Personal Study of Plumbism

by

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During the five years that I have been engaged in active practice in this district, I have constantly had brought before me cases of lead poisoning, in fact, so frequent have these cases been that it would be impossible for me not to be deeply interested in this subject.

Although Plumbism has been very frequently discussed by so many authors of repute, the notice of a few of my more typical cases may not be altogether uninteresting.

The observations that I have made have not been confined to the township of Bretton in which my practice is situated, but embrace a much larger area, as I am one of the honorary medical staff of the Dewsbury Infirmary, where cases are admitted not only from the town of Dewsbury, but also from neighbouring towns in the district.

It is worthy of note however that all of these towns are supplied with the same water, which is an extremely soft one, and it is brought from a moorland district near Huddersfield. Although all the cases that
I am about to quote are not due to the drinking of lead polluted water, it might be well for me to give an analysis of the water supplied to the district before citing my cases. The water will be observed to be an extremely soft one, and is very similar to those which have caused such disastrous effects during recent years in many of our large industrial towns.

The first sample that I give was taken from the reservoir and it contains the following in grains per gallon:

Chlorides: 1.23 containing Chlorine 0.745
Nitrites of Calcium from Nitric Acid 0.52
Sulphates of Calcium 2.87 Irons from Metal 0.76
Volatile Organic Matter 0.71 Ammonia 0.0025
Total dissolved solids 4.48 Organic Ammonia 0.0070
Oxygen required to oxidize organic matter in fifteen minutes 0.22

There was too much lime when the water was warmed and a column of two feet was clear and of a light brown colour.

From the above table it will be seen that there is an absence of carbonates, and that although it contains no lead, still it will have a tendency to act on any lead it may come in contact with, and, that it does so will be seen from the next table that I give.
This sample was taken after it had passed through 200 yds. of lead pipe. It contains two grains per gallon.

Chlorides 1.23 Containing Chlorine 0.745
Nitrates of Calcium now Nitric Acid now
Sulphates of Calcium etc. 2.80 Lead 0.31

Volatile + Organic Matter 0.73 Ammonia 0.0022
Total dissolved solids 4.98 Organic Ammonia 0.0072

The sediment is very faint; it does not contain animal cells.

This sample it will be observed contains sufficient lead to render it very dangerous for drinking, and it would quite account for the many cases of lead poisoning in the district.

The next table shows the state of the water taken from new lead ferroil pipes, and this sample also it will be seen contains as much lead that is unfit to be used as a drinking water.

It contains six grains per gallon.

Chlorides 1.23 Containing Chlorine 0.745
Nitrates of Calcium now Nitric Acid now
Sulphates of Calcium etc. 3.02 Lead 0.78
Volatile + Organic Matter 0.73 Ammonia 0.0025
Total dissolved solids 4.98 Organic Ammonia 0.0072
The inhabitants of the district are frightened of getting lead poisoning, that many of them are having tin- and lead pipes put into their houses and with very good results, and the neat table will show that the water contains no lead whatever.
It contains in grains per gallon—
the same amount of Chlorides as before.

The nitrates of Calcium, etc. 2.99, Irons, total Am.
Dolomite and Organic Matter 0.76 \( \text{Ammonia} \) 0.0022
Total dissolved solids 4.98 Organic Ammonia 0.0075.

I may mention that these samples were sent by the Street Corporation to Leeds, where they were examined by Mr. Hess Fairley.
Having given his tables proving as they do the large quantity of lead in the water supplied to the district, I will begin by giving the history of a few of my more typical cases, and make my remarks and comments afterwards.

(1) Benjamin Haywood aged thirty-three, coal miner, has suffered from the effects of lead for three years. His habits have been strictly temperate. He had good placid good. His neighbours
at home have always been compatible, excepting an attack of pneumonia he has been a very healthy man until the present condition made itself manifest.

About three years ago, having been in his present house four months, he began to feel ill from no apparent cause. The other members of his family being quite well, the steet jibed and declined and declined to do anything with a constant headache and giddiness. There was a very nasty taste in the mouth with giddiness, and he felt sick more especially in the morning. His appetite had gone.

The patient then began to vomit a brown looking material, every thing taken was vomited. A most obstinate constipation then set in and unless he had injections the bowels never acted.

A few afternoons patient began to complain of severe griping pains in the abdomen which were relieved by pressure. The pain was so bad that he rolled about in agony.

The pain began in the neighborhood of the umbilical region, and it extended to the left lumbar, and iliac regions, and was reflected down to the left testicle, the right one was also affected but not as poorly. The jauness of
a torturing character, and it came on in
spasms, but he was never really quite free
from pain, as there was a dull perception
when the acute attacks were off, and the
patient had a perfect clear of the spasmic
spasms did not show much of the
blue line. This joint attack lasted about
few weeks. During this joint seizure
his jaw assumed a nasty brown color
and became very much depressed and
swollen. The eyesight was also very
much impaired. I became very very light
lighter. Floating at first of the eyes
still disappeared for a time when he—
rubbed the eyes. After this joint attack,
patient became quite well. All traces of the
Abdominal pain even quite vanished.
After an interval of rather over
three months, the symptoms again
appeared, and this time in a much more
aggravated form, and in addition new
symptoms was developed.
The pain in the abdomen was very
much worse this time, and when I
was called to see the poor fellow he—
was rolling about in his bed in
agony.

The pain invaded the same regions
as before, and again it was much
worse on the left side. He was giddy, and
could scarcely stand - there were very violent pains in the forehead.
Patient also pains all over his body and expresses himself as if he had been beaten all over with a stick.
The pains were most violent in the arms, more especially in right one but they also manifested themselves slightly in the legs. Patient stumbled violently all over I was unable to leave his bed. In addition to the pain, he began to experience a loss of power in the arms and legs, more especially in the former. The loss of power was limited to the extensors, and this gradually got worse.

There was a constant drawing sensation in the arms. The hands became decidedly weaker but there was not much throbbing during this attack, and there was no definite attempt at short sleep; although a difficulty in extending two middle fingers was experienced.

The return to his work after a few
months absence, at this time he was anything but well. He had almost constantly the drawing sensations in the hands and arms and from time to time he had to absent himself from his work on account of the abdomen.
pain. He had also got very much thinner.

The continued at bed rest for four months

after which he commenced to walk. After

three weeks he was much worse than he had

ever been. This attack lasted fourteen

weeks. I attended him at home for five

weeks – then removed him to the infirmary

under my care, where he remained for fourteen

weeks as an in-patient during which time

gradually improved. The hands were almost

completely paralysed, but they moved

"with great slowness on the right side, and he was

quite unable to work or dress himself.

The hands now began to work. The following is a

photograph of his hands:

Unfortunately as I did not see them

in the three months that elapsed
From the last attack, I am unable to state definitely the order in which the excision muscles of the wrist were affected, but the thumb and joint juncture were the worst, and even now when he tries to write, they draw up, and there is a droopy paint in the front of the arm, and he dough at once stop, and press those junctures out. The palmaris longus is still able to act, and he is able to throw the hand back, and is quiet enough to may be able to pege an object which forensic is poor dressed.

The muscles correspond very feebly to the battery, are very much strummed. The blue lines were very well marked on his gums, more especially on the lower; they both had never been touched; and now in a very bad state. Indeed, and the gums were very tender and swollen. The abdomen was retracted and very tender, and this time, he was not relieved by pressure.

The expression was pale and anxious, and he had let his stones in depth, yet the was the week of a man; this toye was joy, and his towas instigated. The thin
was dry, and the urine contained
uric sugar, but no albumin or purin.
WAS of normal specific gravity.
The patient slept badly, and had disagreeable dreams, and his memory
was very bad.
On a thorough cranial examination I could
not make out any neurites.
The patient has improved very much under
treatment and has returned to his work,
which he is able to do in spite of the
state of his extremities. The peculiarity
of this case is—that for three years
one other member of this family showed
the slightest symptom of albuminuria.
The account for this, that on one was
joint up in the morning, he made his way
from there from the water that had been
standing all night in the papers.

2. Mrs. Fisher (21 yrs.)
My next case is also one caused by
drinking lead polluted water.
The patient is a delicate young married
woman who all her life had been
subject to bad health. She is the
wife of a mill hand, and has always been accustomed to a comfortable home
dand plenty of good wholesome food.
Two years ago she was confined and
although she had an easy and normal
labor she made a bad recovery.
She had severe abdominal pains which
for a time were thought to be simply
after pains although it was remarked
that the condition was unusual
after a first labour.
She woke afterwards to hear on the pains
getting worse instead of subsiding — it
was very evident that there was something
else the matter with her. She had a
rusty, greenish, taste in the mouth —
She vomited a large quantity of bile.
She had an aversion and rejected everything
she tried to take.
There was a very obstinate constipation in
which she took all kinds of remedies
with little effect.
She became even more feeble and anaemic
than she was before, and she felt
cold, t here was not much urine.
She had violent trembling.
Her baby I thought must have been fed on
the t oilet.
The felt depressed and miserable.
The worst symptom however was the
A severe pain in the abdomen.
She was compelled to remain
in bed. She got distinct relief by
bending over her stomach, and for
hours or times she would assume this
attitude. The pain of a teritory
character was noted in the umbilical
region and the hypochondriac
region. An olive region
The blue lumps on the gums were not
very marked, but the lower gum showed
it more distinctly than the upper.
She was only ill one or two weeks. At the
end of that time she became quite well
and went about her duties as usual.
This state of affairs did not last long
for only a month afterwards she began
to feel worse than ever, and had
To remain two weeks in bed.
In this attack the pain in
the abdomen was much more than
in the former attack, and external
applications and other external applications
did not give relief, and I kept
her under the influence of
large doses of opium. She vomited
large quantities of bile, and she
had a distinct melolic taste in the
mouth. She also had pains in her arms.
right arm known being the worse of the two. She thought these pains were due to Phlegmatics, but very soon she began to feel a weakness in her arms and her hand grew became more jerky; she noticed the loss of power more particularly after she had been washing her dishes in warm water and taking a cold prune unction on the back of the fingers. The jerking of fingers was much more marked at the right side. She had attacks every month or two and the muscles became more and more involved until she had well marked want of "init". The last three fingers of her right hand went first, then those of the left hand. She was quite able to use her thumbs and index fingers, but by degrees these also became involved until the hands hung down, and she was quite unable to do anything, not being able even to dress herself. The other muscles of the body never seem to have been affected but she became much thinner and weaker and profoundly anemic. Since she has been in the nurse home, since she has lived since the condition began she has had neither confinement nor abortion, but she has been quite
regular. She began to pulse very badly and had very dreadful dreams; but strange to say, she did not now feel depressed. Her memory became very bad, and her eye sight very misty.

As regards the present condition, she is a pale, pallid-looking little woman, with an expressionless looking face, complaining very much of being short of breath. With a bad and constant debauched appetite & is troubled with dyspepsia. The patient has got over her attacks of abdominal pain although she has a dull aching sensation now & then in the region of the umbilicus. There are too many ulcers on the gums. Her tongue is cracked and the teeth are loose. She has still constantly to take opening medicine. The abdomen is retracted and the veins are thin. The sounds of the heart are feeble, with an ascitic murmur, & the pulse is thin & thread-like. The urine is dark but contains no albumen or sugar. She is tall & stupid. Her eye sight is bad and on ophthalmoscopic examination I found that there was a slight curvature. The right arm from is much more feeble than the left. The plantar reflexes are dull.
The muscular system is deducible both in stature. I enclose a photograph of the hands and arms.

It will be observed that there is a condition of well marked want of
the scatting of the muscles on the back
of the hands, will be observed, also the
the right hand shows the action
much more than the left. As the
right hand is the more typical I will
give an account of my examination of
the external groups of muscles.

The Rectus Abdominis; Rectus
Pectoralis Major; Oblique; Rectus
Obliques; Rectus; Rectus Carpi; Ulnari;
and the Intersseus muscles are atrophied
and more particularly. The size of each
Of these muscles I ascertain by asking
him to try to perform the action
accomplished by each muscle.
The
task of the head it will be observed
is slight and almost and the
natural tone stand out clearly.
The sympathetic layer stands out strongly
clearly; it seems to me very affected
in that it can trace it from its origin
in the trapezius and trapezius from the
humers to its insertion into the
muscles of the Rhadice. The
is.
attached to the arm this muscle
by means of it, as a curious I think
characteristic sort of manner is all
to raise the gallbladder. I mention
that the other muscles of the body
seemed to have escaped, for I
find that the action of the deltoid
is not perfect; it feels pain she had
not mentioned it to me before when I
felt the question to her, as she thought
that it was only Phrenemat, as she
had an acheing pain with it. I
find that this muscle is decidedly
affected. Not the right muscle
especially is decidedly flat.
She complains of the desire, aching
feeling in the hands and arms
the muscles respond only feebly to the
Battery. This patient expresses feeling as decidedly better, but she to anything that tells. In this case another member of the family is in the very pleasant, clear, and afflicted with Plumbism. The only reason that I can assign to that she is such a delicate creature, unless I might suspect that the Hayley she has been the first to get up in the morning, and thus had the benefit of the water that had remained all night in the pipes. Having given two cases due to the drinking of lead-polluted water, I gave another two due to their occupations. Both patients are under paralysed. The first one is acute the second chronic.

(3) Albert Lucas (36 yr) Plumber, Separated, married one child. He has been at this present employment for over twenty years and until September of last year (1926) never had a single symptom of lead poisoning. In fact he had never had a day's illness in his life. He was always a healthy robust man and weighed twelve stones, for the comes of a good healthy family with no hereditary tendencies. He has
always had plenty to eat, and I am afraid also plenty to drink.
At one time he took large quantities of both tea & whiskey.
His surroundings at home are good. His workshop however adjoins his house. He works with lead in all forms. He works with it in the raw state melting it and making it into pipes etc., then he handles the pipes themselves.
In melting the lead he puts some water into the vessel to turn at the end the vessel quite a ton of lead at a

Daring this operation the work is quite nasty and he has often to go out into the fresh air, and has constantly a metallic taste in the mouth, worst in the morning. It took him a whole day to melt a ton of lead.

Besides using lead in plumbing he employs it in making paint.

In September last (1896) Gabe began to feel ill with scabies

Grains all over him.

He had greasy grains at the abdomen which increased daily.

He began to feel that he was becoming unfit to attend to his work.
The pain became so bad that on
the 29th of October he was obliged
to consult me. I found the poor
man looking dreadfully ill with a
pale palid, anxious countenance. He
was much thinner and the complaint
was of a steady pain in the
abdomen, treated principally round the
umbilicus. He had passed no stool
times in the year, his tongue was very
fleshy, there was no appetite.
Patient complained of dyspepsia.
The stools had not been passed for
nearly a week although he had taken
afrodisiaca in large quantities. Patient
felt cold, and he was nervous and
depressed, and trembled violently.
I did not then suspect what was the
matter with him. I thought it was only a
case of ordinary dyspepsia with flatulence
and especially as he confessed to having
been rather intemperate in former
times previously. Next day he was too
ill to come but I sent for me
and found him in great pain and
although I had given him two pills:
Col. 6. he had not had this bowels
move.
I then ordered him large doses of
opium with external applications.
The abdomen, and as an aperient, I gave him 3 oz. of Peter Jeffrey's.
On the 9th I felt at one of the morning he was as bad as he was the first for I.
I found him at a dead人家. 
His features were grimed and drawn and he was lying on his back, his body
with his knees drawn up, and the abdomen was distended. I had signified
and the large curvatures of the flanks
seen be made. I thought it was a case of spasms and ordered
him an injection of purgative water,
left him some Perjan copia to be
taken every hour for the relief of
the pain. Next morning (10th Oct) I
found he was very little better. In
the 9th he had not had his bowels
moved. I then ordered him a strong
mixture of salt, and after it by
which I called to see him in the evening.
I found him in a better. However,
next morning (11th Oct) I
found him very better. However, the
pain, although it was worse,
took the umbilical's here and
all over the abdomen. He had tryed to vomit large quantities
of green bile, which had a very
already small, he had not yet had his bowels moved, and I began to
fret. I intimated obstruction of bowels and I examined him for
abdominal percussion of the abdomen was diminished + very tender. I then
examined an enema of warm, boiled, and tepid water. He passed a
little flatuence for an instant. Then into the abdomen a grip massage supporting
r into the rectum + introduced repulsion
up to the abdomen r I left him
feeling rather better.
Next morning I found him better, better although he had not yet had
his bowels opened & he remained every thing he tried to take
the urine was faintly colored with
urates but there was no albumen.
I saw him again in the morning the face was again drawn. He
knew was 130 r it was tuff r
I moved into another position. I
saw injection after injection until at
least the bowels were moved & I
left him after I had again introduced
a manipulative attempt. Next morning
I found him much better, but he
was to a large measure better, r he
complained of the rusty taste in the mouth, although I did not observe any blue lips or the gums, and I must admit that I did not even get depressed at the cadaver. This first attack lasted from twelve to two o'clock and I then left him.

After this attack he slept fairly well, although he had at times slight abdominal pains. He looked thinner and more melancholy, and the whole shadow of his former self.

On the tenth of December known he had again to consult me.

As he came into my consulting room I noticed how dreadfully ill he looked.

Formerly a robust, healthy man, and a great foot-ball player, he had now become thin and pale with a melancholy expression. On looking into his mouth this time the black lines ran mild and marked. The teeth were in a very bad condition, and he confessed to having touched them in his life. The lower gum showed the blue lines marked more clearly, so just on the lower gum there were three lines to be seen—one of them being very faint, very indistinct, being only a shadow of blue a trace of his jelly teeth.
I ordered him to brush his teeth a great time. I gave him it and examined there was now no possible doubt about what was the matter with the man. He had very bad pain in the abdomen, a dreadful looking tumor, and a most obstinate constipation. He was very bad on the evening of the 11th. He had been sent for to see his wife sent for me. The pain was much worse and on my examining the abdomen I found it was only much worse especially on the right hypochondriac region. It was very tender on palpation, and in conjunction it was sym pathetic. The pain was referred to the intestines and he was vomiting bile. The bile was very dark and glutinous and there was an acrid mucus over the heart. The pain was very dry of a caustic color with great whitishness. He passed very little urine and it was dark and muddy and full of mucus. There was no albumen. The Chaps sent an analyst down. The pain began to subside in a few days and subsiding for a dull aching he has been comparatively free from it ever since. He had a numbness in the hands. I attended him until the 9th.
of late, and he has been able to
follow his employment even more
and he has been fishing frequently.
On pruning a hawthorn he has often
struck it down, as his hands have
been cramped, and he had a membre
up the extensor side of the arm
except the fingers. By witnesses he was
there has been no attempt at
"wait dogs." The same rushes grow to the
other side. This morning was good
but he had hardly ever slept for months
over when he had no pain. He is par
known wonderfully improved. The pain
having almost quite gone, and he is
rapidly getting better and more like
his former self. There is still Kingston
a very joint blue loin left on the
arm from. This I think is a great
improvement in that case, and on what made
tetanus; he has been preserved from passing
into the more chronic stage of the
condition. Fear as "wait dogs," and as
he is now taking every precaution in
this work. I hesitate to think that
the lead will very soon be quiet
get out of the system.
In the first case, I spoke it also clear
of working up lead, but it is not evident
at this last case, it has reached the
Chronic fatigue, with the muscular changes, etc.

(4) Ed. Cummell (35 yrs) married one child house painter by trade. This case is now under my care in the Lewstony infirmary, undergoing treatment for the pains of his muscles caused by lead poisoning. His surroundings at home are good, but his work as a house painter is of course makes him liable to be exposed to the effects of lead. When his first symptoms made their appearance he had been stripping. That is taking old paint off with a lamp and paraffin. The following is the account I get from him in the words of the owner of his condition:

In July 1895, he began to feel ill. He was constantly troubled with dyspepsia and a rusty taste in the mouth, and then he felt vague Julia with a peculiar abdominal pain now accompanied with vomiting. This attack was passed off and after a week in bed he returned to work. Julia suits well.

In November of the same year
he was again taken ill. This time strange, he had no pain at all in the abdomen. He had very severe pains in the arms from the shoulders to the tips of the fingers.
I think this of the right hand was the first to begin and it fell numb to break and from afterwards the other fingers followed until he gradually lost the power in the hand, which began to drop. He was quite unable to use the right hand, and for a long time afterwards continued to do his work with the left hand.
The third finger of the left hand now began to feel pains of weakness until one by one they were all affected and this hand also showed well marked “wrist drop.” In case by this time he was quite unable to do any work. There was no abdominal pain until December 1847 when he was par
Send that he had to be removed to the infirmary, where he remained three months. The gums flowed with marked thinness, and in this case. They were equally distemper or both upper teeth. He was very much thinner and very anaemic. He had small
spots all over his body, and there were aching pains in both arms and legs.

He was admitted into the Infirmary this time about a month ago. I will give a description of his present condition as he lies in the ward.

He is a pale man with a thin anxious face, few fat, thin cheeks or teeth, and weighs only nine stones whereas he used to weigh eleven. The blue veins are well marked on both arms. The pulse is feeble and easily compressed. He complains of severe pains in the back and shoulders, and burning pains in the arms and hands.

The abdomen is retracted and thin, and there is a dull ache in the region of the stomach, and he has a very obstinate constipation, and he has constantly to take purgatives.

The skin tolerates absinthe well; the spots I mentioned before he passes very little urine, while is often Jeeped of albumen, but not always. He sleeps very badly and is rather troubled with frequent headache. He has bad dreams. The memory is not very much affected.
I give a photograph of his hands which I think are as typical as any I have seen.

The phrenitic state of the exterior aspects of the hands took the observer, and the condition of 'writ daps.' The hands trembled so much that they had to be supported as well as seen in the photograph. The hands are quite at a right angle to the arms. The muscles affected are the extensors communis digitorum and carpi ulnaris; ex. ossis metacarpi pollicis; extensor pollicis longus; 2nd and 3rd interosseus pollicis; ex. minimi sytis; ex. indicis, and there is even a phrenisy of the
Intramuscular anesthesia of the adductor pollicis is also performed, and a deep hollow will be made between the metacarpal bones of the thumb and the first finger. The muscles of the thumb and shoulder are unaffected.

The sympathetic fibers as in all the other cases is not affected.

The conjunctiva is impaired, and one ophthalmoscopic examination reveals it.

This is one of the worst chronic cases I have seen. One peculiar point in the case is that there was no abdominal pain, no fever attack, and that the paralytic and wasting of the extensors came on with very great rapidity.

The next one I give is that of a man, his wife, who had lead poisoning some years ago. I have never been able to tell.

The cases present some interesting points, and I give them as they come from a complete history, all symptoms of lead having quite vanished some years ago.

(6) Inspector Ashley (34 yrs). His habits have always been most temperate, having been a member of the Salvation
Arms for years, and the personal surroundings have been good. He had never had any previous illness.
In August 1892 he began by feeling a lassitude which increased and he had no energy for anything. He had very frequent and severe pains. The pains were epigastric. He had only just come to the district in July. He was sick and vomited large quantities of bile and there was loss of appetite. The bowels were very much constipated, and he was compelled to take an ounce of magnesium Flake every week or two. The abdominal pain lasted six weeks, and at the end of that time, the patient was much thinner and paler. The face was flushed and deformed; the complexion being pallid, the patient very depressed and expressed himself as having no desire to live. His friends and relations thought he had consumption.
He went to his home at Swartham and was away about ten days. At the end of this time became febrile and remained so until the following year.
His town paper employed a fellow for all the water he used for domestic
Przepis. Compounds of Charcoal and Sand

In July, 1893, he got Mephisto and left his lodgings, opposing all about
the fields and his other operations.

After being on the farm about
two months, symptoms of Plumbism
made themselves felt, both of the
young wife as well as in her son, the
other wife being much worse than he was.
They both had violent abdominal
pain, and both had the blue tone
on the gums. The woman’s teeth
very quickly decayed. They both were very
much depressed, and felt inclined to feel
down and do nothing, and in fact,
the neighbours reminded that they
were a very miserable looking family.
The wife got so bad that they
were obliged to call on a doctor.
She had very violent abdominal pain
with all the other symptoms of acute
Plumbism. The Inspector then
reminding him of the effects of his farm-
Hesper’s father was before he was Mephisto
improving one for himself. He got a
large jar and filled it with

I allowed the water to percolate
through it, and finally after this they
both began to improve, but the symptoms
of lead poisoning caused great expert
ment. The Inspector's data like
his rosi's also began to decay -
can his tunt are left to a
very bad state.

They both became very much thinner
very pale and they both very
sickly. There were signs of
syphilis. Their memories became very bad
indeed, and they used to make
some most ludicrous mistakes.

His wife was enceinte but did
did not miscarry. At the end of about
a year they became quite well
and fine. They have never been
troubled with any symptoms of
plumbum only that they both
seem more to have been quite to
their fine. They had the attack
the Inspector afterwards being a
pale drunken man, hardly able to tell
my hat, certainly although we pin
it to the ring from specimen of
a police constable. Accepting the
mummy they never seem to have had
tall until their brushes.

The interest in this case is that
it is an old one, and shows that
although all symptoms of lead,
my exit. Danish state the patient
Never quite felt the same again. I feel sure that the case must directly influence the red blood corpuscles, which are still the brain's nourishment. Another interesting feature of the case is that the wife was suspected before the husband, and is just as really all the cases that I have met well where the cases of opposite sexes are affected, the female is always the first to note the symptoms. Another peculiar circumstance of the case was that although Mrs. Poole was pregnant during the period about of childbirth, she went on to full term, and her delivery of a very healthy child, although all the authorities in the subject agree that abortion is very common in Plumborn. I hold this only for one other example of my cases of Plumborn and that case I join as it is interesting because a whole family was affected, although the mother was the only bad case, and the only one that required direct medical treatment. I mean for the treatment itself, although the other members were attended for symptoms indirectly caused by the lead.
Mrs. Mann (46) nursed four children, two boys and two girls. Expecting for her accomplishments she never had any serious illness. She is the wife of a collery overseer and has always had good constitution. About two years ago she began to feel ill. She was constantly troubled with dyspepsia with a bad taste in the mouth, pains in the abdomen, and constipation. These were followed by abdominal pains with hematemesis at first which however soon gave way to a very obstinate constipation. There was a constant feeling of tension and she was always feeling weak. There was also dyspepsia and became very anaemic. She had the marks of blue lines on the gums. At this time her husband had also abdominal pains which however were not in any way to be compared with those of his wife and he had no blue lines on the gums. His symptoms were never so severe as to incapacitate him from attending to his work. He did not refuse to consult me. The elder daughter of 19 years was very bad. She became very anaemic and she had well
Marked blue line in the gums.
She had also dreadful abdominal pains. She was also troubled with menstruation. She looked at the milk and said it was
the \textit{smell} to be very sick, and complained of \textit{dizziness}, and she had a feeling of weakness in the legs.

The young man a boy of seven
has also very bad suit of the abdominal
pain, and has often to leave
school on account of it.

She always felt tired and down,
and her father thinking he was
sick used to fry her

He is a pale and sickly looking boy,
and it is a sick, small, blue line
in the face.

His eye is also very bad.
The other boy fourteen years of age
is the same at home, very manageable
and symptoms alike.

The mother known to decide the
best mother ever in the family
She has a pail jaw with a most
anxious expression, and she can
hardly get her tongue to act.

As regards the Case. Many junctions
She has a most peculiar form.
cultural construction, and her face sometimes presents a most peculiar appearance. On the right side of her face glands are bathed in perspiration while the left remains pale & dry.

The voluntary muscles of the hands are partially paralyzed, especially the first two fingers & thumb of both hands. All the while the interosseus muscles are affected to some extent. The hands that many times she is unable to use them. In certain actions she feels them become cramped & she has to discontinue their use.

She felt the numbness of sensation worst of the moments just after she had just got out of bed. There was much at any time an attempt at quiet sleep. There was also a feeling of numbness in the legs.

The symptoms became so urgent that they resolved to leave their house that they had been in for many years, by the way to North Atlantic, and left the penit they left it. Their symptoms have gradually been diminishing.
The peculiarity in this case is that all the members of the family were once or twice affected, but the female more than the male.

I might quote very many other cases that have come under my notice, but I think that perhaps the few examples I have given may not be without interest. There is no doubt that in the West Riding of Yorkshire the condition is very common.

St. Arledge, in his interesting book on "The Career of Occupants," places lead just in the chapter on "Materials used or prepared in the manufacture of a distinctly poisonous a nervous quality." Remembering that compounds of this metal meet us at every turn in places and objects where we might least expect them; I am sure this great plan is more than desired. I do believe there is no metal more proper in its action, or more disastrous in its effects on the human system than lead.

I shall next consider the case, number
of cases that are just due to possible
occurrences of the stomach; an in
reality cases of Plumbism, and one
can not blame the diagnosis for
then the doses absorbed into
the system are very minute, the
symptoms do not go on to the more
marked toxic changes, the people
content themselves with adapting the
dietary plan.

The great power of change known
is no doubt through the eating
of too potable water; and
Dr W. Paley's in his book on
'Hygiene,' Public Health, Modern. They
refer to the change of soft water
with chololoea can often the paper
serving as examples the disastrous
effects in Sheffield, Huddersfield —
Bradford, the Munions the
various remedial measures that have
been tried. I must say I think the
best way is to fill it through
theourse, and I have only to
refer to the case of the Pattys
The more expensive methods involved
in instilling the time with horses
is undoubtedly the best for the table
I have of the analysis of salt
passing through them show that their
was not a trace of tea in the water.

Most authorities on the subject state that the female is more susceptible to the attack of fever than the male, and this I may state has been my experience, although in the cases of Dacca, Poona, and Algiers, their wives were not affected, although they themselves were so bad.

In many of my cases I have found that the children have not been so readily affected as their parents, but this I do not think is the general experience.

In all my cases, however, I have noticed one thing which is invariable, and that is that I have never once come across a single patient recovering from fever, who had only one getting attack; and this even when he had been removed to a district where the condition was practically unknown. All the cases I have had, have passed from two to three attacks at the very last. Sometimes the second attack has come on many months after the first, and I have always felt perfectly safe in postponing a fresh attack some time later.
As regards the cause of this, I think the theory that Dr. Oliver advance in his book on Lead Poisoning (page 26) is more than likely the correct one. He places it in the form of a question, the cause – is it that during the period of apparent health Lead has been deposited in some of the organs in an insoluble state, and that as the result of some particular diet, drink, or method, it has again been rendered soluble, capable of action in the system, and in the time being, the person is poisoned with Lead absorbed from his own tissues?

In the case of cases thus far noticed that after the lead, there are no signs of fever the almost always have an attack of the Abdominal Pain

As regards the most typical of the acute symptoms – Abdominal Pain. all cases I have seen have shown it with general weakness of the abdomen

The Pain has been nearly every one

One case, as was true in almost every one, to Oliver the worse on the left side. In Oliver's book, page 36 gives the case of a patient in a
The yard, who had severe pain on
muscle on the left side, and one of
my cases (Mrs. T.) showed the same
symptom.
I should think that there is no
reasonable doubt that the pain will
be caused by irregular contractions of
the gut, and I should say that
being the effect and not in the
muscles supplied by the muscles—
spinal nerve in the arm, that at
will be the nerves, xanthisc that
supply the muscles of the gut
that are damaged. The constipation
will partially be caused by the
irregular contractions but also I venture
to judge by the dry state of the
gut. The constipation I believe
is due to two causes: 1) the
destruction of the red corpuscles.
2) Partially owing to the state
of the digestive system, the position
being partly
It is very curious that Mrs.
Insipidus Forsyx in all cases shown
Insipidus unamned, in the case of
Mrs. T. when it could be quite
easily distinguished amongst the
whims of the external muscles as
a quite distinct band.
As regards treatment I of course treat the symptoms as they arise, and give iodide of Potassium as my first anchor. For the\

The Publications that I have quoted from are
1. Dr. Whitley’s “Public Health”
2. F. J. Bloor’s “Lead Poisoning”
3. Dr. Allidge’s “Diseases of Occupation”

I declare that this medical text been composed entirely by myself

S. Symons Milne
MB & CM (1889)

Westley Ct.
Ossett Yorkshire
Apr 30th 1847