On
The value of certain
Dental Malformations
In the diagnosis of
Hereditary Syphilis.

Perhaps nothing has tended
opinion with regard to the nature of
many diseases, so much as a study of
the effect of syphilis, both in its
acquired and hereditary forms.

In tracing the course of a disease, which
like syphilis, over its organ to a blood
poison, it is found that as proportion as
the symptoms of the disease are delayed
the connection between these symptoms and
the original disease becomes more
likely to be overlooked; and as a result
out of this, it appears, that, though
the primary, inflicting care and easily
Secondary symptoms have been
for ages, it has in comparison better
knew that the more direct testing symptoms—
sumnalty, syphilitic plethoric, and other
specific affections of the disease.
have been referred to their proper origin; and that syphilis has been looked on as a disease, which, may acquired, may exist in, manifest influence throughout the remainder of a man's existence. As observation has extended, it has been discovered, that, not only may syphilis affect a man who has acquired it throughout his life, but that the same taint may be transmitted to his children, and that they may suffer from diseases which are as truly syphilitic in their origin as the maladies which have affected the parent. Thus, the hereditary or congenital syphilis, as in the acquired disease, is not limited to body only, but also to those organs, affections, occurring in infancy, which have been noted, and attributed to the syphilitic taint; those maladies, occurring late in life, and now become to be due to the same cause, having been considered as manifestations of other constitutional states, and health, as such. This taint is not to be pronounced as small, when we consider that the infected taint may remain latent even throug
General Adenome of a man's life and
that crop up in an active form, 
(See cases 4, 5, and 9.)
As examples of diseases which have
and generally been referred to their proper
specific organs, perhaps none better could
be found than the prostatitis and affecting
patients suffering from congenital syphilis
and the inflammation of the
eyes called "Stenon's Cornealitis".

The name of this latter disease sufficiently
expresses the views which were, and
still are held by those, who do not
recognize the true pathology of this
affection. It was considered to be
an inflammation occurring in the cornea
of stenons or subjects, most leading
to the effusion of lymph between the
layers could consequent opacity.

As Jonathan Hutchinson was the
first to recognize the true nature
of this disease, and to classify it
in one of the least marked symptoms
of the adenoma of syphilis, and
he pointed out, that this union between
affection yields readily to specific therapy.
But, occasionally, it is difficult to distinguish
this disease from others "Cornual Opallia"
causing it to be called "corneal syphilis".
the utmost importance to have other
unmistakable signs to assist in the
arrival at a correct diagnosis.
Of course, when we meet with patients,
whose families express a having certainty
of syphilis, the diagnosis is placed beyond
doubt. But it is always a matter of great difficulty to obtain anything like a satisfactory history of the disease as it may have occurred in the parents; the cases connecting the disease which affect their offspring, with a family from which they unfortunately may have
derived from, though it they long since
have been forgotten. How is it actually
while backward to elicit some account of
their former lives, to raise suspicions
which, in most cases, would bring about
great domestic anxiety. Under these circumstances, it becomes
objectives signs of syphilis in the
parents, or the absence of such signs in
the history of the previous of the
mother employed with the subsequent
history of the children, may greatly
assist a correct diagnosis.
Thus, if, in a case of suspected syphilis in
the offspring or found to be labouring,
under the opinion of the
* "A Clinical Memoir on Certain Diseases of the Eye and Ear Connected with Syphilis", by Jonathan Hutchinson (1863)
acquired disease, or if either shows such pains, or to have no doubt that at some time during their lives they have contracted this disease, then it is easy to refer the maladies of the children to their forefathers. Similarly, if the brother has already or had children dying during the first month of infancy, and, if the children who have survived longer these suspicious symptoms, then once again, this can be little doubt that congenital syphilis is at work. But, in the absence of these characteristic uncertain signs, is there anything to guide us in forming an opinion, as to whether or not a patient is the subject of inherited syphilis?

Mr. Jonathan Hutchinson, who has described almost all that is known on this subject of the manifestations of congenital syphilis occurring after infancy, answers this question in his affirmation. In the preface to his work on syphilitic diseases of the eye and ear, he states, that, after observing the physicians' protest to this protest, patients, he advised...
their months, and very frequently found the teeth malformed. He says he has, from accumulated evidence, which led me to consider the state of the upper central incisor tooth, by far the most important deciding among the indications of the syphilitic tooth. (In Preface) In the following chapters, he points out the peculiarity of these teeth in infected syphilis: they are short and narrow, almost in color, and present a broad lateral notch at their edge. The other teeth are sometimes, though less frequently affected, than the incisors; especially the canines, which may be more peg-shaped than usual. But, to return the importunate which Ellis Hutchison attributes to these upper permanent central incisors, I shall make the following quotation, which occurs at from page one hundred and already referred to. (ed. p. 204.)

The central upper incisors of the second set are the last to erupt, and the surgeon, not thoroughly conversant with the canines and any common form of dental malformation, will avoid
"much risk of error, if he omitted his attention to this pain." "If the question be put, are both of the kind descended pathognomonic of hereditary?" "Then?" I answer unhesitatingly, that when well characterized I believe they are." The presence of old pits, interstitial keratitis, or it, remains of the punched bridge of the enamel would render the diagnosis certain. The opinion that "Hutchinson's teeth" are pathognomonic of hereditary syphilis, has found many supporters since the publications of Dr. Hutchinson's original article in 1858. Many surgeons of the present day, however, while accepting the great value of Dr. Hutchinson's observation, have expressed doubt as to this condition of the teeth being absolutely pathognomonic of syphilitic syphilis. Thus, Dr. Hutchinson attributes to a peculiarity in the form of these teeth, which he describes as the syphilitic tooth; and accordingly, in 1876, Dr. Hutchinson again draws attention to dental malformation in his "Illustrations of Clinical Surgery."
In Plato, he describes the deficiencies arising from the use of mercury in infancy, and in the explanation of the plate, he points out that "Demanard's teeth," though quite as frequent as common as syphilitic teeth, and apt to be of misfortune for them, have quite distinctive characters. He calls these teeth "Demanard's teeth," at the same time admitting that they may be not invariably caused by the use of the drug, but that they may be the result of stimulants or through (pp. 53) the sun. "It is by no means intended to imply that syphilis is the only case, under the influence of which Demanard may occur, which will result in peculiarities of the teeth, though it is I believe by far the most common. The result of careful and long continued inquiry in the subject has been, to make me believe in syphilis as the almost invariable cause of malformations of the kind I am about to describe. Unless they are present in a well marked and severe degree, according to Hutchinson, the second is usually affected in the form of tooth. The surface becomes rough, and honey colored from the
Deficiency in the enamel and erosion of the dentine. This deformity, according to his view, may affect any, or all of the teeth; but there are some groups which are particularly liable to suffer.

He says, "Whilst the central upper incisors, are the last teeth of syphilis, it is to the first molars of both upper and lower jaws that we must regard this patch with reference to syphilis."

Mr. Hutchinson considers that in syphilitic teeth when no necrosis has been given the enamel is almost perfect and in necrosis teeth the enamel is defective and the dentine protruded. +

The publication of these opinions has been given the question, what the value of dental malformation as a guide to the diagnosis of inherited syphilis has importance. Another element of difficulty into the inquiry. That this is as to, in Ireland apparent, from a discussion, which took place at the "Association of Surgeons practising Dental Surgery," and is published as the "Lancet" for May 1876.
Mr. Dupin opened this debate by reading an address in which he expressed doubts as to the existence of malformation of the teeth, that very often in cases of acknowledged Hutchinson's teeth, there was no malformation of the teeth.

Dr. By rallye and Mr. Coleman, on the other hand, accepted Hutchinson's views with regard to the malformation. Mr. Hamilton Carstairs, while admitting the changes due to syphilis, did not believe that the malformation described by Mr. Hutchinson, in his "Illustrations," as due to mercury, was a specific agent of this kind, that any fault that it might have caused in the teeth might have been pr, the stenomatie set up by the use of this remedy. In support of this opinion he stated that in Germany, where mercury is very rarely administered, the malformations in question occurred with equal frequency.

Mr. Hutchinson, who was present at the discussion, replied to these opinions by stating that the upper central premolar...
Above can be regarded as syphilis.

And added, that the deformities ob-

served in the other teeth of patients

during from congenital syphilis, are

the results, not of the syphilis, but

of the use of mercury in infancy.

He believed that these deformities

dove in patients who had been treated

with mercury occur in reality stimulants.

Although in order to cause the deformity,

thus and not the actual ulceration

of the gland, mucous membrane, and by

although this peculiar condition of the

mucous membrane might be induced

by other constitutional states, it

is almost invariably the result

of the use of mercury.

At the next meeting of this Society,

Mr. Sears expressed his absolute

disbelief in “Hutchinson’s Teeth”

as indicative of congenital syphilis,

given as his reason for this opinion,

that he had been unable to obtain

a clear history of syphilis, in any

of the absolute cases presenting

“Hutchinson’s Teeth,” which had

come under his observation.

Mr. Salter on the above occasion replied
For a report of this discussion in "Lancet" May 1876.
his thesis belief in a specific dental deformity of the teeth. *

Thus it is evident, from the very opposite opinions expressed during this discussion, that the correctness of Dr. Shute's views, more especially with regard to specific dental deformity, was still questioned by eminent authorities.

And this is not surprising, when we consider that Dr. Shute himself admits that this deformity may be caused by other constitutional influences, that tungs he calls them "Stomatitis teeth" that are not necessarily be Stomatitis in order to their production, and that even simple eruption may cause this deformity.

That this question of the nature of dental malformation as a guide to the detection of an inhaled syphilitic taint, being still far from settled, is proved by a discussion which took place at the "Identifying Society of Great Britain", published by the Society's Transactions for 1877 in a paper which Dr. Elliott published.
"Transactions of the Ophthalmic and Ear \n\nCourt Britain. 1877."
he states positively that there is a form of deformed tooth which is distinctly characteristic of congenital syphilis. His idea is, that in this deformity, the gum is spread over the tooth, being as thick as the middle of the incisal edge or over the roots of the adjacent teeth, and that he has been surprised by the frequency of this condition in children of a particular Quack Doctor, "Studencav, Breslin," and that probably the children who displayed the gummal" peculiarly often tooth had received mercury in infancy.

From the foregoing history of the known opinions expressed since the last Shilling, it is evident that the existence of deformed teeth in congenital syphilis is not doubted by many. It is thought that there has been much increased, by the difficulty experienced in obtaining histories of the cases, as well as by the student.
of specific mercurial tinct into this enquiry.

But among the debateable points that
stands out uncontested, this fact,
for a knowledge of which we are
indebted to Mr. Sketchley- that
persons who are the subjects of
industrial keratitis, (Stannons Cornite)
very frequently present certain mal-
formations of the teeth: and although
the nature of the affection of the
eye, as well as the origin of the
malformation of the teeth, is dis-
puted by some surgeons in this country, and still more on
the continent, I shall
assume that it is syphilis,
being justified by the conclusion,
not only by the weight of
authority, but by the critical
reasoning of the result of specific nature,
in cases which I have myself
observed, and in those the record
of which I have examined.

But I have endeavoured
to gather evidence which will
assist in solving the following
questions:

1. What are the actual deformities
of the teeth which accompany this
specific inflammation of the eye?
2nd. What is the origin of the peculiar of the peculiar conformation
of Hutchinson's aphthous tooth
ulcer? and 3rd. Do the origin
of the simultaneously occurring affection of the first maxilla
(ascended by Hutchinson to the use of
mercury) different.

For this purpose I have
run over the reports of the out-
patients treated at the Peterborough
Infirmary and Dispensary, and
have picked out every case of
Interstitial Keratitis, as well as
one or two other cases treated
for Congenital Syphilis, in which
I could find the patients make
a personal inquiry into their
history and present condition,
and obtain the substantial proof
afforded by casts of their month.
Interstitial Keratitis is
not a very common disease,
and the number of casts which I
have been enabled to obtain has
been still further limited, by
the difficulty in tracing patients
once discharged from the
Institution.
I may state further, that the cases brought forward have not been selected, with the object of proving any previously formed conclusion on the subject. These cases shall follow a certain order taking first, cases in which the patients have suffered from sclerotic keratitis or other inflammation of the eye.

Case 1. Florence Nigrove, aged 23, admitted to the Bethany Hospital Dispensary, March 19th, 1871. Suffering from sclerotic keratitis with iritis. She was treated with frequent instillation for three months, when she was discharged cured.

Dr. Salley, Physician to the Dispensary, has furnished me with some facts in these cases, and how, from notes taken ten years ago, when she was under her care, with well marked symptoms of conjunctivitis phlegmonosa. She was then six years old, and was treated with sodi ephedrorum for about a year, when she was discharged. During this time she had no symptoms whatever, the application of a little eye decoction nitric or iodine. .
Case 2. William Rackell, aged 11 years, and Mary Clapp, aged 10 years, were
killed on the same day. The body of William
Clapp was found near the outhouse of the
house. The body of Mary Clapp was found
behind the barn. The search for the murderers
was conducted by Sheriff Thompson. The
murderers were never found.

A key clue in the case was a footprint
found near the barn. The footprint
matched the size and shape of William
Clapp's footprint.

The trial lasted for three days. The
jury deliberated for two hours before
reaching a verdict of guilty. William
Koch and Mary Clapp were executed.

Our thread of logic led us to the
conclusion that the murders were
committed by a mysterious figure. The
motive for the murders remains a mystery.

Case of the week:

The story of William Rackell and
Mary Clapp's murder is a tragic
chapter in the history of our town.

Can be adapted as such:

The story of William Rackell and
Mary Clapp's murder can serve as
a lesson in the importance of
investigative journalism. The
murderers were never found, and
the case remains unsolved.
out of thirteen pregnancies, she had six stillborn children, and from which she survived a month of birth. She only have survived the eldest being the patient.

Case 2. Upper and lower incisors perfect. Upper first molar perfect. Lower first molar shows beautifully the deficient enamel and projecting dentine.

Case 3.

Walter Gordon, aged 24, keeps a book stall in London. He was a patient at the Edinburgh Dispensary almost blind from cataract due to keratitis. Before coming to the Dispensary had been under treatment in a London Hospital from which he was removed by his father as an operation on the eyes was refused. He finally improved under medical treatment and now his sight is almost perfect.

His father confesses to having contracted "bad eye" before marriage and the mother states that her first five children died of scarlet fever.
This patient had the rash and was treated with a belt of vinegar, but his mouth was never seen, and he never had thymus. The first child had no rash and was never under until the age of sixteen. When the rash appeared, the next two children died a few weeks after birth, and had the rash most strongly marked.

Case 1: Theater No. 3, had cast of the lower jaw, as most of the teeth were quite decayed and the cast showed nothing characteristic.

The upper cast shows notched, and the dentine turns down below the level of the enamel. First molar on the left side shows same character, but here the teeth having had no opponent, the dentine is lost little by little, and hence projected in the form of caps.

Case IV. Alice, Bainwright, aged 25.

Both eyes completely destroyed.

Was quite healthy up to the age of 15, when she had inflammation of the eyes, for which she underwent an operation at a London Ophthalmic Hospital, and afterwards became blind.
Certain, no satisfactory history of syphilis could be obtained, but the mother stated that after having had two perfectly healthy children who are now alive, she had three which died before they were twelve months old; three twins, one of which died in infancy, but the other survived and has been healthy. Although there is nothing in her history which would come out as a cast, the fore-molar presents the appearance of antwntrostone to the level of the enamel by resorption.

The patient was the next child born.

She had then two children, both of whom survive but live at a distance; their one which died of scarlet fever in infancy, and their Thomas Henry whose case is not detailed. The youngest of the family is a fine healthy girl of 15 whose teeth are perfect.

Comparing this history with the fact that two of the younger members of the family have suffered from bone tuberculosis I think that I am justified in assuming that syphilis has existed in the family.
Eas of teeth 1/4. The cast of the lower jaws was taken, and as the first incisors had been extracted, tried the other teeth were quite healthy. The upper central incisors are matched, and the denture is the centre of the mouth, being below the level of the enamel. The first molars which are not at all decayed, show the characteristic enamel deficiency.

Case V. Thomas Henry Brainwright, aged 19 brother to Case IV.

Mother stated that he was never ill during infancy and childhood and never had any treatment. till for till he was 15 years of age when his eyes became affected with the same disease his sister had suffered from — Dendritic Keratitis. He was taken to a London Hospital, where an operation was performed. His parents object, and brought him to the Petrozavod Dispensary. His admission there as an out patient he was almost absolutely blind from Dendritic Keratitis and Nearsightedness. The diagnosis which, as far as I have been able to ascertain, was the patient could...
he brought with him from the London Hospital, had also been made by the
London Surgeon.

Under bacteriological investigation he rapidly
improved, and except for an almost
inappreciable haziness of the cornea,
his eyes are now perfectly sound.

Case No. 5. All the teeth of both upper
and under jaws are perfect, except the
first molars in which the characteristic
trummel deformity is present.

Case VI—Emily Bigley, aged 18, was a
patient at the Peterborough Dispensary.
Her eyes being at that time quite blind,
theCASE was discharged incurable at
the end of three months treatment.
She is now quite deaf and blind, with
a large anterior strabismus of the right
left eye and the residuum sold into
in the right.

As this girl's brother is blind, no certain
history of her infancy can be obtained;
but her sister, who is nine years her
senior, gave the following account of the
inflammation of the eye. Almost 8 years
ago her eyes became inflamed, and
without consulting any surgeon, for she
had for two or three months a lotin
prescribed by a Chemist for his Eyes. He gradually grew worse, and thus came to the London Ophthalmic Hospital, but the disease had by this time advanced past all hope of recovery.

Case of table No. 6. The cause of the lower jaws has been lost, while in it the lesions presented the same character as those in Case 1. The lower molars being absent.

The upper central incisors are displaced, characteristic of Hutchinson teeth, the dentin being blushed of cream and worn down so as to leave the notch in the edge. The right first molar shows the same exposure of the dentin, but owing to the want of an opposing surface in the lower jaw, it projects in the form of a cup.

Case VII. James Harriss, aged 19, has suffered from Intestinal Karathes for about two years. When I first saw him about a year ago, his corneae were clouded, but under specific treatment which was adopted, for a few months, his eyes cleared. His sight now is good, but owing to the bulging of his corneae he is myopic. He is slightly deaf and of feeble intellect.
* The propulsive characteristics of Equinata reptiles.
History of Syphilis. Complete the matter, observing many well marked signs of tertiary syphilis. She states that the boy suffered from "though all over the body," when an infant.

Case of his teeth. No 7. The upper only incisors show a crescentic deficiency of the the inner, with the dentine exposed and not worn out. The upper first molar is perfect. In the lower jaw the incisors show slight deficiency of enamel and both of the first molars do exhibit characteristic deformity.

Case VIII. Emily Bailey, Act II.
Three years ago was treated by Dr. Bailey for Intestinal Nematode. Her course was now perfectly clear. No history of Syphilis can be made out. She was quite healthy as an infant, never had teeth, and never required treatment.

Case of teeth No 8. The central upper incisors have a crescentic deficiency in the enamel which at present is filled up with the exposed dentine. The upper first molar shows in a slight degree the projecting dentine cusps.

Lower jaw. First molar characteristic
Case IX. John Edwards, aged 24, came under my observation in March 1879, with ophthalmia and bilateral chronic typhus, for which he was treated by balsamic injection for three months, when his eyes had almost recovered. Eyes were perfectly healthy.

No history of syphilis could be obtained from his parents. The brother had two healthy children, and thus, after a lapse of 15 years, this patient was born. He has been perfectly healthy up to the present time and has never been regarded as needing treatment.

Crest of teeth. Dec. 9. Upper jaws. Central are square broad and notched at their edges. First molar presents a distinct general rounding of the dentine above the enamel. This dentine is hollowed out by incipient decay.

Case X. James Yarrow, aged 14, was an out-patient at the Bethelborough Dispensary in 1876, with interstitial keratitis, for which he was treated with mercury. He was discharged relieved, and afterwards went to a London Hospital.
where his father says he had the same

treatment, and was told the same with
regard to the disease, as at Peterborough.
His corneas are now somewhat opaque
and bulging, and his sight is but
imperfect. He has numerous \textit{circinate}

\textit{fissures} at the angles of his lids,
and other distinct \textit{facial signs} of
inherited \textit{syphilis}.

Though no certain history of \textit{syphilis}
could be obtained from the parents,
the mother stated that she has had
five children, of which the eldest was
lived to be six months old, when she
died "full of love." All except the
youngest have had a rash when
a few weeks old, but for this they
were never treated. (Cases of the \textit{tubal} or
two of these children are marked
as 14. and 15.)

\textbf{Case of the tubal No. 10. Upper Lase.}

Although the constant lesions are very
much worse, the left one still presents
a shallow hollowing. The first rib
shows at some points, the projecting
dentine, and at others this is worn
down. Lower Lase. The lesions show de-

\textit{speciness} of the \textit{dental} and the \textit{first}

\textit{incisors} are good examples of the same
defects.\"
This concludes the case of specific inflammation of the eyes which I have to bring forward and now in the second place I shall take.

II. Cases the subjects of which though not having other disease of the eyes have been treated for other well marked syphilitic disease.

Case XI. John Smith, aged 22, has been a patient at the Peterborough Dispensary since he was seventeen years old, for suffering from specific nodosse, which have always yielded readily to treatment with Elixir of Potassium. He has the appearance of a boy of 14, and his face is much deformed by the swelling resulting from previous syphilis and his physiognomy is clearly due certain history of syphilis. But the mother states that when an infant he suffered from scurvy but have had a cough. When 12 months old he had an abscess in his neck but that the brown healed and afterwards it became strong. He was treated for three sixteenth by the Prince Emperor at the Dispensary but whether he got annoyance or not I cannot discover.
And as first motions were few
Case of tooth, No. II. Upper jaw. The central incisor shows the second degree slightly thinned at the edges, and as some points, the dentine is exposed but there is no retching. The right first molar shows the perforating dentine, and the left which was extracted by the home surgeon I, to which I have referred and with the cast, shows the nature of the dentin denudation which will I did not take a cast of this patient's lower jaw as all the first molars were absent and the other teeth were healthy.

Case xii. Mary Anne Copland, Age 26 was treated at the Petworth Cottage Dispensary in 1876 for a periodontal disease of the right plate, which rapidly stopped under the use of Bichloride of Silver. She had enjoyed good health up to the date and there is no evidence that tuberculosis. Her mother is known to be a non-tuberculous hypothesis be applicable.

Case of tooth. No 12. I have not finished the cast of the upper jaw as one of the teeth has unfortunately been lost in the cast as the central incisor is chisel shaped and channeled and no working of the tooth from the lingual surface the chisel follows.

Euphrosyne E. Fisher.
Case XIII

John Smith, act 11. Died at the Dispensary where an infant with prolonged bicornual insertion. He has the facial appearance of congenital syphilis, but since infancy has had no symptoms.

The father died from the effects of tertiary syphilis.

Case of teeth: Do 13. Upper left first central incisor is slightly pointed and presents a faint trace of notching. The first permanent molars are perfect.

Case XIV

Balter Smith, act 8, brother of the above, was also treated at the Dispensary with bismuth salts for congenital syphilis, and he has the same characteristic facial signs as his brother.

Case: Do 14. The upper central incisors are very large but perfect.
I place this case under the second because she had evidently suffered injury from an effect of the bite of the face which has caused fissures. That this is explained further by his own testimony proves.
Case XV. Elizabeth March, age 14.

This patient has well marked defects, a round rear, and according to the mother she was "old woman" in infancy and under prolonged medical treatment for "bad throat." From this it may be inferred that this girl may have had diphtheria when an infant. Since that time she has shown no protein symptoms, I have treated her patient at intervals for well marked labary symptoms, and indeed he confesses of having contracted the disease Case. Dec 15. Upper jaw. Central incisors perfect. All the other teeth sound. In my case the first molar has traces of deformity especially on the outer side of the right.

Case XVI. James Randall, age 6 1/2

The younger brother of Case II was treated in infancy alike the other
Surviving members of the family, with incipient signs of disease in infant.

Case 7 of tooth 20. Upper jaw. First molars are the only teeth of the permanent set which have been erupted, and they show no deformities. The lower jaw's first molars are imperfect.

Cases now come two cases in both of which the patient suffered from a rash in infancy which was probably syphilitic although there is no absolute proof that such was the case. They are younger members of the same family as the boy whose history is detailed in Case X.

Case XVII. Thomas Yarrow, age 9, has nothing in his appearance to indicate a syphilitic taint although he is brother to Case X.

Case 17. This patient teeth, with the exception of one slightly affected by marked deformity and

Case XVIII. Elizabeth Yarrow, age 6½, sister of the above, has been born strongly marked there here eldest brother as the facial signs of congenital syphilis,
Chapter 18. Permanent issues of the 
upper jaw have not yet appeared, but 
the first two lower show most character-
istic deformity, both in the upper and lower 
jaws.

Having detailed the cases which 
I have been able to collect, I shall 
proceed to examine them, and see 
how far they tend to elucidate the 
points which I have prepared for 
consideration. In arranging the cases I 
have taken first, those which 
present inflammation of the eye, because 
it was in patients of this class that 
attention was first directed, by 
Dr. Hutchinson, to the connection between 
infantile diphteria and deformed 
teeth.

Taking these the first series of 
cases so leading to throw light on 
this subject, I observe at the 
intest, that, in every one of the ten 
there is distinct deformatior; and 
from this I think it may be in-
ferred, that the affection of the Eye and 
the deformatio of the teeth, (as Dr. Hutchinson 1727 
argued twenty years ago with regard to the 
Contact upper licenses) have a common origin.
coincidence in the same subject. But even examining these cases more closely, it will be seen that there are two groups of both which are especially liable to deformity—i.e., the incisors and the first molars of the permanent dentition; and that, among the incisors, the upper central incisors are most generally affected. Indeed from this circumstance consider that they alone are to be regarded as test teeth, in looking at dental charts as guides to the degree of affected syphilis.

In examining the cases marked 1 to 10, the upper central incisors are found to be affected in eight of these only, left in cases 1, 3, 4, 6, 7, 8, 9, and 10.

In cases 2 and 5, on the other hand, they are perfectly healthy.

Looking to the first molars, we find that only one of the two cases shows a deformity in these teeth. Sometimes, in the whole of the group present. And sometimes, only in one or two of their number. As some of the first molars are in many of the cases absent, of course it is impossible
*how I must state that in no case of which the surgeon who attended the case diagnosed bilateral keratitis depending upon it I have been unable to find any decided malpronation.

Admitting the probability that his diagnosis possibly have been correct, I would conclude that most probably in all cases of bilateral keratitis malpronation with to will be present so that this difficulty will occur most frequently in the left eye, least in the frequency in the right eye, and only occasionally in other parts.
to state as definitely as can be done in the case of the upper central incisors, what is the exact proportion leading to what defects the cuspiformity frequency of deformity in the incisors of the great bilateralism in the form of the lower incisors is so constant, that it may be passed over; but in doing so I cannot refrain from directing attention to Cast 1, in which deformity of three teeth is most obvious. It is equally so in the case of Baily (Cast 6), but unfortunately I have no cast of his lower jaw. In a slight degree it is seen in Cast 10.

Thus to answer to the first first question I have simply to state that, in the cases of patients who suffered from specific affections of the eye which were deleterious or accompanied by - I find that malformation of teeth present in all so that the malformation affected most markedly two sets of teeth, viz. the first molars and upper central incisors, and that lower incisors being largely affected...
A distinct notch is the result. This notch, however, shows by its appearance, the way in which it has been produced, for the dentine can be seen below the level of the deficient enamel which surrounds it. The same filling up of the notch, as in the left incisor of this cast, is seen in cast 8.

In cast 7 the opposite condition may be observed, the dentine here having been completely worn down, and the surface lying below the level of the enamel, which surrounds it in the form of a distinct edge.

Casts 7 and 8 are beautiful examples of Hutchinson's test, as they are similar to those depicted in Plate 1 of his Work on Hypostatic Disease of the Eye, and here the same thing is observed with regard to the deficiency of enamel and exposure of dentine. Cast 17, which is only very slightly affected, shows the dental condition through the demarcation between dentine and enamel so distinctly presented.

Thus, it is obvious, from an examination of these casts, that, that
through the characteristic difference in the central upper borders being greatly in degree, it arises in all of them from the same cause, viz., Crescentic deflection of the internal borders of the uppers of the ducts, which, in a larger or shorter time, according to circumstances—e.g., opposition or want of opposition with the part in the lower jaw, affects the appearance and leaves a total. This explanation is the one originally advanced as to the method of production of the notched eversion of the lower incisor. This is seen in plate 1 of his original work where both in all stages of notching are figured and described.

Besides, being notched the lower teeth may be defective in size and shape as is well seen in case 6.

That, since the publication of Mr. Hutchinson's original work, having he has changed his letters, is obvious from a consideration of the discussion already referred to (Puyo 11 513) and well as from the conclusion of his book, before taking into consideration, having upon a consideration of the alterations in his letters with regard to
the Cause of the Enamel Deficiency, I must first notice the nature of the Deformation in the First Molars which is exhibited in these cases, and at the same time see if it all differs from the condition observed in the Incisors.

As before mentioned, the whole of the first two casts present Deformed first molars, and if the Remaining right, Nos. 11, 12, 15, and 16, illustrate the same condition. As in the Realformation of the Incisors which I have described, so in that of the molars, the Essential Element is its formation is Deficiency of the Enamel.

In describing the appearance presented by these teeth, perhaps the last case will be that of Start (1821) for, although it is by no means the most strongly marked example of this condition, which I could have selected, still, as I possess the left upper first molar which was extracted for caries, I think it will serve to explain the Deformation, better than any coloured cast.

The crown of this tooth is covered by three cusps, which project from
As surface, a fault having been here worn down to the level of the
scamph which surrounds it. The
three crags which remain show varying
degrees of deficiency of scamph and
delay of the scumph. In me, the scamph nearly
abrupt to the top where it becomes
the brown scumph becomes visible;
Anther has the scamph and half
lying up its sides; whilst, in the
third, the scumph is quite accentual
and has been accentual is immediately
worn. At the base of each crag the
scamph is separated by a distinct
crystalline calces from that in the
crags, and where this company of the
crag is absent, the scamph encum
stops short and forms a ring round
the accentual scumph. This conditio
On comparing this condition of the
crags with that of the accented
scumph, it will be seen to resemble
closely the deformity already described,
as characterising the toothless in the
teeth. As in these, so in these, many
modification, may exist, both as
the extent to which the scamph is de-
icient and the degree of the removal
Ara that slightly longer

Also be slightly longer
of the exposed dentine. Thus, in some cases, as in the tooth marked 19, the enamel over the cuppo, although broken, is almost unbroken in its continuity.

In some cases, the enamel is absent altogether, and the exposed dentine shows various degrees of porosities. The attention of the dentist during the use of the instrument is drawn to this line of enamel surrounding the yellow exposed dentine.

An example of this was seen in the case of Alice Woodworth (Case IV). I would take as further illustration of these modifications, Cases 1, 10, and 2 and I have only to draw attention to these casts in order to make my meaning clear.

And now having shown that deformities, affecting these two groups of teeth, it will be evident that they must be taken together in the most inquiry which I have to make— viz. what is the cause of these deformities? And therefore that the second and third questions which I have proposed for elucidation must be answered together.

The first point to determine is
Case 14, 16, and 17 may be excluded from the enquiry as they show no deformity of the teeth. Looking then at the remaining fifteen, he found, that in the histories of the patients from whom they were taken, there is one grand bond of union—In all of them, congenital syphilis was proved to have existed. In some of them I have had a spontaneous eruption of the eruption of syphilis; in others, I have either treated the patient for well pronounced symptoms, or given the savages which it has reached; and in the rest, I have either the positive statement of the family medical attendant as to its existence, or have received such a history from the mother, as to leave no doubt of the presence of the taint. In three cases only, have I failed to find such a definite history. One in that of Emily Bigby, (Case VI) whose mother is dead, and whose sister knows almost nothing of the family history; and in those of Emily Bailey and John Eden, (Cases VII and IX) in whose...
family history, as given by the mother, there is nothing indicative of syphilis. In the first case however, the girl, besides having all the physiognomical appearance of syphilis, has become blind and deaf; in the two last, a severe attack of constitutional health, yielded readily to specific treatment, and the facial signs are well marked. In these cases therefore I think I am justified in inferring that syphilis exists.

May syphilis then be regarded as the only cause of the current malformations, or is there anything which a further examination of the cases would afford to lead us to think that it is so?

Mr. Hutchinson, Mr. Smith and others have given it as their opinion that nervous stimuli, or some peculiarity condition of the nervous system of the months induced by surmury, is the Cause of deficient the deficiency of the eyelid, so often seen in the upper central incisors of those who are the subjects of infectious syphilis (Op. 8 and 10). At the meeting of the
Odontological society before referred to. (p. 13) M. More advanced the theory that the decaying of the teething and the formation of the incisor teeth in congenital syphilis is due to an arrest in the development of the central denticle or lobes of the teeth, into which he conceives that the incisors are divided in their development. (p. 13)

In this opinion, Mr. Hutchinson concurred, and he agreed with him when he states, that when there was deficiency of enamel in the syphilitic teeth, decay was more frequent in other teeth than in syphilitic teeth. But, in Mr. Hutchinson's view, he goes further than this, for he introduces in his illustrations a representation of teeth (Plate xi), which he appears to be pathognomonic of the effect of syphilis, administered in infancy.

As to the central upper incisor, he gives the name of that tooth, as in the drawings of Congregat syphilis, as to those deformed first, motors he assigns a like place, with regard to a hereditary influence. Indeed be distinctly.
state that the only tooth which can be regarded as dysplastic is the upper central incisor; and that the deformity in the other
lath is dysplastic is probably due to the administration of mercury
(p. 11). He considers that the disfiguring mark of this so-called
nerve-root lath is enamel deficiency, and as this
first molar presents this
deformity most frequently
he calls them "nerve-root
laths" (p. 8).
In plate XXI of his "Medical
figures 3, 4, 5, and 6, were
intended to represent this condition
of the first molar, and of the
first molar in cases 4, 5 and
9 be examined, he announced
they will be seen to resemble the
exactly the appearance
as their depicted. Although of
this resemblance would be more rea
and
from which
the first molar in
certain after the most careful inquiry.
with this history that no mercury was administered and that no climatic eye
repeated.

But does an examination of
the history, given by Dr. Sketches
in explanation of these figures, show
that he was equally justified
in asserting that the effects of
mercury were evident in the
tent? I think not; for in
the account he gives of the patient
from whom figures 4 and 6 were
taken, not a word is said to jus-
tify the assertion that the tent
are mercurial; in figures 4 and
6 the state that the presence of a
deformity of the upper lobe is less
coincident; and in figure 6 where
the same defect is the first new fact
and in some of the other tent cases
there is a distinct statement,
that—although the patient had
lent in early infancy—the fact could
be obtained as to whether or not he
took mercury; Dr. Sketcher states
the humoral fault in the patient as follows:

This patient had cataract, this pa-
tient had deformed lower nictans,
and therefore that the depression in the
first molar is probably commence-
d in its empir. At the same time he
decided that the upper central incisor
in this case was suspicious, though
by no means characteristic of
inherited syphilis. But if there
was evidence in the upper incisors
to justify a suspicion of inherited
syphilis as influencing this con-
formation—why, when there
was no evidence of its administra-
ion of mercury, does he ascribe the
deficiency to the first molars to
its effect?
To the three cases which I have brought
forward as illustrating the facts that
this mental deficiency may exist
without the administration of mercury
I shall add Cases 8, 10, 11, and 12
as showing the same condition and
of which neither mercury nor ad-
ministration of mercury was at any
time present. I shall now refer to the
case (No. 1), in which I know from
the Physician who attended the child for
congenital syphilis, that mercury was only
used to a very slight extent, but as
an application of a very delicate nature
to a small patch of mumps—end and in this the case, the deformity in the so-called mumps teeth, as well as in the vicins, is perhaps as charateristic as it is possible to be.

Of course, this case might be taken by Dr. Horn (who believes in the efficacy of the calomel contained in "Heilmann's Powder") to cause the absence of normal teeth if the administration of mercury.

It must be granted however that if this were the case, the thing which prevent this pecular conformation must be any common wisdom, for I suppose that few, if any children escape the occasional administration of that homoeopathic medicine. One might as well look for luminal deformity in the teeth of patients who in childhood had suffered from "Optithetism's Pearls," and were treated with the application of mercury instead to the lobe by night. It may be said that a small quantity works this influence, in the teeth of those persons only, who are the subjects of a
In each the 1/3 the linear deficiency in the central incisor and the notching are almost imperceptible.
syphilitic cases. But I in acknowledged that in these cases the constitutional effects of mercury are more strongly asserted than in those of healthy persons.

Moreover, my cases show that, in cases where I could state practicably that mercury had been used in the shape of tincture with the necessary ingredients for a prolonged period, the post mortem are perfect (see cases 14 and 16). And further that in those where 2 and 3. where I am equally certain that increased cataract was employed in infancy, the opacity in the cataract is no more marked than in those where no mercury was administered.

I think therefore that those who believe that in mercury as the cause of this characteristic deficiency of cataract, and permanent defect, in the latter are in error.

I have only to point to one case, in order to prove, that it is not due to stomatitis, as case XV.
in which, although the patient suffered from very bad atomatic uti, infancy, and has received marks of a syphilitic eruption in the face, — for which mercury was probably given — the deformity of the teeth is at a minimum. On the other hand, there was no deformity in cases 1, 2, 3, 4, 5, 8, 9, 10, 11, and 12, and yet the well marked deformity, if any, in the manner. I therefore think that, as in these cases of dental deformity, the cause of which I have traced, there is a history of syphilis in all, and positive proof against the influence of mercury or atomatic in producing this deformity; the second and third question originally proposed may be answered as follows: The nature of the deformity, observed in Hutchinson's 1st case, is that of a congenital syphilitic tooth. The defect, in a deformity, is caused by the presence of a congenital syphilitic tooth, in the subjects of these malformations.
It is also obvious, from the description I have given of the deformity affecting these two groups of tubercle of the condyle, under which they occur, that the third question may be answered by stating that the type of the local lesion occurring deforming the joint and causing it to be identical with that of the incisors — an hypothesis which will be referred to later.

In order to ascertain the value of direct malformation as an indication of enuret, it is clear that these two groups of teeth must be studied or fall together.

A further perusal of these cases, and examination of the charts, is necessary, in order to obtain some ideas of the comparative value of the malformations, as guides to a diagnosis of inherited deformed.

As the malformations have been shown to be the same in nature and degree in the two groups of teeth, the only question which remains for consideration is — what is the comparative frequency in the occurrence of the deformity in these two groups?

Before answering this question,
it is necessary to glance at the cases of which syphilital malformation was absent, viz. 14, 16, and 17. No Case 14 and 16 in syphilis have been admitted by the parents (there has been a lengthy time) but as symptoms of syphilis have manifested themselves after infancy.

Case 17 is one of these curious cases, in which syphilis, having one member of a family, and effects of others, for the patient, from whose this case was taken, is the brother of Case X and XVIII, in which syphilitic disease and that at deformity are present.

An example of the same kind is seen in the history given by Dr. Black in Case 18.

In the remaining 15 cases it will be found that in all of them deformity of that deformity exists, and x-ray examination will show, that deformity is most plainly marked in these cases, which have presented well marked symptom of syphilis, in after-life infancy. The compensation figure of wall which (in these cases)
three malformations occur in as follows, 10

First incisors alone 3
Capped incisors alone 1

( in another case not cut).

From the argument, which, throughout this paper I have addressed to oupper of my locus of this chapter, I think I am justified in stating that

I. In patients in whom we have reason to expect, from the sympotms they exhibited, that impacted teeth is present, least valuable confirmatory evidence is afforded by the

upward position which some of the teeth present.

II. That the teeth most frequently affected in congenital deformity, are the upper central incisors and upper and lower first molars of the permanent dent.

III. That the first molars are more frequently affected than the central incisors.

IV. That the utmost of production of deformity in these teeth is
That this deformity is the result of a deficiency in the enamel, and a varying condition of the exposed dentine.

That this characteristic deformity in the first molar is not due to the administration of mercury; nor is it due to Hemstee.

That this deficiency in the enamel of the first molar, observed in the notches of Hersteinious's "tet tulla" of the palate, occurs in benign cases of syphilis and not in mercury.

And as a result of these foregoing statements, it follows

That the characteristic enamel deficiency and consequent malformation of the first molar is perhaps strong evidence of the existence of syphilitic affections, rather than Hersteinious's "tet tulla." 

Appendix.

In addition to the cases above I have already brought forward, I send the case of another infant with which I took a Saturday last. 28th (April) from a private patient. This child is two years old, never had measles or any illness except
Chamber for a few days when she was 8 months old — and whooping cough for which she had no medicine.

Dr. Balke has furnished me with the following history of the case.

"Six months after birth of this child I heard called to attend his uncle, who lived in the same house with his father and brothers. And found him laboring under secondary syphilis; on examination I found that his father and mother were also suffering from syphilis as evidenced by the presence of late secondary symptoms.

The order in which the patients had syphilis was, first the husband, then the wife, and third the brother-in-law. Mrs. J. — has had children since that they have all died; the last two, still-born owing to placenta previa.

The casts of her teeth (No. 20) show to the upper jaw (central incisor) and incisor tooth above the middle of the tooth below which the enamel is thinned and in some places absent."