Ramsbottom These
1861
The Tongue as a means of Diagnosis.
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The subject which I have chosen for my Thesis is one of an eminently practical character, and at the same time one on which so many observations have been made, that I cannot hope to bring forward any new facts in connection with it. My attention was first drawn particularly to it in preparing a Paper on the Tongue to be read before the Royal Medical Society in the course of last session 1859-60. I was then very much struck with the vagueness of the descriptions given in text books of the appearances presented by that organ in diseases occurring in other parts of
the body, and in consequence I confined myself principally to a description of its Anatomy + Physiology, as subjects with which I was at that time more familiar. Since then I have paid more attention to the condition of the tongue in various forms of disease than I should otherwise probably have done, and as I think, that anything which can possibly aid us in our diagnosis of disease is worthy of attention, however small that aid may be, I venture now to bring before the medical faculty the result partly of a more careful study of the text books, partly also of observations made on cases occurring in the Royal Infirmary.

Since the introduction of the Stethoscope as our great means of diagnosis, there has been a tendency to trust more and more to the physical signs alone, in the formation of it, and to leave those symptoms by which our forefathers were chiefly guided, more and more out of the question. This
Manual of Medical Diagnosis. p. 33.

Traité de Diagnostic. t. ii p. 105 1448.

Principles & Practice of Physic vol i. p. 131.
Error ought carefully to be avoided, and diagnoses founded on both sets of phenomena, as the information derived from the one will often enable us to correct erroneous observations of the other. And of all the various symptoms there is hardly any one more valuable than the state of tongue, sympathising as that organ does so readily with morbid changes going on in other parts of the system. Dr. Barclay tells us that "its varying characters have great significance as symptoms of the general condition of the patient." Pity too, with all his revolutionary ideas about medicine, still tells us that "the tongue is without doubt that part of the mouth which merits the closest inspection." and lastly Dr. Watson reminds us forcibly of its importance when he says "Various and full of meaning are the conditions of appearances presented by the tongue. A patient would think you careless or ignorant of your craft, if you did not at
Barclay, loc. cit.

op. cit.: §§ 1456, 1458.
Sorry visit look at his tongue as well as feel his pulse.

Such being the importance of the examination of the tongue, the first question which comes to be considered is, what are we to observe? Principally its coating and its degree of moisture: and the reason of this we shall better see by the consideration of what the fur is, and how it is produced.

The fur consists essentially of an altered condition of the Epithelium covering the tongue. On this point all writers are agreed. But they are by no means agreed as to its cause. Piorey for instance enters into a most elaborate disquisition to prove that it is simply caused by the drying of the Saliva. He states that by drying the Saliva collected from the mouth of a perfectly healthy man, at a temperature of 30° C., all the appearances as presented by fur or ulcer disease, were produced. According as the process of drying occupied a shorter or a longer time, so would...
The white, yellow, or dark colours of the fur presented themselves. This, although it may account for certain varieties in the appearance of the fur, can hardly I think be considered as altogether accounting for its production. If it were true that the dying of the Saliva was the cause of the fur appearing then would the tongue afford us no indication whatsoever as to the state of the constitution, but only inform us that the Saliva had been a longer or shorter time in the mouth. And this is indeed, the very opinion he would have us hold, in direct opposition to that of every other writer on the subject.

I think however, that it is much more probably due to an altered state of the nutrition of the tongue, coinciding with, and dependent on an altered and deranged state of the nutrition in other parts of the body. In health, the balance is equal between waste or repair of tissue, in other words, between production and removal. In ac-
I do not use these terms "Infection" and "Excretion" in their strictly physiological sense, but only as convenient by expressing the relation between these two processes.

* British Medical Journal. April 1859.
Conformance with this law as soon as the epithelium on the tongue has discharged its functions, it is thrown off, "excised" as it were, and fresh epithelium springs up, to "secret or" to supply its place. Now, whatever seems to disturb this balance, whether it be an increased "secretion", or a deficient "evaporation", it is evident that more epithelium will be produced than can be removed, and thus some will be left to form the furry coating of the tongue.

This view receives additional support from a theory put forward last year by Dr. Inman of Liverpool, that "excessive secretion is a more frequent concomitant of debility than of strength," or in the words of Mr. Lewis (quoted by Dr. Inman) "increased secretion results from increased action of the secreting organ; increased special power, though caused perhaps by an organic disturbance coincident with diminished general power." Secretion too is only a form of molecular nutrition, the tissue nourished being the epithelial.
# Spencer. Remarks on Dr. Inman's paper.

Since writing the above I have learned that Professor Goodwin, in his lectures this year, brings forward exactly this view of the production of fur. I have no notes of such a lecture during the session I attended his class; but I have no doubt that it has been from his teaching that I derived the idea.

Perry op. cit. § 1449.
cells, and the nutrient supplied to them becoming ultimately the secretion itself. Without asserting that the epithelium of the tongue has any secreting function, or has any other function than merely to be a protection to the delicate papillae below it, I think we may nevertheless conceive such a process to be going on in them, and account in this way for the increased fur of the tongue in disease, although it is by no means a general rule, that the greater the debility, the greater the amount of fur.

The general appearance of the tongue, its shape, colour, etc., should also be noticed; and this part of the examination should be made when the tongue is in situ, as the contraction of the muscles protruding it, frequently produces important changes in these respects. The manner and direction of protrusion should also be noticed.
This being in general terms what we have to observe, the next question to be considered is, in what way do these appearances differ in different diseases, and how far may they be safely relied on, as aids to diagnosis.

In answering this question, I shall first briefly describe the appearance of the tongue in certain diseases in which it is peculiarly characteristic.

In Scarlatina, the tongue presents a remarkable appearance, and one which is generally considered to be pathognomonic. In the earlier stages of the disease the tongue is covered by a white creamy fur, through which are here and there seen little red spots, most numerous towards the tip and edges, and resembling very much the achenee of the fruit of the Strawberry, from which appearance it has derived its name of the “Strawberry Tongue.” As the disease
Advances, the epithelium is cast off, and during the later stages the tongue is free from fur, bright red and saw-like, with the papilla, especially the fungiform papillae, very prominent. The reason of this appearance is, the turgidity of the capillaries and consequent swelling of the papillae. This swelling is however concealed during the earlier periods by the fur, which is invariably most abundant over the filiform papillae; the colour showing readily through the thin epithelial covering of the fungiform papillae.

I have said that this appearance is generally considered pathognomonic. Professor Laycock places it among other means of diagnosing this from. I quote from my notes of his lectures delivered during this session. "The tongue, I think may be considered as the most pathognomonic symptom, then the Eruption."
Although this appearance is certainly very peculiar, it is not safe to found our diagnosis on it alone. I noticed it specially in two cases of Pneumonia, the one a boy, and the other, a girl, both brought into the Royal Infirmary about the same time. The girl was tent as a case of Scarlet Fever, a mistake probably occasioned by relying too much on the truthfulness of the tongue, as upon examination no other sign of Scarlet Fever could be detected, the case being one of pure Acute Pneumonia.

In Etiere I find the appearance of the tongue is very peculiar. In the earlier stages of the fever we find a band or streak of white fur, extending for about three-eighths of an inch on either side the middle line, along the whole length of the tongue: in front, and at its outer edge it reaches quite to the margin of the tongue, usually receding from this point to the
Middle line, so as to leave a triangular space at the tip of the tongue free from fur. This fur is never thick or creamy and the rest of the tongue is moist, with no unnatural appearance other than a slightly increased redness. As the disease advances the redness deepens somewhat in hue, the papillae slightly enlarge, but until it becomes so severe as apparent to leave the patient no chance of recovery, the character of the fur does not materially alter, it then becomes dry and brownish, assuming the appearance of the sordes which collect about the lips and teeth.

For the following extracts from the reports of two cases which occurred in the Royal Infirmary this winter, and in which these appearances were strictly developed I am indebted to Dr. Joseph Bell, who has kindly allowed me to make use of his notes.
Case I. Margaret Watson, aged 18, admitted to Ward XVI with typhoid fever Jan. 1st.

7th: Up to this date no change was observed in the condition of the tongue. The bowels continued loose & the fever high. Today, pulse 120: patient slightly incoherent in her answers to questions put, and evidently wandering in her mind. Bowels still very loose. Tongue, dry & brown, except at the edges, which are moist and clean looking.

After this the patient became more & more prostrated; the delirium increased, and all the symptoms became worse till finally, she sank & died on the 18th. Up to the time of her death no further change in the appearance of the tongue was noticed.
Case II. Euphemia M. Nair, aged 16. admitted to Ward XVI with enteric fever, Feb. 7th

Feb. 10th. Bowels very loose. Several loose spots found on abdomen. Tongue moist, slightly furred in the middle. Edges clean.

13th. Tongue with white fur as before. The remainder of the tongue very red, the papilla slightly enlarged. Bowels still very loose.

16th. Tongue as before. Bowels loose.

The fever had now reached its height; from this time she began to ameliorate. The tongue cleaned rapidly, although her convalescence was slow.

This appearance, so far as I am aware, is not found in any other disease, and may fairly be ranked as if at least equal value in diagnosis, with the strawberry tongue of scarlatina.

In Anaemia and Chlorosis too, the tongue may afford us great assistance. The "anaemic tongue" is "clean, moist, pale, and perfect smooth, the papilla being lost in a general scolling of the mucous membrane." This condition is also mentioned by Florence, though he only says that "in Anaemia the tongue is pale"; and "in Chlorosis, the Stomach is much affected, the tongue is colourless (décolorée)."

I may here mention a case, which occurred in the Royal Infirmary, this winter under Dr. Gairdner's care, to whom I am greatly indebted for his kind permission to use this case and many others, in illustration of the subject of my Thesis.

Case. A girl, Helen Jamieson, aged 16, was brought in by her Mother on account of Haemoptysis. She presented all the appearances usually supposed to indicate the Strumous Habit, fair
Cannot a chlorotic female become male?
skin, fine silky hair. On examination there was no dull percussion over either lung in front or behind. Auscultation showed no signs of Phtisis, and the sputum though streaked with blood was neither globular nor purulent. On her protruding tongue, it was seen to present precisely the characters above described, and was mentioned by Dr. Gardner as confirming his opinion that the lungs were perfectly healthy, and that the hemoptysis was dependent on some other cause than disease of those organs. On further examination into her history, it was discovered that she had been suffering under uterine arrangement for some time, and the hemoptysis was considered as purely functional, in fact a vicarious menstruation. She was kept under observation for some time, and repeatedly examined, but no other facts were elicited.
Audral, *Anatomie Pathologique* pt II. Sec II.

In cases of Sphilitis, or of Syphilitic origin, the tongue will often tell us the truth, if our patients are unwilling to admit it. "Whatever be the way in which the Syphilitic virus be supposed to exist, still it is true that in a shorter or longer time after impure coition, we but too frequently find the different portions of the stomato-pharyngeal mucous membrane eaten up by ulcers", and a very common seat of this ulceration is the tongue. The ulcers are small, well defined, grey or sometimes red, very much like the small ulcers which almost everyone has experienced as the result of dyspepsia: and they occur principally at the tip and towards the edges of the tongue. They are formed by an effusion of lymph into a papilla, which afterwards bursts and ulcerates. Although they are frequently caused by indigestion alone, yet their occurrence in any great quantity, or with any
Lawrence in Med. Gazella, vol xxxvi.
and A. Hyde Salter, loc. cit.
great frequency, ought to lead us to the suspicion, at any rate, of syphilitic fiant, and induce us to adopt measures to get rid of it as soon as possible.

Another form of syphilitic affection of the tongue consists in the appearance of tubercles of a very remarkable character, called "glossy tubercles". They are produced by the effusion of lymph into the cellular tissue beneath the mucous membrane, thereby causing its elevation; so that the level portion of the mucous membrane is raised above the papilla, thus causing their obliteration for the membrane covering them is separated from them, and opens out to form a smooth sheet over the part affected. These tubercles are hard dense whitish, opaque, fleshy, and not at all painful; and they may occupy either the whole tongue, or only parts of it. These tubercles are only found in syphilitic patients, and in them they
d'Lawrence etc. et.
are often associated with dyspepsia; a very slight attack of which is sufficient to bring out a crop of tubercles, and this liability remains long after the disappearance of most other syphilitic affections. Dr. Saltz mentions a case in which they occurred 10 years after the reception of the original sores. Luckily it is not a troublesome form of disease, yielding readily to iodide of potassium. If left to itself however, it is apt to form fissures of the tongue.

I have mentioned these affections which may be perhaps considered as special diseases of the tongue, and hardly coming within the scope of this RESIS, because they indicate a constitutional state, and require for their removal that that constitutional state should be treated.
From the consideration of these &
markably characteristic appearances I pass on to notice some others, which, although not so peculiar, nevertheless afford us very valuable indications of the true nature of the disease we are called upon to treat, and frequently enable us to separate it from other diseases of a somewhat similar character.

In Delirious Frenzies, for instance, the tongue is moist & covered with a creamy fur, enabling us at once, even without the assistance of the previous history of the case, or a knowledge of the mode of commencement of the attack, to distinguish between this comparatively mild & tractable complaint, and the far more serious Inflammatory diseases of the Brain, in which the tongue is dry, parched-looking, & if furred, having a white rough fur, very different from that of Delirious Frenzies.
Again when persons of dissipated habits are attacked by Pneumonia, the delirium assumes a type very similar to that of Delirium Tardus; and in such cases and those by no means rare, one in which Delirium Tardus is complicated with Pneumonia, the tongue has not the moist creamy appearance, but is dry, or coated, though not very thickly. Such a condition of tongue occurring with delirium of this character, should lead us carefully to examine the lungs, as in all probability we shall there find either the cause of the delirium, or a state of matters modifying considerably our prognostics of the case. In diseases of the lungs we may occasionally find the tongue of some service. In tubercular disease the tongue is never furrowed to any great degree, unless accidentally, by some derangement of the digestive system. The hectic condition of Phthisis may readily be diagnosed
"All the instances that I have seen, three or four only I remember, were supposed by me to be cases of extensive inflammation of the lungs." Watson's Practice of Leprosy vol II. p. 205.
from Pneumonia before putting a Bath.

Scope to the chest at all by taking into consideration the state of the tongue and the character of the flush: a dusky flush and a coated tongue in the one case; or a brilliant flush, and a tongue not usually coated, but often dry, pale, and even chapped in the other.

I do not know whether this iron coating of the tongue holds good in acute tuberculosis of the lung. If it does it would be a great help to us in distinguishing it from simple acute Pneumonia, by which it is generally masked, and with which it is very liable to be confounded.

This iron-coated tongue is characteristic of tubercular disease generally, and contrasts remarkably with the tongue of Cancer, which has a white firm except at the edges or tip which are red, the red of such a brilliant hue as in the somewhat similar tongue seen in Inflammatory Peculiar FEVER.
In diseases of the digestive system, too, the tongue is of very great importance, for disordered states of that organ, when unaccompanied by fever, or other constitutional symptoms, almost always indicate some derangement or other of the alimentary canal; and the character of this derangement is often pointed out by the varying conditions in which we find the tongue.

Thus, Constipation is due to a variety of causes, and in each the tongue presents some distinctive phenomena. If it be due to dyspepsia alone, the tongue is coated, but there is no fever; if to enteritis, the tongue is coated, there is accompanying fever, and there is a peculiar buff leather appearance. If to piles, the tongue, though dry, is not coated.

Nor do we find it less valuable in the opposite condition of diarrhoea. There are two kinds of summer cholera, distinguishable by the character of the stools and tongue. In the first, the stools are dark, and the
tongue foul. Although chiefly prevalent during the summer months, this is a simple diarrhoea, probably having some
what the nature of a catarrh of the bowels, & depending on changes of temper-
ature. In the other form, the true summer cholera, which is exactly like the choleraic diarrhoea accompanying epidemic cholera, the tongue is clean & the stools pale & watery. In these cases the appearance of the tongue would suggest the true nature of the disease, but our diagnosis would require confirmation by the examination of the stools.

Dyspepsia not infrequently produces ulceration of the tongue; the most common form of ulcer being like the small superficial ulcer already described as syphilitic, and which troubles the patient either not at all, or very slightly. Then there is a second form, larger, deeper, and much more severe described by Mr. Lawrence; and fi-
nally there is the aphthous ulceration which is eminently the result of disordered digestion. This ulcer is formed by the falling off of the little white aphthous masses from the mucous membrane, & is of itself, in no way distinguishable from the small superficial ulcer above mentioned; the little masses of aphthae in its neighbourhood will, however, indicate its true nature.

In ulceration of the Stomach, we sometimes find the tongue sympathetic and becoming ulcerated too; in this case the tongue is red and raw, instead of, as in functional dyspepsia, being more or less coated. This red raw & ulcerated appearance more commonly accompanies ulceration of the bowels, & when in enteric fever the tongue becomes, glazed and pebbled, an appearance especially marked in the centre of the tongue, over that tract mentioned as far
lying in the earlier stage of the attack, and after a while chapped, aphthous, or ulcerated, it affords us great ground for suspicion that ulceration is going on in the intestines, although no other signs of such an occurrence be present. It is not always found, however, even when ulceration is going on, and therefore though its presence tells us with almost absolute certainty that ulceration of the bowels is taking place, its absence cannot be relied on as proving the converse.

In diseases of the other abdominal viscera, the tongue offers us no distinctive marks. In bilious disorders, it has indeed been said that the tongue is of a yellow tinge, but it is not so in jaundice, in which all bilious diseases we should most naturally expect it. Here however the tongue is thickly coated with a white fur, and forms a curious contrast to the colour of the face.
"Scolomology, or the additional means of diagnosis of disease derived from indications & appearances of the Tongue."

London: Churchill.
In all these instances the tongue does, no doubt, give us very valuable assistance; but still they are only isolated facts, and the question is continually presenting itself to this all: is there no classification of these appearances: are there no general laws regulating the feeling of the tongue by which we may upon inspection be guided to the character or situation of the disease we are to meet with?

In 1843, a metropolitan practitioner, Dr. Benjamin Ridge, published a treatise on this very subject, in the preface to which he expresses great confidence, that the appearances which the tongue presents in different diseases will enable us at once to recognise their nature. I quote from the preface to the Second Edition:

"The tongue never fails to indicate to the expert glossologist the seat and character of disease generally, and to point to the proper remedies for its alleviation and cure." If this be really
The case, we should have a remarkable aid to diagnosis in the tongue, and a great saving of time and trouble both to ourselves and our patients would be effected, if upon inspection of that organ, we could find even an indication merely, as to the "seat and character" of disease. Nor is this all he promises us from a study of "Glossology"; it will "place us above our patient" and "enable us to detect deception"; for "when the tongue is silent, it tells the truth."

It is well worthy of enquiry, therefore, how far Glossology will perform all it promises, and the best method of pursuing such an inquiry will be to examine Mr. Ridgés System in its various details. This great principle seems to be, that different diseases are indicated, not by differences in the appearance of the tongue as a whole, but by the different situation which the furring or coating may occupy. Accordingly, he has mapped out the tongue into a series of divisions, apportioning each.
Diagram copied from Dr. Ridges work, showing his division of the tongue.

A. A. The Centres
B. B. The Laterals
C. C. The Edges
These are seen subdivided into fourths by transverse lines.
D. D. The Sides
E. E. The Tip
F. F. The Oval.
of them to an organ or series of organs in the body. Without giving his rules for dividing the tongue, which I confess I do not clearly understand I subjoin a diagram of the division arrived at.

On each side the median line we have three spaces, called respectively the “centre,” “lateral,” and “edge.” Each of these is subdivided into four spaces, from behind forward, the “posterior fourth,” “second fourth,” “third fourth,” and “anterior fourth.” At the extreme tip of the tongue is a small triangular space, situated entirely in the centre anterior fourth is the “tip”; partly in the anterior fourth, partly in the third fourth, are situated at the median line the “oral,” at the margins the “sides.” This division he seems to have made empirically from observations in diseases, and not to have based it on any theoretical grounds, stating however that he afterwards found it to correspond with the anatomy of the
tongue, meaning by this its muscular anatomy. Why this should afford us satisfactory reasons for these divisions (57) is hard to say; for one set of muscles does not appear more connected with any particular set of organs than another.

This apportionment of the divisions is as follows.

The “Centres” are apportioned to the respiratory organs;
the posterior fourth to the lungs and trachea;
the second fourth to the bronchi;
the third fourth from the bronchi to their terminations, viz., as far as the pleura plicimonalis;
The “Oval” to the pleura pulmonalis or costalis;
The laterals to the digestive apparatus generally;
the posterior fourth to the pharynx and esophagus;
the second fourth, to the stomach
duodenum, liver, spleen & pancreas.
the third fourth, partly to the above organs, and partly also to the small intestines.
the anterior fourth to the small intestines as far as the cecum.
the “tip” to the large intestines.
the “sides” to the kidneys.
the “edges” to the brain.
the posterior fourth to the occipital region.
the second fourth to the parietal region.
the third fourth, as far as the sides, to the frontal region.
the heart, as the great engine for the propulsion of the blood, takes in the whole tongue.

This division is very pretty and simple, & if true, a glance at the tongue would at once indicate to us the “seat”
character of the disease. Is this allocation however a correct one? Can any connection be shown to exist between these "tracks," or the organs to which they are allotted?

Take the two simplest divisions, the "Centres" and "Lateral," allotted the one to the Respiratory, the other to the Digestive System. Continuity of texture has often a great influence on the spread of a disease, and this would in some measure explain this connection, for the mucous membrane of the Centres is reflected over the Epiglottis into the Larynx, and continued into the Respiratory passages, and that of the Lateral is continued into the Pharynx, thus brought into closer connection with the alimentary passages.

But this explanation does not satisfy Mr. Ridge. He attributes the connection to nervous influence. The laryngeal nerve, which is a direct branch from the plexus oesogastrique or par vagum, will be found in its union to determine to that part...
called the centres, which are more in connection with the trachea & lungs than any other part of the tongue, & consequently will indicate the state of those organs & passages. Undoubtedly the superior laryngeal nerve does give branches to the back part of the tongue, to that part which Mr. Ridge states is most in connection with the larynx & trachea, viz., the posterior fourth of the centre. What are the connections of the laryngeal nerve, which thus set apart this special region of the tongue? The nerves supplying the trachea rise from that tract of the Pneumogastric nearest to that from which the recurrent laryngeal branch arises, & with which they intermingle. The recurrent laryngeal in its turn anastomoses with the superior laryngeal, & this nerve supplies the back of the tongue. So far this is very good, & admirably confirms Mr. Ridge's theory. But, the recurrent laryngeal has other connections, for
from the same part of the vagus we have twigs given off to supply the upper thoracic portion of the esophagus. These also anastomose with the recurrent laryngeal, thus the esophagus is in the same way brought into connection with the same part of the tongue, which might thus be just as reasonably on this ground be given to the esophagus as to the trachea.

With regard to the apportionment of the "laterals" he says; "If we descend, in tracing the connections with that most important of all nerves for the diagnosis of disease, the par vagum, we shall find ample proof that the portion of the tongue here called the laterals, indicates the state of the alimentary canal and its assisting organ as more than any other part."

The connections of the esophageal nerves with the tongue I have just traced, and they show that the posterior portion of the centres might just as well be allotted...
p. 18.
to the esophagus as the laterals, and the
same thing holds good of the lower portion
of the alimentary canal.

In the same way it might be shown
that the spaces allotted to the brain, kid-
neys, large intestines, & pleura, have no
such special connection with these various
organs, as to warrant our supposing on
any theoretical grounds, that they would
warn us of morbid alterations therein
occurring.

But as Mr. Pidge expressly says "it
was not the anatomy of the organ that
first gave me the idea, but practical,
observations on the variety of its appear-
ances, coupled with the diseases I was
called upon to treat," it would be very
unfair to reject his theory on anatomi-
cal grounds, without giving it a fair
practical trial. With this object in view
I have carefully examined the tongue
in several cases which came under my
notice in the Royal Infirmary, and al-

though I commenced the investigation in the hope that his theory might be confirmed, the result has not hitherto fulfilled this expectation. I select the following cases from among those examined, as having more especially caused me to differ from him.

Case I. Robert George, aged 37, admitted to Ward IV, Jan. 28th, with complete hemiplegia of the right side; the paralysis affecting both face, arm, and leg. As described by his wife as having for a long time been "kind o' silly". Had occasionally drunk spirits to excess, not a regular drunkard. 12 months ago he commenced to have what the terms "nervous fits", commencing with a cry, and characterised by insensibility, pallor of the face, & biting of the tongue, but there were no convulsions. 9 days before admission he had two attacks of insensibility (not described) but the loss of power did not come on
for two days afterwards. He had when young, an injury of the head, and there is still felt a curious irregularity in the lambdoidal suture on the left side.

Tongue furred over the centres; edges clean, and natural looking.

Case II. David Grabb, aged 61, admitted into Ward III, Feb 6th, with nearly complete hemiplegia of the right side. Apparently understands what is said to him, though unable to answer. Has no convulsions, and only slight startor, but passes his excrement in bed.

Has had two attacks of melancholia 20 and 15 years ago respectively; 10 years ago he took to drinking, and continued a hard drinker for 8 years. The hemiplegia commenced with loss of speech, there being apparently no apoplectic fit.
Tongue - neither furred nor chapped at the edges. Centres & laterals very slightly furred.

In these two cases, both of well-marked cerebral disease, there was nothing abnormal in those tracts of the tongue allotted by Dr. Ridge to the brain, by the edges; while the rest of the tongue was decidedly unhealthy. Contrast with these the following:

Case III. C. M. Gregor, aged 36, admitted to Ward XV. Feb. 3rd, with erysipelas of the right side of the face, extending over the scalp. It was a mild attack, and there were no head symptoms during the progress of the case.

Tongue - moist, coated all over with a thick, yellowish fur.

Here, where there were no cerebral symptoms, & no suspicion of any cerebral complication, the edges as well as the rest of the tongue were furred.
Case IV. John Reuton aged 20 admitted to Ward TV Feb. 27th complaining of cough & spit. There is almost complete aphonia. Deafness has existed for three weeks. The sputum is purulent and globular. Dullness on percussion exists over the left front as low as the heart. With 'cracked-pot' sound about the 2nd rib, brought out by strong percussion. Over the whole left front are râles of a crackling cavernous character.

Tongue - Clean, dry in the centre, raw looking, no enlargement of the papilla.

Case V. Alex. Lyyn, aged 23 admitted to Ward TV. October 31st, complaining of a cough & spit which has existed for three months, and Shortness of breath, with occasional pain in the right side of the chest. Bowels regular, rectal anal discharges severe. On the right front a
Dull percussion, from the supra-clavicular region to 2nd intercostal space. Respiratory murmur here deficient, no marked rales, vocal resonance slightly diminished. On the right side behind, is marked dullness on percussion in the lower part, from the 4th dorsal spine. Respiratory murmur almost entirely absent, what there is, is tubular. In right apex, the respiratory murmur is hollow of tubular, with slight cavernous rale.

Tongue - clean & pale; no fur.

But not only in chronic diseases of the lung do we find the indications on the tongue by no means corresponding to Mr. Ridges division; in acute diseases also, the coating is by no means confined merely to the centre laterally.

Case VI. Eliz. McDonald, aged 8, sent in Mar. 8th to Ward XVI. as a case of Scarlatina. On Examination, there...
is found in scarlatina. Death: The respiration is hurried; pulse 140; slight, herpetic eruption about the lips; sputum, small in quantity, rusty... The base of right lung behind is dull, and over this part are heard fine crepitating rales.

Tongue. Scurry over centres and laterals; the fungiform papillae enlarged & red, visible thru' the fur, giving it the appearance of the "Strawberry tongue". Tip & edges rather red; but tongue moist.

I have already alluded to this case, and to that of a boy, James Arms. Strong, aged 9, admitted soon after, in whom the symptoms were nearly the same and the appearance of the tongue precisely similar, in connection with the Strawberry tongue. In both I ascertained particularly that the bowels were regular, so that the juring of the laterals was not due to any irritation arising
from this source, and most in some way have been connected with the disease of the lungs.

Case VIII. Robert Harrower aged 13, admitted to Ward 7, Nov 17th, complaining of great increase in the quantity of his urine, a state of matters which has existed for six weeks. He pale and emaciated; has no sweating nor looseness of the bowels.... Examination of the chest elicits nothing decided; the right apex behind, is dull to percussion; the expiratory murmur is prolonged and tubular. No rale... urine loaded with sugar; the quantity passed in 24 hours varying from 350 to 400 ounces.

Tongue moist and clean; ed in front at the tip and edges; slight fur behind.

Case VIII. Alex. Neil, aged 39, admitted into Ward 7, Jan 11th, complain
Swellings of the legs and scrotum; percussion of abdomen normal, except slight hepatic dullness. No tenderness on deep pressure of loins. There is only a tense, tender adena of the legs and scrotum.

The adena of the scrotum of old standing, that of the legs just noticed about 2 months ago. Urine albuminous, with waxy tube cast. Sp. gr. average 1011. Quantity passed in 24 hours average 120 ounces during first fortnight after admission.

Tongue, almost perfectly clean; no peculiar appearance visible at the sides.

Case IX. Margaret O'Gr., aged 25, admitted to Ward XIV, March 17th, with all the symptoms of acute Bright's disease. Face puffy; slight ascites. Urine highly albuminous. Sp. gr. 1012. Quantity passed during first 24 hours after admission, 36 ounces. Tongue almost absolutely clean, with the slightest possible fur at the back part.
The case of diabetes, and the first case of Bright's disease were under observation for some time but repeated and careful examination of the tongue failed to discover any appearances at the "sides" which would distinguish them from other parts of the tongue.

As regards the affections of the bowels, the cases of enteric fever already recorded, show that in this particular disease, at any rate, which is one of the most marked forms of intestinal disarrangement, Mr. Ridges's theory does not hold good. It is the centres, not the laterals which are furred, and curiously enough the arbitrary line drawn by him as separating these two divisions almost exactly defies the limits of the fur.
I think that the only exceptions in which the state of the 2. characterizes the presence of certain maladies, are those only, or these may be of help to diagnosis. The advantage one derives from a study of these, in relation to the degree or gravity of diseases, is the change at they are undergoing, then as to their distinction from one another. Essentially the same coating is common to many different diseases, but that does not apply to a matter of one of the many and some of those various diseases. The fact of the coating being the same, or close and general, will cause us to judge very generally whether the disease, if curable at all, will take us a long or a short time in order to succeed. This is true in both many similar, even female diseases, e.g., Ac. Morb. which closely corresponds to leucocytophylous cellular, or any specially leucocytophylous, and chronic disorders, the history of the 1. are very significant as to their gravity — great importance of changes in the T. settling for a cleaner.
From all these considerations we are bound to admit, that the tongue does afford us much valuable aid in diagnosis, but we cannot trace to it alone. Taken by itself it will afford us no safe and certain guide: but if we study its indications in their proper place, viz. in connexion with the other symptoms presented by the patient, we shall find them to be of great use in correcting or confirming the opinions we have formed. But it will do no more for us; it can give us no information regarding the seat of the disease, tho’ when the seat is known, it will often guide us to a knowledge of its character. And it is well that it should be so; for if we believed that the tongue could do all the great things which have been claimed for it, we should inevitably rely so much on it as to overlook many other important symptoms of the case; and the consequence of all this would be, that our treatment,
founded on an imperfect diagnosis, would degenerate into mere empiricism.

I am quite conscious of the many imperfections and the incompleteness of this Essay. Much yet remains to be investigated in connection with this subject, and I can only offer it as a sort of clearing away the brushwood, preparatory to putting a field, so rich in promise, under cultivation.

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