Thesis for M.D.

On Sprue

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This essay is founded upon a study of a series of sixty-two cases of Sprue which have come under the writers observation during the past fifteen years. A few of these have gone beyond this time, others have died of the disease, while yet others are now under observation.

It is to the study of the two latter groups, followed from their inception, that many symptoms, which in the early stages might have been ascribed to intracurvent complications, have, by their constancy of recurrence, and in the light of their subsequent developments, been recognized as integral parts of the disease, and incorporated in the descriptions which follow.

Sprue may be defined as "a disease of mucous membranes, affecting chiefly that of the alimentary tract," characterized Histologically, primarily by changes of the nature of a small cellular infiltration in the Submucosa — secondarily by pressure upon and deformity of the proper constituents of that once the Super-immured tissues, and finally, by contraction of the new tissue upon the Structures.
which it implicatio. and their transformation into fibrous tissue.

Clinically, as to the alimentary tract, by dysphasia, aphasia, deficient absorption occasionally by diarrhoea, always by imiation and anemia—as to the genital tract during the period of uterine activity by menorrhagia, metrorrhagia, abortion and premature labour.

In the very acute early inflammatory stage, the mouth shows the entire mucous to be swollen, engorged and bright red, the glandular granules also engorged, forming rounded prominences throughout all the inner surfaces of the lips and cheeks. The wrinlths of the roof of the mouth are obliterated, the soft palate is swollen, thickened and its movements limited. The sublingual cushions fill the floor of the mouth, and the frennum linguue is represented by a rigid, vibrate cord. The tongue is swollen so as to be indented at its margins by the teeth, the dorsum is devoid of fur, (epithelium and filiform papila) while the fungiform papilla stand out red and prominent. The ehm V mor
of circumvallate papillae are smaller and ped
each being capped by a central yellow patch of
nerve cord epithelium. The pharynx is
smooth ped and glistening, either quite dry
or with struggling clods of mucous-purulent adherent to
it.
When the disease has been in existence for some
time and there have been many exacerbations
of inflammation, the mucous membrane of the
mouth and pharynx throughout its extent becomes
of a yellowish grey colour, has a glistening
shiny, is perfectly smooth to the touch, and
gives a feeling of resistance. The tongue is smaller
than normal and perfectly bare of filiform
papillae and of epithelium. Tracts, indicative
of fibrous change are not visible, and on these
tracts the fungiform papillae, though not
as bright red as clods, are not prominent. Ulcers and
tumours of various kinds are not in evidence
upon tongue, cheeks and palate, but those can
described later.

In the most Chronic type of Cans (natural
Shrue) which have died of the disease, the
amount of contraction is extreme. The oral
aperture is a mere rigid slit, the tongue about one fourth the normal seji (Parrots tongue) the mucous membrane hence everywhere been replaced by a firm smooth tissue so that soft pallet, ethmoids and lips are nearly rigid. The gullet is a narrow inelastic tube, its walls quite smooth and of a slate colour. The Stomach greatly contracted (one 7a, 11b) has walls of a grey colour, their thickness not differing much from the normal, but the impression to touch is that of a dense tough material like stout web or leather, almost toward the Pylorus. In part of the small intestine these strong constrictions run nearly round the circumference of the gut at intervals, probably all that remains of the Valvulae conniventes. The small intestine throughout its extent now narrowed in Caliber it no longer much thinner so as to be represented by a thin tough homogenous membrane, and towards the lower part of the ilium, patches of thickening were present at intervals. The lower bowel now somewhat dilated (in-stipated cause both) and its walls thinner, with much stridency mucous adhering to them. The atrophic changes in the Stomach and
Intrauterine iritis not uniform throughout. Some tracts being much more affected than others. This may most easily observably in the Stomach.

It has not been possible for the writer to obtain any examination of the condition of the internal organs in the early stages of the disease. This is owing to the circumstance that all the cases cared for have come under his care from European and it is recognized that as soon as they are fit to travel, they ought to be sent to a temperate climate. The study of the changes in the early inflammatory stage has therefore been carried out by means of Sections, obtained under Becquerel anesthesia, from the mucous membrane of the tongue and buccal cavity.

A favourable section, at right angles to the surface of the tongue, shows the Submucosa, corium, tissue to be clearly backed by an infiltration of small round cells with occasional lymphocytes. There is no evidence of a basement membrane or any differentiation between Submucosa and mucosa except the corium prolongation invaginating the interpapillar and subglandular sulci, diminishing their depth and flattening them out.
The vessels of the Submucosa show signs of pressure and displacement, and the papillary layer of the dorsum is pushed up towards the surface. The fungiform papillae are very prominent and congested, while the fine branchings of the filiform are more or less necrotic.

The epithelium of the dorsum is much thinned. The superficial layers may even be quite detached, forming shallow ulcer covered by a stratum of epithelial cells and filiform papillae. These necrotic areas shade off into healthy epithelium.

Sections of the buccal mucous membrane show the same infiltration, not however so dense, passing from the Submucosa upwards, distorting and displacing the mucous glands, causing them to assume prominence, and producing exfoliation of the surface epithelium.

In cases of very old standing, the ultimate form in nature remained post-mortem, the tongue cut like cartilage and sections demonstrated a complete absence of surface epithelium or trace of papillae, their place being taken by a dense layer of fibrous tissue, thickest upon the dorsum, with
fibrous arranged longitudinally to the surface. From this layer prolongations passed downwards between the much atrophied muscular bundles, these prolongations being larger and densest immediately on either side of the papillae.

The oesophagus was devoid of epithelium in its whole length, and was composed of a thin layer of smooth fibrous tissue. The muscular layer was much reacted and difficult of detection.

Allowing for the difficulty of demonstration in the stomach post-mortem, it may be said that fundamentally the changes were the same then as have been described in the Oesophagus. The cardiac tracts in the fundus on examination showed the debris of glands chiefly, with occasionally a normal gland. Gastic transformation was extremely rare. Towards the pylorus the thickening now mainly due to an increase development of fibrous tissue. The tunnel parts of the gastric wall were mostly a fibrous membrane, with complete absence of any trace of glandular elements.

Throughout the intima the changes found were
a complete or nearly complete absence of the mucosa and glandular layers and their replacement by fibrous tissue. The exception to this general statement was in the chneau patches occurring in the lower part of the trachea. An examination of these showed them to be composed of compressed and much atrophied lymphoid tissue, probably the remains of peri-tracheal lymphoid tissue, resting on a basis of firm connective tissue.

The larynx involved was dilated, its walls thinner than normal, but there was no lack of evidence of muscular tissue in its walls.

The liver was much smaller than normal, but there was no departure from that in its structure.

The pomerous was fibrotic, the kidneys and spleen not examined.
Lucid and masterly as are the accounts of Sprue extant in our language, it very soon is forced upon the clinician that however much has been said about the disease, much more has remained unsaid. This is especially true as regards the classification and prognosis of Sprue. It is only with the former of these which we have at present to deal.

From a study of the Appendices it requires no great acumen to divide the cases thus recorded into three well defined classes, taking as the basis for such a classification the region in the alimentary tract in which, arguing from clinical data, the disease had its origin. Such a classification is expedient in so much that, treating up to the forty stages of Sprue it may enable anyone to whom the disease is new or less a novelty, to grasp the true significance of the symptoms before him and, if a physician, to seize the opportunity, while yet the disease is young, of applying the requisite remedy. Such a classification would thus be:

1. Incipient Stage — Eventually becoming
   a. Gastric
   b. Acute Enteric
   c. Chronic Enteric

2. Gastro-intestinal
3. Complete Sprue
It may be contended that these divisions of Gastric, Acute Enteric and Chronic Enteric, represent merely transition stages in the development of the division. This, as regards the Enteric type, is conceded, but whereas a transition stage lasts for years, it may be a decade or more. Its very chronicity gives it an importance of its own, and founds for it a claim to be regarded as a type, though only for the time being.

The Gastric cases are in a distinct category, as while a proportion of them proceed uninterruptedly to the development of "Complete Sore", another and very large proportion become arrested and remain Gastric throughout.

In Gastric Sore much multiplication homeo about the early symptoms. Harking back upon the very earliest stages of cases which subsequently become those of the more virulent Sore. This is not to be wondered at, there being nothing to differentiate these earliest symptoms from those of an ordinary attack of Acute Calorhal Dips severe of the afibrilc type.

Then is the Same Jilling of malaise and oppression in the Stomach, headache probably, nauoaa
with its accompanying sour smelling stools consti-
tuating in grueous miasma, and vomiting of the
same little changed ingesta, having the same
acid taste of peptone and fatty acids. This
usually is followed by intestinal torments with
much gurgling, with the passage, with little or
no pain, of several loose, flothy, sour-smelling
stools of a dark-brown colour.
Thus far the points of resemblance — but the
observer soon detects, with recurrence of these
attacks, points of departure from the symptoms
of simply catarrh of the Stomach. He finds
that after one or two attacks a constant and
peptic gradually increases and difficulty is felt, with a
distressing feeling of heat and weight in the hypochondrium,
that the attacks may convolve in the form of no
known indication of the nature, quantity or
mode of ingestion of the food?
that the sequent painless diarrhoea becomes, with
each recurrence, more difficult to treat
that the feeling of shrinking and soreness of the
inside of the lips, (these parts having a nodular feel
in the lips of the examining tongue) is distinctly enough
to be formulated into a complaint and,
leastly and most important of all, that, throughout
all these disturbances the tongue remains persistently and aggressively raw. With the concomitant of symptoms present, mastication may be diagnosed. It is now but a matter of time and degree to the fully developed gastric type. In it, pain is the chief complaint. The insides of the cheeks are barren and very tender; smell too, so as to yield an accurate impression of the truth — the insides of the lips also take part in the inflammatory change. The tongue is large, swollen, indented by the teeth, pale the floor of the mouth and is very chan and raw. There is complete absence of filiform papillae, while the fungiform and circumscribed varicos no are congested and prominent. Probably some of the tubes of sneezing may be present. Constant pain is complained of in the esophagus, felt most acutely just behind the xiphoid cartilage, and referred with great frequency to the back, between the left scapula and the spine. Pain and burning, referred to the epigastrium, is a constant fraction of this type. The clammy sweat which accompanies this stage and which is frequently from maugnto be a source of clatara, requires mously passing notice.
It is without doubt a salutary circumstance, the getting rid of irritating, probably toxic, residues of alimentation. The gastric condition corrected, the alimented at once clears, in a widely different state from that which obtains in the enteric types of Sprue.

With the advent of pain begins the differentiation into purely Gastric and Gastro-enteric types. This differentiation is brought about in rather a curious way, and is dependent more upon racial habits than upon any other influence.

Gastric Sprue proper is found only among the Malagasy and their immediate congeners, though a few instances in other races are to be found, who, having observed the beneficial effects of the regime which the Malagasy follow, or by accident, have taken a leaf out of their book.

The Malagasy are not a smutty-racing race, not from any question of want, but simply because mato is an unobtainable. The staple of their dietary is Curry and Rice, the Curry being made of fish or chicken with vegetables, the oil used in its manufacture Coconut oil, the whole mass being rendered pungent by the liberal addition of Chilli. The prevailing item diet is fruit and vegetables.
With the advent of pain, the migration of jaundice, and the rapid subsidence becomes a secondary suffering as is abandoned. Thus pain begets rest, and the inflamed tongue, mouth and present act as a very Cerberus to the seed of the "primer ride". This as a differentiating point in the development of a disease seems infantile, but it requires no exegesis to understand the simple logic of the nature according to which "post hoc" cannot be otherwise than "propter hoc". This staple food, every, cut off, their diet is now limited to fruits, vegetables, fresh and dried fish, and boiled rice and upon this a need of recovery is obtained, or at least, the progress of the disease is stopped or rendered so very slow as to account for the great length of time (as much as 40 years) during which they have, in their absolute certainty, lived. These forms that change occur to my control upon this subject as "price with constipation".

In this, emaciation may not be a condition, in fact, there may be, especially in women of middle age, a certain degree of "benign"; but a diagnosis is now difficult to make from the degree of emaciation and the condition of the mouth.
and tongue, in both of which a remarkable change may be found. Such cases may readily be mistaken for those of Progressive Parenchymal Anemia, but not for the distinctic oral condition. Thus, in both, the hemoglobin equivalent is always greater than the corpuscular, and poikilocytosis is marked. It is in this form also that the extreme cirrhotic changes described in the section on invasid anatomy are found, as the disease being only partial it has been possible to support life for a sufficient period to enable such cirrhosis to develop.

In marked contrast to these are those occurring among European races where sophisticated foods and attractive dining may be more bland description do not prove that more immediate retribution. While the Stomach Symptoms are thus insidiously progressing and the thinness of the diaphragm to spread to and implicate the biliary, these continually aggravated, the diarrhea have soon become a symptom of urgency, first as an irregularity, later as a decided and constant frequent decrude flux of a brown colour primarily, becoming paler as the diarrhea advanced, so that in a few months should it not in the meantime
have been recognized and treated, it displaces the picture of fully developed Spursty.

It is to the Acute Enteric mode of michirune that we owe most of the acute and fatal cases of Spurtsy. While in all the other types the Spurtsy has usually been many years in the Trophio, it is not uncommon for instances of this type to develop within a few months. (Cases 8, 21, 43, 49.) The history of such cases is that after a term of residence in the Trophio measured by months, namely years, either with, or more frequently without, any indication, the patient is seized with a sudden prodigious watery diarrhea. The stools are of brown colour and may be many in 24 hours, but there is no complaint of pain, nor is there any nausea or oral trouble. The tongue may, or may not, be coated. The flux may, by asthmato and opiate, be kept in abeyance for a time, but the discomfort of the patient during that time is extreme, and it is with a sense of great relief that he feels it's re-establishment. Even with judicious treatment, any such attack usually lasts from six to ten days and then an interval of comparative health is enjoyed, until another interruption of a like nature occurs.
Besides these faults becoming more frequent, and
per contra, the intervals between them shorter,
these occur also a change in their nature.
If you, without saying that such attack is more
intractable than that which precedes it, but the
stools also change in colour becoming lighter
and more frothy. Excration of the Rectum, it
may be, protracted, occurs towards the end of such
attacks, and very rarely in this mode of malady.
The tongue becomes very atrophied, thin bare, and soon
all the inflammation changes in tongue, mouth,
cold and gulps are fully established, with all the
Subjective symptoms consequent on such a condition.
The distinctive points in this form are:
the absence of adequate cause,
the suddenness, painlessness, severity, and
intractability of the disorder,
the subsequent alteration in the character of stools
and, later still,
the implication of the mouth, oesophagus and stomach.

The Chronic Enteric mode of malady is by
far the most protracted. The disease may have been
in active, though slow, progress for years before
advice is sought, and when sought, it may not be
on account of the diarrhoea, but for some super-
addition or complication probably of a trivial
nature. The sufferer will tell you that for
months, years may be, he has been disturbed in
the early morning hours by an urgent desire to
decate. He passes a large liquid dark-brown
motion, quite painlessly, in fact with relief. Within
the next hour he may have several other calls
with the same result and then he is comfortably
for the day. One wonders at the complaisance
with which such a flux is tolerated, did it
occur irregularly it would at once cause alarm
but its uniform regularity blinds the sufferer to
its real nature. He has always a fixed belief that
such a discharge is beneficial, and that it would
probably do his cherished and his health together.
Gradually, it may be after a lapse of many years
in some cases as many as thirty, he finds that
the Summons begin to morose upon his morning
hours, that he suffers from gurgling, distressing
and abdominal discomfort, that his digestion
is not so good as it was, that the stool is
changing in their nature as well as frequency,
becoming frothy, white, and hard with much
flatus, and, lastly, that he is losing weight.
A glance at his tongue shews it to be perfectly dry, and it may be, though not of necessity, bare; the buccal mucous membroano are thinned; and he may, if a smoker, have had to mitigate, ren forgo, his pleasant vice. Once the changes in the mouth have become appreciable and the diarrhrea has enroached upon the working hours, the advance of the unstoned symptoms is rapid, the loss of weight appalling, and in a few months at most from the time it ceased to be a purely interic reason it presents all the features of complete sprue.

The descriptions of the fully developed disorder, here called Complete Sprue, by Van der Bing and Alemor are so full and clear that it seems little short of guilty pretention to attempt to redescribe it, but the chain to make the reason complete must serve as excuse. It is plain that such a case comes for advice in any other condition than during an acute exacerbation. The shrunken, wasted, appearance of the patient, the general yellowness of aspect, punctual all the more striking by
contrast with the blue-white conjunctivae, an abnormal amount of which is visible, combined to produce a "facies" characteristic of the disease. The only
memories at all worthy of the name which have
ever come under the notice of the writer are those
very acute cases of diabets, or the Cachexia of
Tertiary Syphilis. Both of these induce the
same superficial look, but a very careful exam-
nination of the tongue suffices to distinguish the
red glabrous papillate tongue of diabets, or the
plaques, often fibrinous, of old syphilis from the
false lesions; and the history completes the
diagnosis.
The sufferer will have much to complain of.
It may be that his disease began in the Tertiary
form, or as recurrent attacks of diarhœa (Rube
Entrée form), or a morning diarrhoea which
had been in existence as far back as his memory
carried him, may have been his first departure
from health (Chronic Entrie form). Whatever
may have been the type of origin, his present
condition is a very fair index of all cases of the
fully developed disease.
His tongue is swollen and very painful, feeling too large
for his mouth. All the inside of the mouth feels pain
and sore and it is constantly filling with saliva which he
has to swallow, the associated movements required
for that act causing pain. Speech is, for the same
reason, awkward. There is a constant burning pain
felt behind the breast-bone, sometimes also in the
back, close to the left scapula. Pain of a similar
nature is present also in the epigastric area which may
even be tender on pressure.

The condition of the bowels is a source of discomfort
rather than of actual suffering. Some describe the
passing as one of "shitting" or "hating" going on in the gut, accompanied by constant and
prolonged rumblings and gurgling rarely audible
to the bystander. The calls to stool are frequent
and those are passed with much force and flatus.

There is rarely any griping, each stool giving
as measure of relief. The defecations are rarely
acid, white and frothy and cause a burning
in the rectum and an irritation around the anus
which may lead to prolapse. He will complain
further of great weakness, palpitation, loss of
weight and of any or all of the results of under-
nourishment of the brain. Shapenesses, variable
temper and loss of memory.
On examination the skin is felt to be dry and harsh and when pinched into a pudge remains so for an appreciable time, all subcutaneous fat having disappeared. The yellow tint of the skin contrasts strongly with the colour of the conjunctiva. The hair is brittle, scanty and dry. The tongue shows diminution of its epithelium, the fungiform papillae shrinking so bright red dots; it may be longer than normal and indented by the teeth or, if this be one of many such attacks, the fibrosis of the covering layers may be so advanced as to mechanically prevent any such insertion in foes. In such a case, some of the erosive changes of surface described in the paragraph on the tongue would certainly be in evidence.

Excepting in the most acute cases there is rarely any fever, although the thermometre in the mouth may and usually does register a point or one degree above normal due to the local congestion. The pulse is usually slow, and an anemic beat may be audibly over all the arteries.

The liver dulness is diminished, the abdomen is barrel-shaped, tympanitic from much flatus and gurgles on the slightest pressure in any curve.
The spine is firm from albumen, is scanty and contains indurated. There may be evidence of this embolism.

Such briefly is the description of Complete Sprue in the European.

Much has been written about the psychical abnormalities in Sprue. There are no delusions or hallucinations, all that there is in any way abnormal is merely a loss of the power of controlling impulses. This, probably the greatest factor of a child's education is the development of the power of inhibiting impulses. So far as the children are educated, so habitual has the repression of new impulses become that the most powerful inhibition may be put into action automatically, never entering the field of consciousness. Suggestion from without is un inhibit ed, passes at once into action and on no other hypothesis can be explained the apparently incoordinate of the sprue patient in seizing and eating food which he is well aware will do him grievous harm. In the healthy state any such impulse would have been inhibited before it could pass into action; probably automatically, but in the condition of great debility of the nerve centers in Sprue it may be irresistible or, at best, will require a great conscious effort for its repression.
So the same cause, viz. undernutrition of the brain, may also be ascribed to very great failures of memory, so marked a feature in advanced cases, and one which renders the obtaining of a full and reliable history a matter of much difficulty. To take a solitary instance — one patient who had had morning discharge for thirty years dated his present attacks, with a precision which was ludicrous and misleading, to two months back. It is luckily only in this type that such a mistake is possible and it can only be explained upon the hypothesis that up to that date sufficient surface in the alimentary canal was yet available for the purposes of assimilation and absorption so enabling the patient to keep seminative above the normal level of nutrition, but that, with the advance of the destructive process, the limit had been overstepped and failure to maintain a nutritional balance had ensued, and from that time he dated his illness. The loss of weight may be rapid and momentous, as much as 57 lbs in 4 months in one case, 30 lbs in 8 months in another case, being lost.

All morning discharge are not necessarily misprint enteric Simne.
There is a type in hereditary overfinders, another
which can only be appropriately called "the
morning diarrhea of neggers", due to contuminal
soaking in alcohol, yet another is very
common in the early stages of Cirrhosis of the
liver and has no relation to the type immediately
preceeding - and there is a true Alcoholic
diarrhoea a paper on which, by the writer, was
published some years ago in the "Transactions of
the Straits Medical Association."
There is also a form of Swine and protracted
diarrhoea, not necessarily maternal, which
is prevalent in Siam and Coast China and
which has been described over and over again
by Swiss writers.
But a true diarrhoea is not difficult to make,
all that is necessary being a little corn and
minstrels in eliciting the history and a close
observation of the patient for a few days.
The Tongue.
Although in the early stages of Sprue whether Enteric or Gastric, there is a period in which the changes in the tongue are not perceptible, in which, to use a clinical phrase, the tongue may be counted, yet as the disease advances and long before complaint is made of any subjective symptoms referrible to the mouth or tongue, it is evident to the observer that changes have begun in the epithelial cells and in the papillae. This change in the cells is of the nature of a granular degeneration with clauderises, followed by a shedding of the surface layers of epithelium in the dorsum, and of the filiform papillae, in a state of necrosis, leading to the production of the abnormally ulian tongue; meanwhile cited as the distinguishing mark between gastric catarrh and gastric Sprue. This abnormal abrasiveness does not extend over the whole of the dorsum, nor is limited to more than the left half and never beyond the perpendicular line of the V formed by the circumvallate papillae.
During this stage the colour of the tongue is a dull mother-of-pearl or silver-grey. This change is not confined to the tongue but extends over all the
made of the whirks and life, producing the same distressing grey hue, the half-melted matter of cloudy
Swelling of epithelium.
No self-evident that the advance of the process and the continuous shredding of necrotic layers must
before long, produce a change in the thickness of the epithelial covering, and this is produced that
Swelling of thinning and soreness which is such a constant and distinctive Subjective Symptom.
Should the process progress in this hitherto manner
then may be little to Complaining beyond this
Hyperesthesia, and it may go on, until in course
g of years, the superficial layers are transformed
into a fibrous tissue. But this is a very rare
Course indeed, so rare as to deserve only passing mention.
The usual happening is that, following some chill or
Slight licence in food or drink what has been called
in those pages as “acute exacerbation”, occurs.
By this is meant the admixture of a necrotic
Vascular dilatation with its concomitant quota of proliferation
and effusion. Mucus membranae as a rule, do not
admit of much surface excudation; their tendons
being rather towards infellation and swelling of the
Submucous, leading to proliferation of the normal
cells of that region and thus to the histological
appearances described under the head of normal anatomy.

The symptoms during this stage are very characteristic. The tongue, gums, cheeks, in fact all the mucous surfaces of that region are turgid and swollen, that of the tongue and inside of the cheeks so much so as to give an accurate impression of the breath with which they lies in contact; the colour varies from pink to a yellowish-pink, the surface is smooth to the touch with a tendency to dryness, in spite of the exaggerated activity of the salivary glands. The dorsum of the tongue presents a characteristic appearance — the surface is quite smooth and devoid of fur. The colour being a peculiarly pox-like on the previous dull grey, but, and this is worthy of note, the fungiform and circumvallate papillae stand out bright red and prominent, while the filiform have disappeared even before the submucous epithelium.

The only prominent subjective symptom in this condition is pain, which may be mixed with that so as to admit of a rough classification. There is frequently, the stuffy sense of an inflammation due without doubt to erosion from the swelling and infiltration into the submucous, a pain which
cannot be localized but seems to, and does, seem
in all parts of the oral cavity from the lips to the
naso-pharynx, and is the analogue of the deep-
seated pain behind the Sphenum.
Secondly, there is a sharp lancinating pain,
intermittent in character and evidently of a
muralgic nature which may be complained of
by bitter or sour taste examination of the mouth
and tongue by a powerful lobe fails to show any
cause for it. If the scrutiny be continued for a few days,
and certain proportion of cases eruptions of a
herpetic character make their appearance.
Thirdly, there is the pain of Eroded Surfaces.
Again, these erosions of Surfaces may,
for convenience of description be classified as follows.

a) Bored erosions patches which may appear on
any part of the tongue or buccal Surfaces. These
are covered by debris, which under the microscope
prove to be necrotic and swollen epithelial cells,
sometimes the presence of filiform papilla, and some
of the kinds of oral parasites.

b) Herpetic eruption may occur as a sequela
to the muralgic pain already described. It is a
true Herpes, at first vesicular it very soon by
attrition becomes changed into a stringy perfectly
round, deep little ulcer with papillae marginis, intensely painful and slow to heal. The pain (mucalga) may persist. The site of election of this eruption is on the soft palate, running from close to the palatal pillars diagonally forwards towards the pharynx, and it is purely buccal.

Among other situations in which this herpes may make its appearance are the inside of the cheek and the margin of the tongue towards its under side.

3. Red velvety-looking patches, which, highly magnified, can seem to be composed of a large number of small or Rhagades, intensely congested and which on scratching yield only blood, may be found in certain cases. They have some relation to the herpetic type of eruption, being, like them, always preceded and accompanied by severe mucalgaic pain. They occur in one of two positions: either in the soft palate, or most commonly, on that part of the tongue which lies in juxtaposition to the lateral incisor teeth and which probably corresponds to the central point of such lateral half of the organ. This is by far the most acutely painful form of eruption met with in France.

As a purely adventitious occurrence in
may find true oval aphthaeul ulcers aggravating the already ill-night intolerable condition.

It is of the nature of a secondary infection, the Ulcerium finding on the necrotic lesions a suitable nidus. These aphthae may occur on any part of the mucous membranes, though their usual sites are on the sides of the frenum linguae and on the gingivo-buccal sulci.

Under judicious management the inflammation subsides but never wholly, each attack leaving an appreciable podium of rigidity and thickening; the swelling of the fungiform and circumvallate papillae becomes less obvious, partly from a decrease of their congestion partly from the surrounding surface becoming covered by re-generated epithelium, it may by new fungiform papillae. This cycle of inflammation, subsidence and regeneration of epithelium may recur again and again; but, depending on the number and severity of the acute attacks, repair falls short of its full measure and the regeneration of epithelium becomes only partial, its place being taken by fibrous tissue. This change is earliest seen as two narrow strips, one on either side of the middle sulcus of the dorsum and
parallel to it, at first probably only a line in
milk, but slowly increasing even in the absence
of recurririt inflammatory attacks. As must be
evident, congestive attacks markedly hasten this
rate of extirpation.

In certain pure cases in which the history is one of a
quiet succession of a number of accesses of inflam-
mation followed by a long period of quiescence,
the tongue becomes small and leaf-like, firm in
consistency but showing no fibrous bands or
patches, its surface being covered by a thin silvery
glaze with very few fungiform papillae in evidence.
The tip is always smooth, semi-transparent,
and rather red in colour. This form is peculiarly
capable to develop the painful pedulent patches
already described.

In some of the exceedingly chronic cases the tongue
may be reduced in size and altered in shape, so
as to resemble a parrot; but always to that
extent are still only in nature and in the
phlogistic (constipated) form in which the mouth
affection is always present.
The lips participate in the changes and become
fibrotic. In yellow stomatitis, when the outer surface of the lips is of a darker colour than the true skin, they assume an ochre-yellow colour and a dry parchment-like appearance. From the non-elastic nature of the changed lips troublesome cracks occur, particularly at the angles of the mouth.

On retracting the lower lip in any chronic eczema, during a period of quiescence, a yellow background is seen with a patellum of prominent engorged veins, pale yellow or slight, covered by an excessively thin layer of translucent epithelium. The blemish and prominence of the veins, the thinness of the covering and the yellow background combine to form a picture quite as distinctive of eczema as that of the tongue, but one which has not hitherto been pointed out.
Notes on moot points

Fever. It has been repeatedly asserted that
Syrup runs an a-pyretic course throughout.
While this may be accepted as a general statement
in the ordinary cause of Subacute Syrue, it does
not bear the light of particular investigation.
Fever occurs under two conditions.
1. During very acute inflammatory attacks.
2. During attacks of constipation, however inoculated.
In the acute inflammation of the mucous layers
the temperature in the mouth is from $\frac{1}{2}$ to 2 degrees
above normal, but, incriminated as the tissues of the
mouth are actively participating in the inflammatory
access, such a result cannot be accepted as indicative
of Syrue. It is at once evident that the same
objection holds both as regards vagina and vagina.
But by the thermometer in the axilla or rectum
for a sufficiently long period, a degree of fever
ranging from 1 to 2 F. can be demonstrated,
disappearing with the subsidence of the access.
Pyrexia may be present during attacks of constipation
by whatever means induced, whether by the adminis-
tration of opium or enemata, by the occurrence
of paralysis of peristaltic action (due to child as in SB)
or as an exaggeration of the normal condition in
"constipated Sphincter." In all of these the mouth temperature is reliably, although an obvious source of error is possible in the middle class of cases, as we do not know how much of the elevation may be due to the causal inflammation.

The influence of Sex is worthy of a brief consideration. Of the sixty-two cases in the appendix thirty-five were females. This does not, however, carry to the predictor a true impression of the real degree in which the sexes are rivalled. Let us exclude the Europeans of whom there were 87 and the figures then read males 3, females 32. By the census of 1891, the proportion of the Sexes among Europeans and Americans, throughout the United States, amongst men, per mille, males 841 females 159. Among these, pears there were 24 males affected to 13 females, and it is a mere matter of arithmetic to demonstrate the point that females are more liable to the disorder than males in the present ratio of 2.45 to 1.

In the females quite a train of symptoms occur in a definite and constant relation to the phases of the diorama. Thus each acute inflammatory access of the alimentary tract is accompanied in the non-pregnant state by
immorphygia or mitrophathy, which, bearing in mind the amount of concern, always considerable, of the premenstrual which is invariably present, is the apogee of the condition which would, in the absence of any local implication, have been expected. There are present also enlargement of the body of the womb, vaginal soreness and, frequently, superficial erosions.

Of all the aggravations of Sprue pregnancy is "facete princeps". Almost as early as the occurrence of conception, changes begin in the mouth, and all the subjective signs become at once prominent. This has been, strongly in the writer's opinion, confirmed by many observers, and pregnancy is commonly raised to the dignity of an etiology factor in Sprue, a dignity to which, had a careful attention been paid to coexistent symptoms, or had they been rightly interpreted, it would never have attained. In a first pregnancy, the sources of error are obvious and to a certain degree excusable, though, in the cases under consideration a number of previous complaints has purely failed to yield some evidence of previous existing disorder.

Of the sixty-two cases here recorded, thirty-five
Now, one has watched the Somme battle occur again and again, and it is not to blame frequently fail in the category of a powerfully exciting, then of a primary cause.

3) Metastases

These rare occurrences are mostly of the briefest mention only. Thus a diarrhoea may suddenly cease, and the mouth, in some instances, the vagina become typically sore. The converse condition is the more frequent. the establishment of a few diarrhoea being coincident with papil discolouration in the oral condition.

It may be, but on that point no opinion is hazarded, that the secreted albumin flux which follows confinement is of this nature.

4) Ulceration

This is a vexed question. French writers are very dogmatic upon this point and insist that it occurs in a very large proportion of cases. It is impossible to make, on the strength of two post-mortems any statement from that standpoint, but clinical evidence is singularly clear and unequivocal. The minute erosions, coinciding,
with those found in the mouth probably do exist throughout the entire area affected, but ulceration, as accepted in its longer form, is conspicuous by its absence.

Pain is universally conceded to be one of the most constant and distinctive features of ulcer, whether gastritic or intestinal, while blood is present in the stools of nearly all cases of ulceration affecting the lower bowel, and in at least half of those in the small intestine (Osler).

In Sprue the absence of pain is so marked and so constant that such absence is of the stature of a diagnostic, while blood in the stools of Sprue is rare. When blood does appear its origin from an ulcerated surface can be negatived by
1. The nature of the extruded blood, bright, capillary and without admixture of mucus
2. Ocular evidence of its source, i.e. from prolapsed rectum or from haemorrhoids.
3. The colour of the Stools

The absence of colour in the Sprue stool has led to the belief that bile is not secreted in Sprue. Apart from the fact, which is easy of demonstration, that bile acids are always present, the Simple
and commencing experiment of administering a purgative, preferably Castor Oil or Senna (chosen because of their small action on the choleptic function of the liver) sufficiently disproved this by bringing about the discharge of a distinctly bile-stained dejection. It would seem that the deprivation of colour is due more to microbic action than to any other factor. Thus on pure milk diet as the distention of the abdominal contents and flatulence cease, the yellow colour re-appears, a state of malaise much more quickly brought about if drugs calculated to hasten intestinal corpuscles are employed. The colour re-appears as the stools become cooptae.

Anemia is always present and may be of great amount, the red blood corpuscles reduced to less than half the normal in any well-developed case of deficiency. In the constipated type it may assume such proportions as to make it possible to err and to diagnose such a case as one of progressive hemorrhagic anemia. There are two main causes for the anemia:

1. Nausea due to the nitric acid dyes
2. Absorption of chelirious matter from the nitroline a species of Copriemia.
The former demands merely mention, but the grounds for considering the latter a cause of anaemia are not so well defined.

The result of treatment throws some light on this. It has been demonstrated by repeated observations that, without any increase in the amount of nourishment ingested, and without any diminution in the number of stools, in fact, in spite of an increase in their number, the corpuscular equivalent progresses pari passu with the degree of intraserial eosinoid attained. The same observation has been made by others.

The haemoglobin equivalent is always higher than the corpuscular by as much as 10 to 20%.
Few not understand the views of Braumont in his observations on the case of Alexio di Melanii; that the condition of the tongue corresponds to that of the gastric mucosa. Dickmann and Ewer describe it a very profound disturbance cerebral.

As three observers have pointed out, although changes on the lingual surface which we have hitherto associate with certain gastric conditions, do occur the nature of those changes is not necessarily akin to that which is taking place in the gastric mucosa. In every, however, the position is totally different, for not only does the tongue participate in the morbid process, but the tongue affection is an integral part of the disease. So much so is this, that in English it has always been known by the name of "English sore mouth" and its Dutch equivalent word throughout this essay refers only to the oral condition. Manson in his latest utterances recognizes this so fully, that he suggests the method of inquiring into the morbid anatomy which has been unconsciously followed by the writer i.e. by sections from the tongue.

Referring then to these observations it would appear that the primary change in the acute inflammatory attacks is a dense packing of the Submucous anulus
tissue by an infiltration of small round cells. This reduces pressure upon the vessels, displacement and distortion of the overlying structures, and interference with their blood supply. From this the more delicate tissues are the first to suffer, the filiform papillae and surface epithelium are necrotic and are removed by the constant attrition, while the more robust fungiform papillae are thrown into strong relief, partly by the demudation of the surrounding surface, partly by their participation in the general congestion, and partly by their being mechanically protected by the proliferative growth underlying them.

But such attacks leave an unresolved pepticum, and this pepticum through course of time and repeated accesses of congestion produces such an insuperable barrier to the nutrition of the super-ificial structures that regeneration is no longer possible and the place of the normal tissues is taken by a dense granular material, which sooner or later becomes fibrous. It is an effort towards repair, an effort which fails short, through lack of pepticum, the more highly organised tissues being replaced by a lower type.
The change to a fibrous material is first seen as a band along each side of the papyrus, and it always occurs in this site far more than in any other; probably because the direction in which the doctor offers a greater resistance to the expansion of the muscular tissue. The pressure is therefore greater and the blood supply interferes with circulation. Numerous forms of reactions and invasions, all of which are of a necro-biologic or necrotic nature, are to be found, and these have been described in their own paragraph.

Refine these observations on the tongue, (which may be taken as representative of the Chomps throughout the alimentary tract in the earliest stages of the disease) and those upon the simultaneously chronic cases which the writer has described, seem to me a vast hiatus.

But this is more striking than real. My own view is that many isolated records which, if they do not actually bridge the gap, go very few towards it.

Thus Heuze and Goddard have each given a most succinct account of the Chomps found in the infancy, while that most instructive post-mortem record of Mathercló, recorded by Thiri, establishes beyond cavil the solidity of the
Chonores in the tongue and intraoral mucous membrane. If more than that, as being much upon a subject who died from the fully developed mitotic lysis of the disease, the types in which the irritation is earliest affected, it shows the progressive intensity of the process as it begins from the mouth downwards. Thus in the tongue by recrudes "tongue abax, epithelium completely destroyed, mucosal layers healthy.

Oesophagus epithelium destroyed, mucosa densely infiltrated with small round cells; submucous coat thinly paucial with vacuolated cells glandular substance much destroyed.

Throat, mucosa almost entirely destroyed, submucosa much thickened, fibrous tissue abundant, round or round thickened, muscular layers thinned.

The voluminous literature and records of over two hundred post-mortem examinations by Bertrand and Fortin are of great interest. It is a matter for supposition that a more careful discrimination between that must have been merely different clinical types was not brought much in their...
mimico, yet the value of many of their observations is not to be questioned. Returning again to the writer’s own records of two very obscure cases who had died from the slow meningitis induced by the disease, the Shangro can briefly state—

“Tongue Sclerotic in color, complete absence of epithelium and papilla, their place being taken by fibrous tissue, processes of that tissue passing downwards among the atrophied muscle of substance.

Gullet barrel of epithelium throughout its entire length, converted into a tube of thin fibrous tissue with occasional muscular fibres.

Stomach, in parts devoid of glandular elements, in parts having a debris of glands lying on a fibro-glandular base.

Intestine always the epithelial and much of the mucous and glandular tissues, their place being taken by fibrous tissue.

Vagina, a much contracted smooth fibrous tube.

Allowing for the obvious differences which must obtain and which can fully account for by the duration and difference of type of the
Cases recorded, there is evident a pronounced
unanimity of opinion as to the nature of the changes
in Scurvy— that it is originally an intratidal
inflammation, a small-celled proliferative
growth, going on to contraction and consequent
interference with function. This is capable of
demonstration to the naked eye in very many,
if not all of those Chronic Cases which form a
large proportion of those related in the Appendix.
Our knowledge of such a change occurring in
other organs, notably in Cirrhosis of the liver,
in the indurative and cirrhotic processes in the
lung, in contractile kidney, is so exact that
no doubt can exist as to the similarity of the
process just described.

Turn now to the site of this process. Again the records
of the post mortem test are in accord. If this
were a superficial change, a catarrh, the wisdom
of such would be readily appreciable; the autopsy
of the gland tubulo, in mouth, stomach or
intestine being excluded, cyst formation would
be a feature in the specimen under examination.
This is not so; cysts may and do occur but rarely.
It is mistaken in this relation to quote Szratchlo's
case of what he designates "Phthisis Umbriadae."
with cirrhosis, a condition identical with that found in Sjöna. Broad processes of connective tissue pass up from the submucosa between the glands tubules, surrounding and compressing them and destroying the Paranchyma. In many places there are numerous round cells which surround the vessels of the glands and lie between the meshes of the connective tissue. Toward the free surface of the mucous there is a small-celled tuft-like infiltration. The muscularis mucosae is absent. The submucosa is then present as dense fibrous connective tissue, in which a few scattered remnants of glands are seen. This form is characterized by the marked participation of the intratubular connective tissue developing at the bases of the glands. In any case it is a slow and progressive process mainly involving the glandular layers and is distinguished by the complete disappearance of the secreting paranchyma. It describes it as "lacteosis atrophiae" or "atrophiae" is nonspecific mucinosis.
The extent of misalignment of the alimentary tract varies
with the stage of the disease. In the beginning it may
be confined to the stomach outlet and mouth, or in
the acute variety, to the lower end of the duodenum and
the long intestine. But its tendencies is to spread
and in time to involve the alimentary tract from
mouth to anus.

Pulling forward the stomach from a dog and, in a
second instance, nearly the whole length of the small
intestine, and in either case found that nutritional
equilibrium was not disturbed. But, in fact, in the
latter case nutritional energy was so much in excess
as to admit of the subject bringing forth and suckling
a litter of puppies.

Schlatter, Brigham also, have produced the internal
gasoline coming from the human subject with the
result of again in might to the normal (Malignant-
Cases both). In our new in progress of a number
of clinical records in which, for disease, a large tract
of intestine has been thrown out of action by a process
of short-circuiting, and nutrition has not suffered.

It is thus evident that the possibilities for nutrition
in man can in great excess to any ordinary demand
and in this light the normal losses of might in
sprue appear all the more striking.
Of this loss disassimilation is the chief, though by no means the only, cause, and disassimilation in Sprue is the result of the interference with function caused by the organic changes in the mucosa and submucosa.

Although analogy is thus established between the loss of weight, the amount of disassimilation and the extent of the lesion of the alimentary tract—an extent which not only controls the excess but increases so much upon the comparatively small vital residuum as to produce losses of weight such as have been recorded.

The order of disappearance of function is of some interest. It has been a matter of comment by all observers that, save on ordinary diets, the amount of fat in a Sprue stool was much above the normal. It is also a matter of clinical observation that fats in any form are the first articles of diet to disappear, and that in an intense degree.

Whatever may be the theory as to the mode of absorption of these, whether as an emulsion, as a soap, or in some soluble form, matters little. It has been shown by Schäfer and generally accepted to be that the tissue most concerned in their absorption is the columnar epithelium. Dr. states
that "the greater part of the fact, if not the whole of it, must be absorbed by the epithelial cells from the intestine" and we know by histology that these are the first to suffer by the infiltration process in Ulcer. hence the presence of an abnormal amount of fat in the stools.

Next to fat in their power of disagreeing, pant in animal fats. In most instances, these, as an article of diet, are quite inadmissible at once aggravating all the symptoms.

There is danger here of a misconception. Can the advocate a pant meat diet and has found it to be of value in some Cases or Cases. We speak however of their effects during the convulsive stage, the "starvation" from which it results effects upon the diagnosis while yet active that the prior statement is much.

Having reviewed the two great classes of "materia precessa" it is not possible further to follow the operation of the ordinary disappearance of function. Idiosyncrasy, non stagnation, and many curlichs of diet, in some instances taken with benefit, are in others the cause of a distressing malady.
Obstipation is dubious as to the kindred in the medical mind to diarrhea, not necessarily the result of purgatives, an anatomical basis, a basis. In others, not always capable of demonstration.

But in the diarrhea of spine such a basis must be allowed or the grounds equally of post-mortem and clinical evidence. The former has already been detailed; it remains for us to discuss the latter.

It is generally admitted that the determinants of an increased intestinal flux are mainly deficient absorption and increased peristalsis, but it is a matter of no small difficulty to determine how much is due to such of these factors. A very instructive case in this respect is No. 78 in which the co-existence of these could be demonstrated almost with the accuracy of experiment. In that patient while the disease was at its acutest, very little was not absorbed, but, taken in the smallest quantity, gave rise to an exaggerated peristalsis whose progress could be followed through the parchment-like abdominal walls until the entire material was expelled.

Again to quote the same authority, it seems to be
of little moment in the healthy bowel, so far as the
consistence of the stools is concerned. How much
fluid is ingested, preceded absorption from the
intestinal pores on undisturbed and sufficient
term of contact with the bowel is concerned.

He adds, "that the former condition i.e. deficient
absorption, is most accentuated by any loss of
superficial epithelium, or by any mechanical
hyperaemia of the intima, and the second i.e.
increased periodalsis by undue irritability of
the nerves.

Arguing then by parity from the pathological
changes found in the mouth and tongue in the
acute stage of Sprue both of these conditions are
notably present in the intima and account in
great part for the persistent aliment flux.

Another element in the production of chronic bowel
which requires comment is the nature of the
intestinal contents. The researches of Secord,
Brunton, and Bache have thrown light upon this point.
The stools of Sprue are acid, frothing, white, and,
it may be added from a consideration of their effects
upon the pectoral, intimately irritating, so irritating and
irritating as to cause their expulsion. Under the
microscope they swarm with microorganisms, and
Indicium is always present in the urine.
As factors in the Etiology of Sphce it is notable that many possible condition. In the atmosphere, during physiological term (pregnancy) have been pressed into the service and it may be profitable to discuss a few of these in the light of clinical experience. Probidity will be avoided.

In hot and humid climates, prolonged residence in a warm and moist climate has been cited as a cause. In those of Java, the Philippines, Semolina, Cochlin-China and the Straits Settlements and in Europeans who have had a residence there of many years, both proselytes and native, prolonged residence and the climate conditions. Although the majority of the cases in these records are natives of these parts it must not be inferred that the disease is at all common among them. Instances of Sphce can also be reported from Ceylon, India, South China and Hong Kong where, whatever be the elevation of residence, the conditions of climate hold good for only some months in the year.

Cases can also be reported from North China and Japan where the climatic conditions proselytes and natives. Lastly, there are under consideration those un-doubted cases (28, 34) which develop as the disease after a return to Europe.

A glance at the map attached, will soon be, will convin...
a bit tricker than any words. It seems, at a glance, absurd to connect to climatic conditions any disease which ranges from 70° to 140° East, and from 10° S. to 40° N. Accordingly, climate is not a causus. Though as to length of residence, it would appear from the attached records that prolonged residence is not a causus. Cases No. 8 and 87 developed it in two months, No. 41 in fourteen months, and No. 47 in two years. On these facts, however, is particularly explicit.

Pregnancy and miscarriage have been already discussed and may be discussed as to their pathological value with such things as Fever, malnutrition or other Inflammation of any other cause of Physical Stress, determining an acute exacerbation in an already existing disease.

Refraction cataract of the Stomach is only an erroneous interpretation put upon the symptoms in the early stage of the Gastric form of Sprue.

The question of diet as a pathological factor is a very large one, and much confusion has been advanced in its favour. A consideration of the races in which Sprue occurs may throw some light upon it. Europeans
Malaya, Chinese, Eucanian, Hindu, Arab all suffer and it is scarcely possible to imagine a more heterogeneous array from the point of view of diet. The ethnic element is of less importance than the religious, each faith has its own particular rules as to food, and probably not any two of the preceding lists of people that alike.

Reverting to the European who is probably the most prominent factor of all, his diet varies with the country of which he is, for the term being, an inhabitant. Thus in tropical and subtropical countries his diet is very limited. But this cannot be said of North China and Japan. In Shanghai, for instance, all kinds of foods are obtainable, and the dietary there is perhaps second to none in the World. It is then evident that China, per se, must be excluded from the proper causes of choler.

To approach the question of etiology from quite another standpoint a little further reflection is needed. Van der Burgh among all writers, mentions the matter of contagion, only to negative it in a word. But it is worthy of more consideration. As to cure in the appendix shortly collected and instance was added to instance in which persons who had been for a
longer a shorter period of time correlated more or less intimately with Scurvy Suffering, notably the division, the suggestion of a probable contagious pathologic force. Thus No. 23, the husband of No. 2, comes under observation for misprint Scurvy, six years after his marriage. No. 8 is a cabin-mate of No. 5 during the voyage out to the East, performing duties that from his strictly official position the most turgid of his cabin-fellow. He develops the most evident Scurvy within ten months of arrival, and eventually dies, exhausted, if the division some ten years later. Case No. 40 develops the division two years after her husband, and, in the Arab family whose individual records are 17, 31, 35, 45. m. p. a mother, daughter, cousin, and another female (no relation) all suffering. In a Christian family No. 19, 52, and 61 m. have the mother, daughter, and daughter-in-law.

As causes in producing the above concentrations, their case can be excluded on Racial grounds, as may also be consanguinity and heredity. There remains therefore as the only factor common to all three groups, a prolonged and intimate contact; strong presumptive evidence of the cause of Scurvy being a particular contagious principle.
This aspect of the Etiology of Pneumonia is strengthened by
their well-authenticated instances of its occurrence, month
it may be as much as two years, but never more, after
the Subject has parted from the Infections.

But it is not intended to push forward any purely-
pathological theory of Contagionsmosis of Pneumonia. The postulate
of Koch necessary to fully establish such, can far very
few, from being fulfilled.
The labour of attempting to isolate any one of the numerous
Species of his parasitic fauna and flora in a Pneumonia still
is stupendous, and, until some unanimity is arrived at
as to which parasitkos are normal and harmless, and
which are pathogenic, it is almost hopeless to attempt
to fix any particular role on any particular Species.

Take for example the Amoeba Coli. It is credited with two
distinct kinds, that of complete virulence, that of extreme
virulence, and various explanations are offered.

Quincke regards them as distinct species and suggests
"Amoeba Coli Multis" as the name of the harmless variety
found normally, while others regard them as one
Species but that under certain conditions, not yet
defined, pathogenic activity is imparted to them.

So also through innumerable varieties, the Cerebro-
hominis of May, the megastoma of Salmonov, the
Baleantidium Coli 440.
A much more promising, because less complex means of attaining the Scurvy blood is by the utilization of scrapings from eroded surfaces, or, after thoroughly cleaning the surface, by making cultures from smegma taken from the inflamed mucous membranes of the mouth; but, so far, we have been unable to isolate any species of organism which fulfilled even the first of Koch's postulates viz., that of constant occurrence, the latter has no success to record.

In aiding to a Prognosis in Scurvy an analysis of the series of cases here recorded may be of some service. In twelve fatal cases in Europe only the termination occurred in the second year in 1, fourth year in 1, fifth year in 1, eighth year in 3, ninth year in 1, tenth year in 2, twelfth year in 1, fourteenth year in 1, fifteenth year in 1, giving thus an average of 8.7 years as the duration of the disease from its recognized beginning. Of the twelve fatal cases, eight died in Europe after a residence there of periods varying from one week to eight years, and of the twelve, eight were males and four females. All of them were cases of "Complete Scurvy" i.e. those in whom the whole of the alimentary tract was affected.

A resume of the other cases will also make it plain that
those which suffered, sometimes very severely, from one or other of the forms of scurvy, since, in the local forms, if promptly treated and as promptly sent to a temperate climate, are the only cases to which the term “recoverd” has been applied by optimstic physicians.

In describing a process, the changes in which are histologically identical with those of Scurvy, Erxleben remarks “it is a slow and irreparable process”, and Allison fully recognizes its gravity when he thus expresses himself, “To kill a Scurvy patient he is suffering from Chronic diarrhoea is very much, like killing the Victim of Cancer that he is suffering from “tumeur”.

That it is a slowly muttering process has been demonstrated. A certain amount of immediate repair does take place, sufficient to admit of life being carried on, but these instances in which a permanent amelioration is attained must be those either of a partial suppuration of the digestive tract or, if complete, they must have been recognised and intelligently treated before much permanent damage had been done. Each access of inflammation, each acute exacerbation, leaves its quota of permanent damage, and, although after some one or more apparent fits the place and life, with a condition of comparative health, sustained the secondary “contracting” stage, occurring years after, may render their continuance impossible.
It is evident that a certain amount of severe damage, if limited in extent, is not of such grave import as when the process is diffuse and universal, even though that process be milder than in the local form.

The "native" type of the disorder is proof of this, and that the same course may be followed in other races is evidenced by a study of Nos. 6, 7, 13, 60 45.

So the other, partial forms, the acute and the Chronic enteric, may be so far recovered from as to yield a fair semblance of health, but, when the disorder has become universal, the best that can be prognosticated is that life, under appropriate conditions, may be preserved for six, eight, or even twelve years.
The Treatment of the acute gastric form of Scirrhus is simply. As soon as the true nature of the affection has been diagnosed, it is advisable, even in the presence of considerable diarrhea, to administer a purgative; by preference Calomel, followed by a saline. After its administration, a clrt of milk is imperative. So that cases of severe smalaxial starvation would be the ideal treatment, but as soon thing has, for the sake of comfort or appearance, to be Grimm, choice of the blandest material, viz., milk, is made. The amount taken is always small and it has frequently to be diluted with social water, lemon water or phosphate. But in this is not necessary, but upon such a diet as that recommended the capacity for mouth is not great. After a milk of such treatment it will be found that the Scirrhus of the stomach and the burning pain in the gullet and stomach have much diminished, that the appearance of the mouth and tongue is one of regeneration of epithelium, particles of casein adhering as a thin film in patches, and that the diarrhea is slight or has altogether ceased. The diet may now be amplified, and this is to be done in the limo of treatment for an Acute Gastric Catarrh, beginning with the most digestible scrinuous foods such as
Bingara or Savoyos. Turned inside out, sage, tapioca, boiled rice, oatmeal can be dressed upon, and fruits of the class of Bananas, Marshmclons, apples and Papaya allowed. During a month from the time the was allowed to augment his dietary the patient must follow this regimen by which time the mouth will be found to be normal in appearance and there will be no gastric or interic symptoms.

In spite of this improvement a further extention of the dietary must be cautiously made. Tea or cocoa, half milk, toasted bread, fresh fish, eggs and bran may be carefully added, but it may be that no longer than four months later before one is justified in allowing a return to full diet.

Fats can never fail sooner and ought to be prevented either cut off or they are frequently the cause of a relapse.

In the acute and Chronic Enurea form it is not to be trifled with. It is by the reluctance of sufferers from these topics to admit wrong to themselves the gravity of their condition that such inculcable harm is done and so many of them go rapidly on from bad to worse until "Complete Screw" results.

It cannot be too strongly urged on the medical
men who had such a ease to treat, to insist upon a system of treatment akin to that next to be described. Bring only a partial lesion it does not demand a permanent from active life for so long a period, but the sacrifice of some or few weeks is modestly repaid by the lasting, it is too much to hope for permanent, benefit attained.

In the classical mode of brain, the treatment of the acute conditions by milk alone is insisted on by all clinicians with a persistence which would border on monomania it asking one fight too much. The treatment has been reduced to an axiom "Put the patient in bed, keep him warm, feed him on milk". The underlying idea is worthy of the Indian "Nirvana" -  
But, physical rest, physiological rest, is its theme. To put it more exactly, expenditure of energy is reduced to a minimum. Both in regard to movement, micturition, the keeping up of the bodily temperature, and the tone of digestion.

Under rest, warmth and milk amelioration begins, but very slowly. The rhonchi during the first night are briskly truc. The stools in the first 72 hours become less whitish and frothy, smaller in quantity, and there is a corresponding increase
in the amount of urine passed. Any fever which
may have been present is lost. About the fifth or
sixth day there appears a distinct yellow tinge in
the stools which are now smaller in quantity and
clottery in consistence (curd-like), and
diarrhea can be hazard without the necessity of going
to stool. During the first week there is nearly any
great diminution in the number of stools. This is the
relevance of the matter, even with very small amounts
of milk beyond which it would be quite unsafe to
reduce. The abdomen is now flat, there is little
gurgling, and the mouth and tongue are peculiarly
thin epithelium as evidenced by the thin grey film
which covers their surfaces. Pain in the tongue, mouth,
gullet and stomach have usually disappeared, excepting
measles, that from some unbridled emotion.

Such is the progress in milk alone, and when, broadly
speaking it covers all the indications, an analysis
of its factors may be of profit.

When a case of "Complete Stools" comes for advice, you
find a patient relieved, partly by the drain from
his bowels, partly by his inability to absorb nourish-
ment. His intestines are full of a serpiginous mass of
fermenting fluid. His superficial symptoms


pain, oral, substernal or rectal, anorexia, breathlessness, nausea, can afford to stand over.
The demand is for nourishment and that is impracticable.
and to accomplish this, his alimentary tract has to be, as rapidly as may be, brought into a condition which will render absorption possible. Now, vomit and purg, with this bloated abdomen and its putrid contents, keeping the bowel in a constant state of ferment, is impossible.

The tendency to fluid drug treatment has been overdone. It is conceded that no drug has any direct effect upon the condition of the mucous membrane, yet, while adhering to the fundamental principles which have been laid down by Manson and Thiers on abnormally stable, a great deal can be done by judicious intervention to accelerate the path of progress.
The primary step in this intervention is the administration of a purgative, the Safat being Castor Oil. In robust patients, not exhausted by prolonged diarrhea, Bouchard's plan of administering Calomel as an
administration it in enticile four has excellent effects.

Forty milligrams of Calomel are divided into 20 portions
and one is given every hour. One day of this treatment
is sufficient, although Bouchard recommends four.
From the hour in which the purgative is administered only
milk is given. The patient is supplied with decumbe,
the gurgling, the purging, diminish, the
pressure of belching and siftings cease, and the globous
abdomen becomes flat and placid.
It is thus possible to obtain in a few hours a product
which, under similar milk, it would have taken so
many days to secure.

Frequent difficulty is felt in discovery of the amount of milk,
the 3 parts per day (at least) assumed to be necessary.
This may be due to several causes but the usual one is
merely a question of capacity. The Stomach, it must be
borne in mind, is in the same shriveled inelastic condition
as the mouth, and any approach to digestion is followed
by pain, often very severe. Thirst is suggested by
swallowing the milk in not unnecessary quantities. The
excellent non-sweetened condensed milk is and evaporated
ammo obtainable in open market, and which, added
to fresh milk in varying proportions, makes a patient
to ingest the equivalent of 100 ounces of fresh milk with ease.
No tin should be used which has been open for more
than twelve hours. In those cases in which the diarrhoea and
the nature of the stools remain unchanged after several days
and which ill appearance evidence to luxur consumption of
milk, the addition of Peruvian bismuth has been found to suit admirably.

Mr. Horv. in his first milk treatment to be contrasted with very small beginning. We do not expect an immediate miscarriage in might, we do not expect soon to think the weight stationary, but we must not rest content unless there is a diminution of the loss of might so arranged by the laws in our possession.

Knowing from the appearance of the tongue and ejecta that the right line is being followed, and that fundamentally favourable changes must be taking place in the diabetic mucous membranes. Knowing also that we may hope to make good any loss within the next few weeks we are encouraged to persist in the milk treatment, and being convinced of the fact that this is the only safe line to follow, our snatched to pursue the milkment. Suggestions of middle-some friends, one of the patient himself, and to assure them that any substitution of treatment is soon to end discreditably.

It is obligation on us to sustain the degree of intestinal absorption already attained by the initial purgative and the milk diet, because toxicity of the feces aggravates
the diarrhoea, and because, under intussusception, the number of red blood corpuscles in the intestines moves rapidly than if no such treatment had been adopted. The antispasmodic used have chiefly been Jodoform, Naphthaquin, Salicylate of Bismuth, Salicylic Acid and Salol. Chiefly the first three, the latter being found unsuitable in many cases.

The mixture is practical to a combination of Jodoform and Naphthaquin were the grounds that, the diarrhea being in great part consequent to irritation and effusion into the submucous tissue, the well-known property of Jodoform compounds of hastening absorption might assist in their removal and tend to minimize the amount of permanent change. While giving Jodoform, Jodoquin is found in the urine, but Jodoform is found unchanged in the stools.

The condition of Hyperperistalsis has been more than once referred to. It frequently is found that after all flatulence, distension, and gurgling have ceased and the stools have become comparatively mild and easy, that the number of the defecations remains nearly as frequent as at first. This is one indication of Hyperperistalsis and may be met by the administration of Codrrie in half or one grain clove. Such an agent hormone can be used only when it is certain that by its use no obstrusive matter, likely to be absorbed, is being retained in the bowel.
Thru, as the first. Hydrocyanic Acid in one or two minutes
more. in all medications.
In painful rectal, possibly profuse fecal. Rectum a
support of Gallei or Jannic Acid with Morphine
give great comfort.
The diarrhea may be much diminished by the use of
a rectal injection of Silver Nitrate at blood heat, one
half to one grain in an ounce. The injection is best
administered at low pressure, through a long rectal
tube, the patient lying on his right side with the buttocks
raised. It is encouraged to retain the injection for
a few minutes and to assist him in this it is wise to
cause injecting before the distention of the Colon becomes
uncomfortable.
The sore tongue may be painted with a 5% Solution
of Cocaine before eating, and, after every meal the
patient should be directed to firmly rinse his mouth
with a 1% Solution of Permal. If his food the mouthworn
is slightly anaesthetic, and seems to accelerate the
rehabilitation of the necrotic patches.

While upon these lines it is possible to add to the
comfort of the patient there is no reason to suppose
that any earlier departure than the four or six miles
demanded by Tom and Monson can be made.
from a pitted milk diet. After that time no many
begun to add, and the first addition should be fruit.
In the instance the best to begin milk is Bananas, and
of these the large "maddy" varieties are the best. But-
Apples, pears, melons or pears are all well born
and can be taken in quantity. This presents a case
of peaches or strawberries, and grapes are very
milk borne. These are not obtainable in the United
in a fresh condition, and preserved fruits, if in much
Sugar are nuisances. Oranges, lemons, limes
and pineapple are not advised, though some consum
with benefit. After the addition of fruit, the might grow
up rapidly. It is well to continue upon fruit and
milk until they begin to fall upon the palate, then
toasted bread, fresh fish, baked and without sauce.
Vegetables, especially succulent vegetables and some of the
fermentable foods. Eggs are of doubtful value
notwithstanding as to their nutritional value, but as to his
idiopathy of the patient. Sometimes they agree
and are a valuable addition, but when they disagree
they disagree badly. Likewise small quantities of
chicken, beef, meat or game may be tried, tentativ
ly, and very cautiously.

The quiescent stage has now been reached and it is time
to send the patient to a temperate climate. It is now
eight meals since treatment was begun. As soon as the stools have been solid and daily, and he is now master of a sufficient dictionary to enable him to assist during the voyage.

Taking a hint from the diet on which native patients manage to obtain such a state of recovery, the diet allowed on board Ship should be somewhat as follows.

**Breakfast**
- A cup of milk, or a few apples
- Bananas, or slices of watermelon, a biscuit.

**Lunch**
- Oatmeal porridge, hominy, kippered sago or rice with much milk, a piece of boiled fish.
- An egg, toasted bread, a cup of milk, and one or two apples or other suitable fruit.

At 11 a.m. A glass of milk and an apple or biscuit

**Dinner**
- No soup, a slice of cold dry roast or boiled mutton or beef, scrupulously freed from fat, vegetable plain pudding. A glass of milk

At 4 o'clock A glass of milk and a biscuit

**Breakfast**
- No soup, a slice of chicken or some dry ham, smoked, vegetables, light pudding, bread, no cheese, a glass of milk.

**Bedtime**
- A glass of milk, marmalad, and a biscuit.

It is imperative that the voyage be made in a fully-equipped passenger steamer. As the above sketch shows, a very large amount of milk and fresh foods are required, and
their strength in the way of preservation of the body. The matters above all others to be avoided are fats, thus all suet, greases, pasty and many puddings are inadmissible. Following their suggestions for they can not be more, a patient may keep himself in status quo, may remain until recovery becomes whether to freshen and more varied foods and, thereby, aid in further advance his cure.

But there are limits and limitations.

Even in these cases of Complete offense which have been promptly recognized and sent out of the tropics, there comes a time, after years of comparative health, maybe ten or more, when it becomes evident that nutrition is failing. That now with many severe being taken, every opportunity seized, the patient is going downhill. We must then admit to ourselves that with the contraction of the now tissue the destruction of the absorptive apparatus has advanced to such an extent as to render adequate nutrition impossible.

It is now that fruit, meat juice, high-toned foods, some tonification, or any of the multitude of stimulants to invalids can be used, and a temporary improvement is made.

But it can, in the nature of things, be only temporary, the inevitable end is but postponed.
From Case 2

Lateral fisure - Cervix of corpus fibroid
From can 57

Surface entirely fibroid

Scantly composed
From Case 12

"Leaf-like tongue with "red velvet" palate

Acrocyanic Stage"
A very acute congestive attack in the course of Chronic Syph.
Cervical clavicular fibroid - tongue much swollen - fungiform papillæ
very prominent.

From a new case not repeated.
From Case 19

Surface entirely fibroid - deeply congested.
From Case III
A sub-acute attack in a Chronic Case
From Case 53 -

Shrinking islands of fibrous tissue
Rough Sketch of Perăatal Harpes.

From a new case, not reported.
Postscriptum

Since the preceding pages were written there has appeared in the "Lancet" of dates Jan. 26, Feb. 3, and Feb. 10. In the form to hand, the thoughtful and suggestive paper of Dr. William Hunter entitled "Progressive Pernicious Anemia as a Chronic Infective Disease." The exigencies of time and distance preclude more than a passing reference to this Thesis which have my hands in a very sinclenp, but the resemblance between the two diseases, Sprue and Pernicious Anemia, already pointed out in these pages, has, in the light of Dr. Hunter's careful arguments and consecutively brought to what may be called a clear parallelism. I find it thus.

It is evident once analysis of these arguments, it would be premature to accept his conclusions so far as to admit the identity of the two diseases. In discussing the "Pernicious form of Sprue," I stated that it was by no means difficult to
disguise such a case as one of Prognostic
Pernicious Anaemia upon the grounds of
1° The intensity of the Anaemia
2° The proportion of the Haemoglobin equivalent
to the Erythrocytes
3° The Polikilocytosis.

As a diagnostic criterion the two disorders the oral
condition was cited, but Dr. Hunter remarks this
by observing that in very many cases of Prognostic
Pernicious Anaemia a stomatitis, which minuter
and fluctuating character must bear a close resemblance
to that of Thrush, is a not uncommon occurrence.

We have both been-driven by the utter inadequacy
of the influences usually quoted as causal
dressed (which influences, by the way, are nearly identical
for the two disorders) to strike a further and more
realistic etiology. But to discuss this question
so fully as the subject demands, would require
a hundred pages of cut into drawings, and an
encomium of time which under the circumstances
it is not possible for me to give in this Essay.

David Scullomory
Appendix of Cases


I

European male, aged 45 years, had resided in Singapore 24 years. First seen in 1885. He then presented the appearance of an old case of shane, undergoing an acute exacerbation. The tongue was very sore, the diarrhoea profuse. The stools white in colour and frothy. Very careful in diet and also as to the use of alcohol and tobacco. Had been fond of hot curries, but of late years he has had to avoid everything pungent on account of the pain they caused in the Stomach and Jullet. The tongue has only lately become affected. He has lost much weight during the last four years. Treated by absolute rest, milk diet and fruit. When the acute signs had died down, he was sent to Europe, where he died exhausted in 1890 in spite of careful treatment. Duration of the disease about 12 years.

II

European female of Dutch extraction, but born and has always resided here. First seen in 1885 during her first pregnancy. A very typical case, with glazed bare tongue, sore mouth, burning pain in Stomach and
gullet, and profuse diarrhoea. History of much indigestion as a girl, having frequently had to give up all condiments and hot curries (of which she was very fond) on account of the soreness of the mouth and the epigastric pain. Very much worse since she became pregnant, the diarrhoea and all the other symptoms continuing unabated in spite of treatment until three confinement. Within a few hours after delivery there was an almost appalling ceases of the intestinal flux, which was gradually checked.

A great measure of recovery took place during the subsequent six months, when she again became pregnant, with a revival, in an even auster form, of all her previous troubles. The pregnancy did not go to term, owing to a serious bout of diarrhoea, caused by a cholitic indigestion. The child lived, but for weeks the life of the mother was desperately lost. The flux bring so excessive after delivery. She slowly convalesced. For ten years she had no children, during which time she was mostly quite well so long as any ordinary care in food & was exercised, but in 1877 she became pregnant for the third time, with an
intrinsically severe return of *Syphilis*. She miscarried of twins at 5 months. Again rapidly recovered and kept well until January 1877 when she again became unclean, and, again, almost from the earliest day of the pregnancy, the symptoms of her disease shewed themselves, becoming, day by day, more severe until the expulsion of the foetus at the end of the fourth month. This distress was probably brought about by the presence of the diarrhoea, and by the straining and rectal prolapse caused by the irritation of the rectum from the acidity of the flux. She recovered very rapidly and some weeks later (May 1877) she left for Europe, from thence the return is very favorably.

**Case II.** Eurasian female aged 39 years whom first born in 1886. Attended her in that year in her 11th confinement. She had a very violent attack of diarrhoea, which at the time I could not account for, lasting for 3 days after her delivery. History of "Hyperpyrexia" and diarrhoea throughout her term of pregnancy. She improved much until she again became pregnant when her previous symptoms were
elucidated by their return in a much aggravated form. Her mouth glistened and stomach was
the seat of severe pain, and diarrhoea was very profuse. She was put upon diet and kept in bed until her confinement, which
was easy, and was followed next day by
the same access of diarrhoea which had plagued
her previously. She recovered and has been
under observation continuously for 11 years,
during which time there has been no further
pregnancy and the menopause has been
passed without trouble. She is very thin
suffers from constipation, has a bare starch
tongue, hermaphroditic fibrous bands down
either half of the clitoris. Her diet is milk,
vegetables and fruit, and occasionally a
little chicken or very lean mutton. She has
had no relapse for years.

Mrs. Mary Morton aged 33 years (n. 1886)
has suffered for years from sore mouth and
subternal pain. The tongue is perfectly bare
with true herpetic patches, which come and go,
on either side of the tip. Constituted and
anaemic, but fairly well nourished. Haemo-
globin 60%, blood count 2,400,000.
The fibrotic changes retarded from the angina
of the mouth, in a line downward & outward.
She has been watched carefully during all three years. The fibrosis is marked, all the mucous cavities contracting. In 1897 the lymph became affected, the voice became hoarse. Sept. 19, 1899, Status quo, voice same as in 1897.
Haemoglobin 67½%. Corporacles 2,700,000. She is rather thinner than in 1897.
Her diet for years is as follows:

**Morning**
A cup of milk with bread.

**Breakfast**
Plain boiled rice, roasted fish, without any gravy. Any kind of vegetable if not starchy, any kind of fruit if not too sweet or too acid.

**Dinner to Same**
She cannot take meat of any kind, fats.
Sugar, very sweet fruits or very acid.
If much milk is taken it induces looseness of the bowels, while soup always causes the tongue to become sore.

**European male aged 30 years** and had been in the Straits for nine years when the first undoubted signs of Syphilis appeared in 1884. He went to Europe in 1886.
Returning unimproved in 1887. Admits soreness in arms. Contracted Syphilis on his return. He remained only one year when he had to return to Europe quite broken down chiefly on account of exhausting diarrhoea. The soreness of the tongue, prominent from the first (1884) was greatly aggravated by the Syphilis addition of Syphilis.

During his stay in Europe he improved much, dining carefully and being treated chiefly by inunction for his seminal trouble. He returned to the East in 1887 but remained only for a few months because of aggravation of the diarrhoea and other Signs of Syphilis. For five years he remained partly well at home, though still subject to attacks of diarrhoea and sore mouth in any indigestion, but he was very thin and weak. Reports in 1878 stated him to be becoming progressively thinner and weaker, almost entirely confined to bed, and taking only liquid nourishment in the smallest quantity.

Note: He died in May 1879. Referred to...
VI. European female, aged 47 years, has
prevented for thirty-one years in the Straits. Symptoms
diagnosed in Java 20 years ago. A very
chronic case with occasional outbursts of
sore mouth and diarrhoea; attacks cured by
milk diet and rest for a week or two. Condition
fairly good but anaemia marked. A favour-
able factor in this case is that she spends her
year equally here and in Germany.

VII. European female, born in the Straits
and prevented here for the first ten years of her life.
Then in Europe until she was 21. She returned
to the East in 1888 married. First Sis in 1889
during her first pregnancy, with sore mouth.
Headache kindred, burning behind the Sphenoid,
feet and back also. and diarrhoea.
History of much indigestion during the past year,
without any discernible cause and usually
ending in vomiting or diarrhoea or both. The
diarrhoea was always copious, frequent and
difficult to stop, but the Soreness of the tongue
has appeared since pregnancy occurred.
She had the usual bout of diarrhoea following
delivery, but made a good recovery both from that and from her syphilis; and she remained in fair condition from 1870 till 1875 (on strict diet) though evidently losing strength. She went to Europe in 1876, where she remained until her death in Nov. 1878, from the progressive affection.

Mr. European, a strong athletic man, aged 25 years when he arrived in Singapore in 1889. Family history particularly good and he had never known a deep illness in his life. Was cabin mate on the way out with Case V. and frequently, in fact regularly, painted the sore tongue of his cabin fellow with some medicament he was using. Within ten months of his arrival he showed all the symptoms of most virulent syphilis. His first symptoms were the pharyngeal and substernal pain, with heat and dryness of the mouth, all of them aggravated by any food other than the blandest milk slop. Diarrhoea gradually became prominent but not for weeks after the Sublimation of the other symptoms.

Mr. European was very careful. In 1891 he went to Shanghai to consult a quack specialist, but returned...
unimproved. Again, by care and dieting he picked up again, and, as his work was outdoor and arduous, was advised to go to Europe, an advice which he did not take. In 1872 he was very ill, in spite of diet and treatment, with chills and pectoral trouble, but improved later in the year sufficiently to embark for home. After a year there he returned to the East in all appearance in perfect health, but he had been in the Colony scarcely a month when all his symptoms reappeared in a most violent form, recrudescent, as soon as his condition permitted, his being shipped off to Europe (Sept. 1874) - Nor land, nor sea, or invalid, until 15th Sept., 1877, when he died of exhaustion, much smothered.

IX. Eurasian female. 72 years of age with first Sim in 1887. A most chronic case, having to his own knowledge, had the disease for 40 years. It began during one of her later pregnancies. She has lived for all these years upon rice, chicken soup, and bananas - milk never agreed. Lately it has only been possible to find her a liquid food i.e. chicken soup with occasionally a little tea infusion. A detailed account of
The condition is necessary to show to what extent the contraction of the tracheal mucosa membrane may reach in man during life.

The mouth is a mere slit admitting only a small coffee spoon. With a laryngoscopic mirror and a good light the condition of the inside of the mouth may be seen. The tongue is firm lying on the floor of the mouth and is in shape and size somewhat like the last two joints of a little finger. All the fauces, palate, and inside of the cheeks are of a dull yellow colour, the teeth are gone, and the oral aperture admits only the little finger. The lips closing round it like a hard inelastic band, the tongue is hard and dry, palpable like a piece of cartilage, and is immobile.

The mucous membrane everywhere are quite smooth and very resistant so that it is scarcely possible to bulge out the buttocks by pressure from within. The fauces could not be reached.

The vagina is a narrow rigid tube, admitting the well-oiled forefinger with difficulty. The anus is so contracted that no digital examination is possible, but, by using a long probe, the same feeling of rigidity is conveyed to the mind. The conjunctival partake in the
general contraction the palpebral orifice bring
men slight with much involuted ridge.
She became bedridden in 1872 and died in 1873.

X Malan female aged 41 years in 1887.
A very chronic case. Has no recollection of
any period of her life when she was without
the disease. Complains chiefly of much
pain caused by the face tinged cyanose in the mouth and gullet. Her chief complaints
are the sore mouth and constipation. The
latter condition being partly due to the contracted
state of the Rectum.

X1 Hindu male aged 33 years. Died by me
during his last illness only.
History of persistent diarrhoea for some months
with increasing malaise. He showed the sore
bored tongue of typical strue but the anosmia
was intemperate quite beyond that degree usually
found in Strue. The diarrhoea was very
exhausting and intractable and the odor of
Anchylostomum V. was found in the Stools.
His child within a month.
Australian, resident in the tropics since 1883, on which year he was aged 26. Trich Suffered from diarrhoea in 1889, supposed to have been induced by fungus, for the purpose of making so as to enable him to pick at a light weight. Improved under treatment (milk, prot. and rectal injections of nitrate of Silver Solution).

Relapsed badly in 1892 with protasis of the Reclain. Again improved under treatment. Went to Australia in 1894 where he lived in dirt and applied entirely. Returned here in January 1896 vastly improved. In November of the same year he had a relapse, with very sore mouth, and, in consequence of a chill while in this state he developed a liver abscess (left lobe) which was drained and drained. He made a complete recovery from the abscess but a very partial one from the attack of Scarce. Chilled again in January 1898. Suffered from the liver with symptoms of abscess, this time in the right lobe. Operated, finding a cavity full of flakes of pus and broken down liver cells. Bulging felt on inner wall of cavity, which, being followed up, ended in opening into another and larger abscess. Firstly drained, without resection, and recovering. Diarrhoea throughout was very bad. He left again for Australia in October 1898 and again.
lived on fresh milk and raw apples with the greatest benefit. He returned in 1899, well, and now profited in some degree of his condition, taking carefully each day doing so help in fear of good health, though very thin. He has occasional exacerbations with the usual symptoms.

His diet during the "protruding" stage of the disease is:

**Breakfast**: Porridge and fresh milk, a very little cold lean meat, toasted bread, milk, and soda water.

**Lunch**: Cabbage and Potatoes, lean mutton or chicken, bread, milk, or milk pudding.

**Dinner**: Soup without any grass, lean beef or mutton, vegetables, macaroni, milk.

Note: Nov. 11, 1899: Just returned from Penang, very ill, with an acute inflammation attack in progress. On Thursday, very ill, feeling only a slight improvement, but was made well in the night by calls to stool, the stools being frequent, frothy and profuse. This lasted for two days, during which he took nothing but milk and clear water, then suddenly recovered. With the cessation of the flux, the mouth became very sore, with much ulceration. An instructive instance of metacariasis. Gradually the mouth healed up, without any return of the diarrhoea.
Eurasion male aged 78 years in 1888. History of constipation with sore mouth for many years during which time he had lived entirely on soup, chiefly chicken, and bread or rice and milk.

The mouth was very sore for which a cocaine paint was prescribed and habitually used before taking food. Under observation for two years, then he died of apoplexy.

Eurasion female 21 years of age under treatment for uterine irregularity of the period. Exercise no case of diet.

During both her pregnancies was very ill with diarrhoea, but the tongue became dry and painful only during the latter one. Much improvement then on diet, the painful condition of the tongue subsiding it. She is now in Europe quite well.

European male, master mariner, but on shore work, came under observation in 1891. He is the husband of case II. and had been married six years when he began to suffer from frequent very acute, attacks of diarrhoea, with copious fluids, frothy, dark-coloured stools. Towards the end of such attacks the stools have contained
blood. The more present attacks have been preceded by a tender condition of the tongue and mouth. It is much reduced in weight. The blinding is from the peculiarity which partially prolapses toward the termination of such protracted diarrheic attacks.

He was advised to go to Sia agano, which he did, distired himself carefully, and noric, with the exception of two narrow barn bands on the tongue, an almost healthy man. Any little latitudes in diet, especially if on shore, soon now induces a sharp flux.

XVI A Malay woman 45 years of age was first seen during an acute exacerbation of spleen, which her history showed must have been in existence, in the chronic form common to Malacca, for at least 15 years. The acute exacerbation was coincident with an attack of fever, probably Entonic, as she died with symptoms of perforation, in a fever clump. No post-mortem examination allowed.

XVII European Woman aged 44 years when she first came under my care in 1888. Born and lived all her life in the tropics.
She developed "dyspeptic" symptoms eight years ago, but during the last five has had sore mouth and tongue in addition. The diarrhoea has never been profuse though always present. Sent to Europe when she first fell but much improved. Last from 1899, reports no change.

**XVIII.** European female aged 38 years in her arrival here. Developed Sprue after five years residence - was treated carefully and sent to Europe when she remained fairly well for some years. In 1889 she returned to the States, stating then that the diarrhoea had left permanent changes which from her prolonged stay in Europe had failed to eradicate. Within three months was very seriously ill with Sprue and it was only by the most careful nursing and rigid diet that she was able to remain for about 15 months. She again left for Europe but died of exhaustion in the Baltic.

**XIX.** Chinese woman aged 56 years whom she first came under observation in 1888. Shalib-born. Complaint diarrhoea, mouth and sore mouth of some years duration. Put upon diet which she did not adhere to very closely. Inc
X years later she was bedridden, much emaciated, with contraction of all the muscous cavities. Life very rigid, tongue stiff and hard and can be protruded very slightly. Plate 10.

She again in Nov. 1879. Has improved in condition though very thin, bloodless and weak. She has for some time lived entirely on fruits and vegetables (supposed by her friends to be in consequence of a row). Has had no diarrhoea for months. Haemoglobin 72%. Blood count 2,400,000.

xx American 50 years ago, in Insurance Service, located in the East. China Java, Japan, Philippine and Straits. For 15 years. Has suffered much from intermittent attacks of diarrhoea coming on without cause, each recurrence being more severe than the previous one; the last few attacks having been preceded by a day or two, by soreness of the mouth and tongue. He has always lived carefully and the family and personal histories are good. When seen (1870) he had, in addition to the usual appearances in the mouth and tongue, a typical biopsy of the soft palate which had given much pain previous to eruption. Pept, milk and bananas made matters worse. Last sight of...
Hindu female aged about 44 years.
Consulted on account of matraces. No definite history obtainable, but judging from the condition of the mucous membranes, the diarrhoea must have been in existence many years. Diarrhoea and anaemia the most symptoms.

xxi Half-caste woman aged 40 years - Born and raised here all her life. Always chronic case with constipation. Glaucous of all the mucous membranes very well shown. Diet for years has been fresh baked rice and rice with fruit. Complains only of the Sore tongue and matraces.

xxii Arriso aged 31 years. Born Tobacco planting in Sumatra for 19 years. Since 1890.

He is a large, powerfully built man, with the shrivelled yellow skin, dry scanty hair and poorly conjunctivas of Acute general Typhus.

Thinks he has lost at least 30 Kilos during the last 8 or 10 months. History of a morning diarrhoea continuing for years, but during the past two years he has been conscious of it occasionally interrupting his work, and sometimes on an odd day, when it prevented him having the hour. For the last four months he has been totally unfit for work, having 15 to
20 slate for 2m. white painless and frothy. No tongue, mouth, pharynx, and gullet (as far as can be seen by the laryngoscope) are brilliant red and burn. No pain beyond the general soreness of the mouth and no sign of any breach of surface.

Began treatment by placing him in bed and applying a well-padded erector to his abdomen. Diet: salt and Apallianian squad parts - no impression. - milk + linum water, squad parts same result - given by spoonful - same result - sucked through a tube whose end was ab. Structed by a meatless cup - some result. Emp. a spoonful of sterilised water scaled to start peristaltic action and induce a stool. Began medicinal treatment with Salol or Hydroyamine Acid 91 Resinthe 91 every four hours with the happiest result. The diet being milk. Stopped Salol when the stools became firm from froth in the 8th day, but continued the other drugs until the stools were produced to use cleanly (in pure water). After that, the diet was slowly augmented, first by the addition of apples and bananas, then by baked fish, eggs and lettuce, the clown breast of a chicken with bread.
After the stoppage of the flux he felt stronger and better in every way, but did not gain much of any weight, until just on the amplified diet. He then lost on 21 lbs in six months. He left for Europe still adhering to the prescribed diet and I knew (1879) that he is still alive though more or less invalid.

XXIV European 31 years of age whom first seen in 1885, and had then been in the Straits for eight years. History of syphilis contracted about two years after he had been told he suffered from Syphile. He had been mild and judiciously treated, for both diseases, and his symptoms when I saw him were solely those of an aggravated case of Syphile. The tongue was the chief cause of complaint, as in all cases in which Syphilis is a complication, and diarrhoea was not a marked symptom. He was under observation for 14 years, dying in 1889 of progressive involution.

XXV European male aged 24 years whom he arrived in the Straits in 1886, and began to suffer from Syphile in 1891 in a very acute form with diarrhoea and sore mouth. He was sent to Europe in 1893 and while there
contracted Syphilis. He returned here in 1874 much impaired as regards the diarrhoæa, but the condition of his tongue was of study, it being impossible to say when the Syphilitic stoppage and theory began. He had had no specific treatment. The tongue was the only complaint now, and was much swollen, there being frequently all the types of Syphilitic eruptions present, blanched by typical mucous patches. It gave great trouble and was often so painful that it was only after few painting with Iodine Solution (5%) that the taking of food was possible.

(1898) He died of sudden dyspepsia with short symptoms, probably a syphilitic Central lesion.

Englishman aged 31 years, born in the East 7 years, was seen only during one month. He had seen diarrhoæa constantly during the last four years, felt very weak and ill and had lost much weight. The pain in the Epigastrium and behind the breast bone is very worrying, and the mouth, the tongue especially, is very inflamed and sore. He looks anaemic and very ill, with sunken-in abdomen, clay
handsv. mildestch skin, mouth all very sore. The tongue with red velvety on either side of the lip, and there is a large aphthous ulcer in the Sibilae between the left jaw and the cheek. No improvement on rest and milk sufficiently to embark for Europe. When I heard he became rapidly worse and died in a little over a year.

**xvii** Malag woman, wife of my coachman thinks she began to suffer with her tongue during her second pregnancy. Always constipated and suffers much from the burning pain behind the Sternum and under the left Scapula. Diarrhea is present only after the birth of her children and occurs spontaneously in 3 or 4 days. She is very anaemic but not emaciated, tongue very bare but at present not sore. All the mouth is smooth and the mucous membranes have the yellow fibrinous look, with enlarged Virchow of old Syphilis.

**xviii** European man came to the East in 1858 and left permanently in 1886. He had had perfect health throughout his 28 years of residence here, but shortly after his return to Europe, he began to suffer from unmistakable Syphilis.
He had a visit to the East in 1873 when I had the privilege of seeing him. The change in his appearance was striking. In 1886 he was a long muscular man, weighing about 16 stone, now he is shrivelled and has the look and querulous voice and manner of a very old man. His weight is 152 lbs. No symptoms can throw on a well-established case of complete spire. In spite of this his disease became steadily malignant and he died in 1894.

XXX European woman aged 40 years whose first son in 1886, had been in the East 11 years and had suffered from the classical symptoms of spire of the jaundice type for four years. It is of moderate severity, with little diarrhea, and becomes aggravated only by some indiscretion in food or clothing. Left for America 11 since last sight of.

Note 1899. Her son is alive and in good health.

XXX European woman, attic in 1885 in which year she was 65 years old and had been in the East Seven years. Pregnant with her 6th Child.

Her history was that she began to suffer from diarrhea about 18 months after her cervical
The continued throughout her second pregnancy
with a severe bout following the birth of the Child.
She then began to improve until again pregnant.
This had been the recurrence of events until I saw
her in her 6th pregnancy. Her condition was
very pitiable: The tongue was raw, glistening
of a pink-white colour and about half the size
of a normal tongue. There were red pruritic
patches on the palate, tongue and buccal mucous
membrane giving intense pain. Emaciation
extreme and diarrhoea profuse. Considerable
pain in and Superficial ulceration of Vagina.
She had been in most competent hands but
the constant recurrence of pregnancy had
rendered treatment nugatory. At present
she was living on soup of field milk and chicken
jelly without salt. (Cocaine thorn was a
therapeutic curiosity). The condition of the mouth
precluded any other forms of nourishment being
taken. Labour came on at the end of the
eighth month, and excepting prematurity,
the fetus Feminin was normal in every respect.
But an appalling attack of diarrhoea set
in then deep after the confinement and
the slowly sank, dying exhausted on the 7th day.
European male 35 years. Suffered from morning diarrhoea 15 years ago. Six years later the mouth and tongue began to give trouble and he lost weight. Had to go to Europe twice. A mild chronic case, remains well so long as care is directed to exercise. (1877) Much better and stronger and quite fit for his duties here.

Norwegian, aged 35 years. Captain of a coaster. Strained one ear in the East twelve years. Began to suffer in 1874 from a parish diarrhoea which resisted ordinary treatment. (1877) By careful dieting he has kept himself pretty well and fit for duty. Benefited much from a year in Europe. He is very thin and the mouth is bare and glossy with an abnormal white tongue of the "geographical" variety.

Chinese woman aged 39. Had had seven children and was sick during her last pregnancy (1876). She has the chronic streptosis tongue of chronic strep. with fibrous strips along the bottom - diarrhoea profuse. Put on diet of rice and fresh fish. Milk could not be taken. Her confinement was followed by the usual bout of diarrhoea.
1899. He had no more children and is much improved in condition though very anemic. Is nor in the contracting stage of Chronic Sysue and is constipated.

xxxiv European male had been 18 years in the tropics in 1876. Has recently been in Europe and his acute symptoms developed there with sore tongue, diarrhoea and great loss of weight. Only saved as he passed through to Australia. Recommended apple and milk diet.

xxxv European aged 44 years, had been in Java and the Straits for 20 years, and had had morning diarrhoea for the last two. Always enjoyed good health until, in 1874, he had a very acute attack of Influenza which completely prostrated him. His recovery was very slow and the paint most noted by himself was that the diarrhoea was immovably aggravated and that he was becoming progressively and rapidly weaker. His tongue had never been sore to his knowledge, but examination showed it to be very abraded and to have a thin, partly-gray, glandular band down the middle of the dorsum of each lateral half. On absolute milk diet.
and Rivolinto arrived in improved and went to Europe. Six or seven years later he returned to Singapore. He seemed robust though less stout than before, but his tongue seemed considerably advance of the fibrotic process; the fibrous bands had spread laterally, now almost meeting in the middle. He had had fair health at home. In three months he had a typical outbreak, although in recovery from which he returned to Europe.

Note, 1900. Still alive but no particulars of state of health obtainable.

XXXV. Nature of Mauritiano - half French. In profession an Engineer came to the Straits in 1886. He had never been ill excepting for occasional attacks of Mauritiano Fever (malaria). About four years after his arrival here he began to suffer much from indigestion which he attributed to eating badly cooked food, his wife having recently died. On examination this indigestion was found to be a typical case of incipient Sprue, with spastic pain, burning gullet and tender mouth. These attacks became very frequent, the diarrhoea excessive and the tongue very sore, and he
become incapacitated for work through illness. He made several partial recoveries only to relapse again. Died in 1896.

xxxvii Jnrse aged 29 years, has been in the streets and same all her life. Married at 19. She began to suffer from what was supposed by her friends to be the usual gouty signs of pregnancy. Her tongue during this time was pronounced upon as being unusually clean, but she cannot recollect if it was sore. During her subsequent three pregnancies she has suffered much from diarrhea and foot
mouth. When born in 1896 she was in the 4th month of her fifth pregnancy. The tongue and all the buccal mucous membranes was in a state of subacute inflammation, swollen and difficultly painful, and the diarrhea was very exhausting, day and night. She improved much under treatment, the inflammation of the mouth and tongue subsided, leaving it erythematous typically hairy, and during the latter months she was comfortably both as regards oral, gastric and intestinal symptoms. She had the usual bowel of diarrhoea the day after confinement, which she fortunately got over. 1899. She has not
again been pregnant, but is more free from malarial with a typical Stryne mouth, and subject to acute exacerbations - at the usual level of a Chronic Case. European female. Aged 56. Resided in the tropics 30 years and only showed signs of Stryne during the last four. She has had Acute Kidney for ten years at least, and the symptoms of Stryne are mild but unmistakable. Gradually becoming more smeared, but kidney fairly well on careful diet. Lately has had several uraemic threatenings. At present in Europe when the kidney symptoms have assumed prominence and she is steadily failing. (End Dec. 1899)

European male. Born in the Straits, with the usual holidays to Europe, for 30 years. He showed the first signs of Stryne only after twenty years of tropical residence, and during the last ten has had to take frequent trips to Europe on account of the disease. His kidney fairly well with great care in diet and can stay here for periods of three years without any very marked deterioration. A very chronic Case.

European female. Aged 41 years. No trace of preceding. Born in India. From 1852-6. Then again from 1858-71. She has had
Children. She developed the disease two years after her husband, but in a much more virulent form. As soon as it was diagnosed she was sent to Europe and her pregnancy terminated. Reported quite recovered.

XLII European female arrived in the Straits in 1880. About 14 months after her arrival she developed a most virulent form of Syphilis. She was, at the time, in her first pregnancy. She suffered terribly but went to full term. Had an easy labour, but sank three weeks later from the excessive flux from the bowels.

XLIII Jamil male aged 40. Born and reared in Singapore. Had butler in one of the Hotels. Used to Sir him daily for years until 1873 when he asked for leave of absence on the score of ill-health. When he returned, seven months later the change in him was surprising. From being a stout man he had shrivelled up into the semblance of a very old one. He detailed his history carefully. For two years before coming here his bowels had been extremely irregular, usually very loose, and, lately, his mouth had become sore. He was adjoined to live on denatured foods,
fruits and milk, and had done so with much benefit, but whenever he ate meat or butter the diarrhoea returned. He kept up his weight pretty well but felt his strength becoming greater, so much so that he had to give up work. His condition on his knowing himself was pitiable. His tongue, mouth, and the gullet, as far as could be seen, were inflamed, eroded, bare, and very painful, the Sorensen behind the sternum and in the Epigastrium was very distressing. Examination of the Rectum explained the very rapid loss of weight, a hard malignant stricture being felt readily. This had caused no discomfort and no symptoms probably because of the liquid or pulperous nature of the stools.

E. E. European female aged 27 years, married but childless, developed a persistent diarrhoea within ten months of her marriage. This was watery, grey in colour, frothy, chiefly maturial, and the only symptom for many months. Later, this began to occur beasts of diarrhoea in which the number of the stools, such that never from three to ten ever climacrophobic by vomiting at the onset and followed by...
kindness of the mouth and tongue. In less than
three years she presented all the classical
symptoms of spire, and had lost all use in writing,
sufficient to change a buxom young woman
into a middle-aged lunatic invalid. She was a
most intractable patient, and only under the
greatest pressure would she adhere to any diet.
all precautions being thrown to the winds the
moment sufficient improvement was attained to
admit of her getting about. She went to Europe
in 1897. Returned much improved, has
Since grown to Inclieri & been lost sight of.

XLV Chinese woman aged 57. Strained born.
A very chronic case with constipation and
contraction of all the mucous cavities. She has
lived for years upon a diet of boiled fish, soft
boiled rice and cucumber. Died at 60 years 7 aqr.

XLV Arab woman 58 years 7 aqr. Childless.
middle twelve years. She suffered throughout
all her married life from diarrhoea and so
much thirst which have improved only during the last
five years. She has a very typical aphagia like
fibrous tongue and the buccal surfaces show
the articulate voice very plainly. Although
anomic she is in fairly good condition.
Suffering occasionally from epigastric pain and diarrhoea, with Soreness of the mouth, as the result of any indulgences. So long as she exercised care in her diet, her pulse fairly well and is, as a rule, constipated.

XLVI Australian, male, born in the Straits for four years, and, so far as his recollection goes, has had morning diarrhoea all that time. Lately the diarrhoea has been worse, and he has become thin and weak. Has had to stop smoking but, otherwise, makes no complaint of sore mouth. On examination he showed a typical tongue and mouth, backed by all the symptoms of Spiro or a virulent typhus. After over one month's treatment he was able to leave for Australia and has been lost sight of.

XLVII Englishman, 37 years of age, has been in the Straits for four years. He developed morning diarrhoea within two years of his arrival but, lately, he has had exacerbations of diarrhoea incapacitating him for work. Coincident with the later exacerbations the tongue has become very swollen and bore and the mouth tender. After a measure of recovery in diet, he was sent to Europe (1899 Reports himself well).
Portuguese aged 57 years. Complicated by Diabetes. Had been ailing for one year before coming to me and during that time had become reduced to a miserable shadow. The diarrhoea with coffee mouth had been in existence for years, but only within the past twelve months had he been cognizant of thirst and excessive micturition. Urine 1027. Dividing for the double complaint difficulty but a compromise diet was arrived at consisting of a small allowance of milk, raw meat juice, Chicken Soup, lean breast of Chicken, fish, and raw eggs with Pancreatic Emulsion. No alcohol could be given on account of the pain it caused in the mouth and gullet. Cod liver ½ grain every few hours. Under observation for one month during which he decidedly improved both as regards Spice and Diabetes. Urine now 1027° and about one third the previous amount. Soreness of the mouth less, diarrhoea gone. Lift for Alacron when he clinched a few months later.

Englishman, born in Ipswich 27 years 51 years of age. Army Chronic case, first diagnosed in 1884. Been frequently invalided.
to Europe each Summer with benefit. Of late years much smacked. Returned from Europe 1877. About one year later he had a severe acute exacerbation from which he never rallied.

1. Arab woman 24 years of age, daughter of next case, living N° 51 and had lived all her life with her mother and N° 25. She has had three children and is now pregnant. Suffering much from diarrhea and sore tongue. Diarrhoea comes on only when pregnant, at all other times the sore mouth and constipation are the troublesome features. She always gains much in strength during the non-pregnant interval.

Nov. 39. Again pregnant. diarrhoea severe veryemic.

41. Arab woman 52 years of age. One of my earliest patients here, and has been under continuous observation for 15 years, viz. from the first appearance of symptoms until now. In my ignorance of Syph. I diagnosed her complaint in 1885 as Chronic Gastric Catarh. but, having watched her through every stage until now show she is a typical syphilitic case of Syph. of the constipation type. I would have no hesitation now
in diagnosing her early symptoms as those of the early stage of Gastric Ulcer.

111. Cherrie Innalva aged 32 years. Straits-born. Daughter of (no name). Married in 1875. Became first conscious of her complaint during her last pregnancy, during which she suffered much from diarrhoea and sore mouth. History of dyspepsia and irregularity of the bowels for some years previous to that. She perceived her symptoms to be similar to her mother's and distended accordingly with benefit.

113. Undia Innalva aged 22 years. Married five years. Had a full term child one year after marriage, child healthy and, at the present time well grown. Since then she has been pregnant three times, each terminating prematurely on account of diarrhoea and exhaustion. At present pregnant four months, and very ill with diarrhoea and sour tongue. Under treatment there was improvement and she went to full term, having a healthy boy. Since confinement she has improved much, the tongue having developed a fine Sility fur all over the stomatous, but the absence of fungiform papillae is very conspicuous.
An Arab girl aged 19 years, native of 51 Cauvin, aged 50, in same family as 1st. No family history. Mother is Arab, alive and healthy. History of years of suffering from sore tongue and occasional diarrhoea. First seen during a very severe exacerbation in Nov. 1877. Her symptoms then were a complex of acute gastro-enteritis and sprue – the tongue was borv and very painful, thin and raw-like, she had great pain and tenderness in the abdomen with a rise of temperature, but the stools were thin white watery stools of sprue. Macronhagia very bad. This attack was recurrent from time to time, and since then she has had frequent sprue exacerbations, always accompanied and complicated by proctitis ani and severe metrorrhagia; but without pain. At present she is in the chronic condition of a chronic sprue case, suffering severely from any form of diet. European female aged 53 years, married but childless, had born in the Ibo. Age 15 years, mostly in the streets. No consecutive history obtainable for the first part of her residence here, her ailments being mostlythose groupings around the climacteric. She has been...
consciou during the last six years of the necessity
of exercising great care in her diet. At first this
was rendered imperative by recurrent attacks of
a painful cholecystitis, coming on without, or
with a very inadequate, cause, and usually
followed by vomiting and a slight diarrhea.
Laterly the form of diarrhea has altered and
now amounts to two stools, copious stools daily,
on immediately on getting up, another, twenty
minutes, or so, later. These are followed by a feeling
of comfort. She has never consulted anyone
but I find that she has been living upon a "fruits"
diet for years, consisting of milk, fruit, bread,
fresh fish, chicken, and rich occasionally,
a small piece of very rare underdone beef or
mutton. Any latitude in diet is at once
followed by a great return in the diarrhea.
Such is the history given me on first seeing
her in January, 1878. The cause of the present
attack was a change in her symptoms. There
was a history of a chill a week ago, with
gradual diminution of the stools until, on that
particular morning, there had been none.
She complained of an insufferable sensation of
weight and distention in the upper part.
of the abdomen, with pain. Temperature 101.2. On examining the abdomen it appeared full and felt firm. Spleen visible below the umbilicus, but all that area extending from the costal margin to the level of the umbilicus was dull on percussion and very tender to touch. Induration was very great also over the hepatic area. The tongue was much split up on the dorsum into lobes of fibrous appearance with furrowed bretsum, was red at the tip and sides and very painful. There had been a slight rise of temperature in the mornings for some days. Under Small doses of Saline, absolute milk diet and hot fomentations to the abdomen the stools became re-established, the temperature normal, and comfort was regained. It was evidently some localized inflammatory attack interfering with peritoneum.

(1900 January) Has been in his usual state of health since.

LVI Spanish Male 59 years of age
Born in the Province, Philippines Gently, for 25 years. Born in December 1878. Complaint:
Diarrhoea, weakness and numbness of feet and hands, and Swelling of the mouth.
He had had diarrhoea for over nine years and for the greater part of that time milk had been his staple diet. While living so, he had kept fairly well. Lately he had been travelling much and had had to eat whatever was obtainable. A typical case of Sprue, complicated by Peripheral Neuritis. The cause of the latter is obscure—there being no history of Syphilis, alcohol or Malaria (the usual causes of Peripheral Neuritis here in European) nor is it such a neuritis as could be accounted as a Beri-beri.

LXII A farming man, born 14 years in the tropics (Java, India, the Straits). He has lost 81 lbs in four months. A typical case of aggravated Sprue in active progress, milk loose, clay, much irritatied viscus and Skin, spotty conjunctivae, yellow mucous membranes, bare glazed tongue, hollow abdomen, and almost inarticulate Speech. Improved much on an absolute milk diet and most greatly helped by a purly of Naphthal and Codrine, and by rectal injections of Niter and Silver.

LXIII Spanish lady, aged 44 years, born 30 years in the tropics, first seen in 1898.
The disease began in Australia in 1876 with diarrhoea and diarrhoea and has continued until now. A few condition on inspection is as follows:

Tongue: red, bare and just beginning to be painful - (no history of any previous ulcers of the tongue) Skin yellow, dry, with ichthyomic patches, conjunctiva very blue. Complaint of the pain behind the sternum, in the epigastrium and behind the left scapula. Bivv score from the mouth. Fever to 69. Loose frothy stools daily. Catarrhia stopped for two months.

Examination per vagina shows a very constricted, non-elastic condition of the vagina but no discharge or the pelvic organs. Blood count 2,000,000. Lost sight of on recovery.

Nov 1879: Bivv ill all summer with diarrhoea looks healthy from mental anemia. Haemoglobin 40%. Corpuscles 1,800,000. Improvement very slow with frequent relapses. Fed first meat and milk diet, latter by raw meat juice, ferriccarbonate foods, iron somatun albuminates & iron and by arsenic.

Jan 1900: May be considered recovered for the time being.
Englishman 29 years of age, arrived here in 1895. Some few months later, complaining of an exhausting painless diarrhoea for which all ordinary remedies had been tried fruitlessly. At first it occurred in the morning only, but now he has one or two stools in the course of the day. He is thin and shambling, looking, says he has lost much weight but does not know how much. His tongue is very dry, and the buccal mucous membrane too red for the anaemic condition of the patient. He was put to bed and fed on milk. This proving unsuitable the diet was changed to porridge, chicory gruel, and crust of toasted bread. In three weeks quite well.

Since then he has had several attacks equally severe, the latter ones having superadded to the gastric intrinsic symptoms, sore tongue and epigastric burning.

28. German Missionary born thirty years in Borneo, denning thirty of which he has had a soreness of the mouth and constipation. While in Borneo he lived on Rice fish, and fruits. partly chicken, meat never. For the relief of the Tongue Soreness he finds chewing green bitter nut very efficacious. Every visit
to Singapore means an attack of diarrhoea which
he recovered to the fullest extent. Soon during two
of his visits here, on each occasion for the diarrhoea
A mild marked case of Chronic Sphincter, indicating
as being of the nature which but occurring in a
European. A return to his usual diet could
not be at once made, an interval of milk
diet for a month or two being necessary.
1899. No child lately at 66 years of age, having
had the diarrhoea for 26 years.

25 years of age,
Midori. Daughter in law of Cao 19 and has
lived in the Same house for six years.
Complaint. Sour tongue, burning in the Stomach
and diarrhoea. Typical viscid pasty
Sphincter. After a few weeks preparatory treatment she now
follows her mother-in-law's prescription and has much
improved.

Civil Engineer, aged 60.
had been in the Indies, on and off, for 23 years.
First suffer from diarrhoea in Central India in
1870 i.e. after thirty years in the East.
Was then ill for 3 months, then the diarrhoea
much ceased. Since that time he has had
thin stool every morning, the first being semi-solid, the second liquid, the third very watery and passed with much flatuence. He has had several sharp attacks of diarrhea before. His weight has never kept up, being 15 stone. He came to the Straits 18 months ago, and while engaged in jungle work there he contracted malaria, from which he had a severe attack in Oct. 1899, from which he promptly recovered. He made later diarrheea sit in very badly. Am on Jan. 18th 1900. A tall, well built man, with the characteristic yellow look of protox conjunctiva, and shrivelled aspect of a starved case. Tongue not sore, but is dry and chapped with some small erosions on the buccal mucous membranes. Abdomen very tympanitic with much gurgling. Stools, 15 in 24 hours, grey and thin. Drin. Castor Oil, with milk diet only, thin sedative of B.Naphthol. In five days Stools 5 per day, with considerable yellow coloration. He feels very comfortable and stronger. Had to return to his station though quite unfit for any work. No further report.