inches of the worm was free. I tried
to come out the rect with my finger
but
but failed. The wound appeared to be working back again into the lozenges.  

Searing it would succeed in this, I said it on the handle of the scalpel.  

When it had partly dried, adhered, I made a needle traction; but the wound recurring in the scapula, I procured only about two inches of the free extremity, with long piece of uterine tube, a diverticulum enoral hanging from the transverse fracture of the integument.

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Case 8  (Case X. 11. Memory)  

Fragment of mature bone found in abcess during operation obtained from glands.

A middle-aged man, well nourished man came to hospital with a swelling in upper part of thigh. The corresponding femoral glands enlarged and softened; they had long been tender. He had had fever. Three days afterwards the abcess in upper part of right thigh was opened and dark yellow-brown pus let out. By drawing a needle cavity through the pus, three or four piles, dark proved to be fragments of a mature female pelvis, were found.
Blood from the fungi contains filariae. Lymph extracted from enlarged femoral glands is salmon-colored and contains living filariae. This man remained under observation for about two months after the death of the present, yet the blood continued to contain embryos.

It is fair to infer from this, either that there were other minute formal worms alive in his lymphatics; or, if the dead one removed from the abscess was the only one, that the young filariae keep alive for several months both in lymph and blood.

Case XI (Case XXIV of Manson)
One of the parasites found in lymph
0, aged 44. A year ago he had begun severe swelling of legs, and a particular eruption on inner sides of left thighs. Swelling subsided but he suffered from another similar attack.

Patient anaemic. Legs swollen, felt on firm pressure. Inguinal femoral glands on both sides much enlarged; not to hard as in elephantiasis, yet as in left as in lymphadenia. Aspiration of a gland on left from yielded lymph containing eleven

ova
Case X

One of the parasites found in lymph.

T., aged 30. Scrotal tumour began at eighteen.

Links lymphoid & continues inflammation of

Present & symptoms discharged; fever &

Enlargement of groin glands.

Section as large as a pencil; penis em- 

bedded; upper & contains punk form like 

a former elephantian; ovate the bone.

Each part is covered with numerous 

Delicate lymphatics, line of the amputee,

Continuing clear fluid, being as large 

as the tip of a finger.

Penile a button is followed by profuse discharge of

Fluid which contains pus &

Nearly every slide over with active parasites 

struggling vigorously to stretch their 

Ehrenreich's envelopes.

Blood from finger contained few embryos.
Case XIII
Cases of Lymph-Serostome

V, aged 32. At 19 years of age had an attack of serostome which was opened & healed. At 21 years of age had an attack of pain & swelling of serostome. Then 29 years of age (three years ago) again attacked with pain, pain & swelling of inguinal glands & serostome. Ever since then has been subject to similar attacks which come on at irregular periods once or twice a month; each attack lasting about five days. After the attacks are over the swelling partially subsides, but each attack leaves the serostome thicker & the glands larger than before. Four months ago plume began to oozie from the serostome, discharging of fluid is preceded by pain & swelling of glands & serostome, but these symptoms are relieved as soon as the discharge commences. Discharge lasts one or two days. Of late pain in the serostome has been continuous.

The serostome is uniformly thickened, cyst, cornuelous, & has a belching feel. It is studded with small prominences varying in size from that of a pea's head to a pea. Many of these are vesicles in nature & on being punctured give rise to clear fluid either in a stream or jet. The skin of
the penis is slightly thickened. The vaginal glands, more particularly those on the right side, are enlarged and tender. The general health of the patient appears to be good.

The fluid from the scrotum is clear and tan colored, coagulates soon after withdrawal of some of the clear fluid from the scrotal fluid. Ten days after his admission to hospital the scrotum was removed in the usual way. Ten days after the operation the wound had healed, but there was thickening of the skin over the pubis. Occasional attacks of pain were rising from that point.