Thesis

on some of the

Diseases of the Stomach

by

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Introduction

I was led to choose this subject through meeting with a large number of cases presenting symptoms which at first sight led one to examine organs far removed from the true "fons et origo." The disturbance complained of—tachypnoea, for example—patients are often only with great difficulty persuaded that such symptoms are really of stomachic origin. Other cases are often among the most unsatisfactory ones with which we have to deal.

At the same time the subject is of so much a degree of importance at the present day that a thorough knowledge of it is of the utmost value. On this account therefore I have carefully investigated the
Opinions of those authors whose works were within my reach. I do not pretend to any original research, but have simply written down & arranged those facts which struck me. The novel striking, adding a few points which I had picked up & found useful in every-day practice, & in those cases where differences arose— in respect of any line of treatment for instances— selecting the one I thought best & giving reasons for such selection.

To save trouble in reference as well as repetition, I may here state the principal sources from which my information has been obtained. They are—

1. Notes from Professor Granger Steward's Lectures on the Practice of Medicine 1876-79
2. Do 1880-1881
3. Bristow's Practice of Medicine 3rd Edition
4. Tanner's Practice of Medicine 4th Edition
5. Watson's Practice of Medicine 4th Edition
1. Linde on Diseases of the Stomach in the German Clinical Lectures issued by the New Sydenham Society in 1877
2. Hirschson on Ulcer of the Stomach
German Clinical Lectures 2nd Series
New Sydenham Society.
3. Sower's Anatomy Vol II
10. Michael Foster's Physiology 3rd Ed.
The short article, with which I
have prefaced the principal part
of my Thesis, is an epitomized
account of the Physiology of the
organ based upon the last
mentioned work.
Physiology

Immediately after the introduction of food into the stomach the gastric glands begin to pour out an acid transparent fluid called the gastric juice. The specific gravity of this fluid is $1.001 - 1.010$ & its composition is as follows:

- Columnar epithelium
- Axial cells
- Pepsin cells

(after Lamar 7693.)
Water — 994.40
Solid constituents — 5.59

The solids consist of:

- Peptone 3.19
- Hydrochloric Acid 0.20
- Chlorides of Calcium 0.66
- Sodium 1.46
- Potassium 0.35
- Phosphates of Calcium 0.12
- Magnesium & Iron

(Nickers Physiology p.304)

When Gastric & Bile acids are present they are secondary products, either from articles of food by their respective fermentations or else from decomposition of their alkaline or other salts.

There is very little mucus in a healthy Stomach under normal conditions. The Gastric Juice has no effect on the green colouring matter of certain vegetables, the husks & seeds, the pods of many fruits (Watson p.467) or Starch, Grapes, Sugar & Claus Cigar, but when mucus is abundant it has the power of converting
Come into Grape Sugar by a fermenting process. The secretion of the stomach is also powerless upon fats except that it dissolves the protolid envelopes of the fat cells. The great function of the gastric juice, however, is the dissolving of Protoids and their conversion into Peptone. Thus, it will readily dissolve coagulated Protoids insoluble or only with great difficulty soluble in very strong acids. Peptone is a protoid, and has the same elementary composition, but it differs from Protoids mainly in not being precipitated by heat or certain other agents & by being very easily diffusible through animal membranes. After entering the blood, it is soon modified as to assume the chemical characters of Albumen. for fear it should diffuse itself out of the vessels as readily as it put in. This change is probably effected by the liver (Hirks p 308).

If time enough is allowed, a firm
Quantity of Gastric Juice will digest an almost unlimited quantity of Fibre; therefore rapidity of action is the true test of the activity of the secretion. If it contains more or less than the normal amount of Hydrochloric Acid its activity is considerably impaired, and if the acid is neutralized digestion is wholly arrested. Lactic or Phosphoric Acid may be substituted for Hydrochloric though not with such good result. Liebig (p. 441) that direct experiment has proved Hydrochloric Acid to be three times as effectual as Lactic; he also states (p. 488) that a proportion of 1-4 parts of Hydrochloric Acid to a thousand parts of Gastric Juice is the most effectual, while the quantity of Pepsin is of much less importance, since it has been demonstrated that the smallest quantity of Pepsin suffices for the solution of unlimited quantities of Fibre provided the supply of Acid be kept up. The ferment...
therefore, seems to remain unaltered during the exertion of its influence, nevertheless the more of it there is present the more quickly is chymotrace converted into pepton.

Digestion goes on most rapidly at 35°-40° C, is slower at ordinary temperatures & ceases at 0° C. Above 40-45° C it is impaired. Common salt in excess is injurious & the accumulation of peptones is an obstacle to the solution of the still unhydrolyzed proteids (Linderp 498).

The process is one of fermentation probably hydrolytic (vSio = water & Sio = I co ose) like that of the saliva; if peptone is the ferment.

(Kirkes p 307)

About 24 parts of gastric juice are secreted in the 24 hrs. Food is the best stimulus, but dilute alkalies has a powerful action too—the swallowing of saliva to wit—during digestion the central cells, as distinguished from the so-called peptic cells, are at first swollen & coarsely granular, at a later
stays they become shrunked. This occurs in the mucusous glands, also, near the Pylorus, indeed Heidenheim has proved that these glands have peptic power. The central cells are said to secrete the Pepsin & the void Peptic cells, so called, the acid, but another statement is to the effect that the acid is formed on the surface of the mucus membranes only. Of the real reason for the Stomach not digesting itself be that the blood on the surface is rendered alkaline by its acid being extracted before it gets there, the latter statement will not hold good, although we have it on the authority of Michael Foster (p256) who also remarks that we don't really know why the Stomach doesn't digest itself (p263).

Moments of the Stomach—
These are peristaltic at bottom & become more rigorous as digestion proceeds. The muscular coat shakes the food about & causes it to be applied to all parts of
The mucous membrane thus stimulating secretion. Again the peristaltic wave of each muscle jet is propagated. The central part might remain unacted upon were it not for this solitary shaking which at the same time promotes absorption partly perhaps by stimulating the lymphatic blood circulation. Probably the electric current would do good when the muscular contractions (Lenz 1494) at the pyloric end, and strong circular contractions squeeze principally the dissolved parts, but also small solid pieces through the relaxed Phincter, into the duodenum beginning perhaps a few minutes after food has been taken, and as digestion proceeds more and more thus leaves the Stomach, the last to be brought out, the most indigestible substances and foreign bodies (4-5 hours or more). The movements are said by Busch to cease during sleep.
The digestibility of any food in the presence of healthy gastric juice in the absence of nervous interference depends largely on mechanical conditions. Thus, a state of fine division is necessary. If the fact of proteid substances being sheltered in envelopes soluble with difficulty is against easy digestion, pieces of hard boiled eggs have to be gradually dissolved from the outside, I raw white of egg unless well beaten up & mixed with air forms a viscous clotted mass of low diffusibility into which the juices permeates with the greatest difficulty. Milk when first taken into the stomach is coagulated i.e. its casein is precipitated, afterwards, it is converted into peptone. Absorption by the stomach is possible, because, when the pylorus of an animal is tied, it takes place to a considerable extent, but we don't know how far this goes on normally. Presumably diffusible sugars & peptones pass
by osmosis direct into the capillaries, goes into the Gastric Vessis.
The nervous supply is derived from the Splanchnics, with which the Splanchnics are connected, from the Pneumogastrics (Simr. p. 696).
According to Claude Bernard, quoted by Lumaca (p. 6) if we cut both Pneumogastrics there is suspension of the movements of the Stomach & diminished secretion of Juice; while, if we irritate the ganglia of the Sympathetic energetic contractions ensue. The secretion becomes more abundant; so it would seem that these two actions of the Stomach are under the control of both departments of the Nervous System.
Acute Gastritis

This, the severest form of Gastritis, according to the majority of opinion, rarely if ever arises idiopathically. It is usually brought on by swallowing corrosive poisons such as Arsenic, Bichloride of Mercury or Sulphuric Acid, by water almost boiling or by large doses of irritating emetics which fail to produce vomiting.

The symptoms are: Intense burning pain in the epigastrum, chief, between the shoulders, with great tenderness over the part of the stomach. The abdominal muscles are rigid, especially the Recti which double the body upon itself while the action of the Diaphragm is restrained as much as possible. We have persistent violent retching, vomiting frequently bloody & great desire for cold drinks which are ejected immediately. There is Collapse, preceded by...
heat of skin, I marked by pallor, very weak, small, thready pulse (at first sharp & hard) cold sweat, faintness, thick cough. The tongue becomes red & glazed, the urine scanty & dark & the bowels most frequently loose. The countenance is expression of intense anxiety and the extremities cold; in fact the symptoms are similar to those of Pneumonia. Watson (p425) says that Pneumonia is probably set up simultaneously in the severest cases especially those of convulsive poisoning. If death is to take place it is generally done so between the first & the second day, the patient being conscious up to the occurrence of the fatal syncope. The pain then completely vanishing just before dissolution; after that period a tardy recovery is the usual course.

Post Mortem — We find patches of intensely dark reddish, ecchymoses especially on the lungs, extrinsic stomach & perhaps perforation.
These may be distinguished from the common post mortem digestion which occurs about 24 hours after death by the thinness and transparency of the stomach walls and the irregular form and rugged softened edges of the aperture in the latter along with the absence of any signs of peritonitis in the situation when the extraneous food happens to locate itself, as opposed to the thickened walls and peritonitis in inflammation of acute Gastritis which may affect any part of the mucous membrane while endocarditic softening is confined to the most dependent.

Sulphuric acid causes black superficial sloughs, whereas Arsenic produces a little white patch surrounded by a hyperemic zone which sloughs.

**Treatment**

The local treatment is important. From 12-20 leeches may be applied to the epiauric zone. In some cases, warm fomentations, mustard, burns, etc., are well borne, in others...
a bladder of ice is more useful to the patient. It is impossible to take food or medicine in bulk so he must suck iced, or drink iced water, or milk, and, if these are not retained, we must administer nutmeg emunctura 8.5. 48 of Brest tea. Our owner of Cream 4 half an ounce of Brandy three times a day (Tanner formula 21. p.508). Large doses of Opium are indicated in the form of Tincture or Extract, or Opium with Bismuth, but hypodermic injections of Morphia answer this best. When the bowels are confined purgatives should not be given; emunctura if warm water is to be used instead; while if there is dysenteric looseness it is often a good thing to inject 30-40 drops of Laudanum with 3-4 B of Barch or Goulph which often tranquillizes the vomiting also. The Stomach Pump must never be used.
This seems to me to be the best name for those common attacks of Gastritis which are of all degrees of severity from the "Enteric type" to an ordinary "head-ache.

They consist of a morbid inflammation blocking up the tubules and thus arresting the secretion of Gastric juices giving rise to constitutional disturbances, severe discomfort accompanied by the following symptoms:

**Anorexia** often amounting to loathing, heartburn, epigastric pain, nausea, or retrosternal pain which may be after food or independent of it and is often absent altogether and replaced by craving. After food we may have nausea & the mouth becoming suddenly salivated with flatulence, eructation & vomiting of blood, mucus, or bile.

The tongue is covered early by a thick white-brown or creamy
fur with congested protruding syringiform papillae, or it may be red in which case it is flaked, dry, and cracked. Exceptionally it is normal.

The pulse is quick, feeble and often irritable.

The temperature is generally high, seldom over 100° F. rising through the day, & rising more towards evening. The skin is hot, sometimes moist, and then may be chills or rigor.

The bowels are most frequently constipated, flatulent or irregul, but they may be loose owing to concurrent catarrh of the put & this condition may also be present in the oesophagus causing a burning pain on swallowing. The urine is scanty dark thick or deposits urates, or it may be albuminuous.

There is a bitter metallic taste in the mouth with foetid breath, often also great thirst or desire for acids. These patients hate a
pale
flaw complexions, and their eyes
are often tinged with yellow show-
ig hepatic derangement.
Nervous symptoms are prominent,
and consist of frontal head-ache often
indistinguishable from nausea, ac-
companied by photophobia, bad
sleep, and confused mind. They
suffer from depression of spirits,
are thoroughly “down in the mouth”
in fact; they sit idly so es-
specially on rising or lying down, of-
ften a feeling of faintness, and
sometimes “the tidgets” or else a
sensation as if weights were attached
to the limbs.
The complaint is common at all
ages. In children there is often
premature disturbance, easily
mistaken for early Syphoid &
hence often spoken of as Gastric
Fever (See page 112). Sometimes
there are headaches, Conna + Conna.
Colds often along with diarrhoea (Bristow p. 616)
Dietetic troubles are frequently
of the nature of Gastric Cataract.
Cause — The commencement is food,
in too great quantity, ill masticated, indigestible, or decomposing, especially during convalescence from a serious illness.

Shell-fish as Crabs, Lobsters, Muscles & Alcohol especially “Mixing Liquors” Sudden changes of temperature, drinking cold water after violent exercise, prolonged arsenical treatment.

Sympathetic Causes as Liver distension, Abscess &c.

Long abstinence in dogs (James, p. 353) It occurs also in the process of elimination of the body of rheumatic fever, sometimes following the disappearance of fever from the extremity (e.g. through plunge the feet into cold water) & being manifested by great acuteness, pain, flatulence, acute manifestations.

The predisposing causes are — Chronic Cataract, Inebriety. Heart & Liver obstruction. Chronic Bright’s disease. Phthisis Acute inflammatory and febrile diseases, especially since 190
exanthemata - Scarlet Fever, Diptheria, and Erysipelas among others.
Epidemic influences as Influenza,
Urticaria affects Locomotor Ataxia (gastie ises)
Pathology: In Alexis St. Martin
under the influence of these attacks
the mucous membrane lost its
healthy pale pink colour, and
assumed a kind reddens. There
were sometimes abrasions, true
follicular ulcers, or red patches
on which false membranes occasion.
ally formed. At one time there
was no mucus at another much
of a very offensive character (1849).

P.M. No readess may be discover
able the mucous membrane being thick opaque and a dead
white colour instead; but generally there is patchy congestion
accompanied by thickening &
softening of the mucous membrane
with muchropy alkaline mucus & little Gastric Juices. We frequently
found that small extravasations
of blood had taken place into
the mucous membrane or even
into the cavity of the stomach & sometimes erosions, shallow ulcers & superficial ulcers present themselves. Some of the latter appear to be connected with previous hemorrhagic infiltration, if not dependent upon it.

(Bristow p. 614).

Three types of ulcer are found:
1. Ordinary eatarhal ulcer not going through the whole thickness of the mucous membrane.
2. Hemorrhagic erosions.
3. True follicular ulcers having a small mucosal swelling as a previous state.

(Notes 180-181)

The microscopic changes are as follows. The tubules are full of degenerated epithelial & granular matter, while the epithelial cells are enlarged, cloudy, and contain fat globules. The same applies to the mucous glands, the intertubular connective tissue is infiltrated with leukocytes, and the solitary glands are enlarged.

Diagnosis. We are apt at first to confound this with lymphoid tissue, but it may be distinguished by the characteristic progress in engra...
rise of temperature pertaining to the latter disease, moreover, the treatment for ordinary cataract would prove ineffectual.

**Prognosis.** Favourable, but the case is apt to run into a chronic type.

**Treatment.**

In many cases removal of the cause with low diet and plenty of cold water will soon cure the disease.

The first principle is—**Rest the organ**—thus a 24 hrs fast allowing only a limited quantity of ice and cold water is often excellent in a severe attack.

Again an Ipecacuanha emetic followed by copious draughts of warm water will often cut it short.

(Lamar, p 113)

I should myself prefer equal parts of milk and soda-water to the cold water so forcibly recommended above.

**Diet.** The food should in all cases be non-irritating, limited in quantity and firm when cold.
often we insist each patient to a claret glass full of milk containing half an ounce of lime-water if the bowels are loose, a tablespoonful full of pictures Pvt. medium if they are constipated, every two hours. Perhaps a little soup may be allowed. Peptonized Food (Roberts) is not unreasonably useful. About the best is Peptonized milk gruel prepared thus. Mix a pint of milk with a pint of gruel, the latter boiling at the time of mixture. To this add a solution of 20gr. Carbonates of Soda & a tablespoonful of Berger's Liquor Pancreatin. Put the mixture in a jug under a tre-every and let it stand for 1/2-3 hr. Then boil and allow to cool for use. The soda favors the action of the Liquor Pancreatin and, at the temperature employed, a certain amount of nutrient material is converted into Peptones. Some of the starch into Sugar. This last boiling prevents the excessive
action of the Liquor which would cause the production of bitter tasting matters. (Notes 180-181).

If the Stomach will retain nothing recourse must be had to nutritious marmalade.

As medicines are given—Opium (1/4 of the Exit. in pill) to allay pain; but this tends to favour a fresh attack, and is in point of fact seldom necessary.

Bismuth (10 - 15 gr. in milk combined if there is much vomiting with 3-5 ml of dilute hydrochloric acid) is the best for soothing the mucous membrane. If it fails we ought to try 10 gr. doses of Black Oxides of Manumaceae; or should the case still prove intractable Opium must be resorted to or 5 gr. doses of Oxalate of Bismuth as powder in milk or the food may be combined with Black Oxides of Manumaceae.

Alcohol should only be given when there is marked depression or collapse. Here Ammonia is also good (13m cubic ft 617).

When the constipation is great, with
sever pain & marked tenderness it may be necessary to apply two or three leeches at the epigastric area, but mustard is simpler warm poultices are, as a rule, sufficient. Thus, two mustard next the skin kept on for 10-20 min; or two tea-spoonfuls of mustard to a tea-cup full of linseed for a child, and two table-spoonfuls of mustard to half a moderate sized basin full of linseed for an adult, to be kept on as long as they can be borne, then replaced by plain linseed. Again, flannels wrung out of hot water with 15 drops of spirit of nitre sprinkled on the first flannel relieve pain, and do as does the liquor strained from a decoction of a hand-full of camomile flowers & four poppy heads (broken small) in three pints of water, which is to be boiled down to a quart. When Lobster or other invertebrates are the cause, an emetic of sulphate of Sire (Sr 20) should be
administered if the patient is
somewhat early, otherwise a mercurial
followed by a salinm, purg. e.g.
5 fr. t Calomel followed by a Sud-
hitz Powder, or a 5 fr. Bism. Pill at
once and an hour and a half
black draught two hours after.
In the milder cases of Catarh
the following combination in por-
tions varying according to
symptoms is extremely useful.
R Pulv. Rhei gr. IV
Bismuthi Sulph. fr. VIII
Soda Bicarb. fr. VI
Tulv. Chinamomi p. p. III
H. Pulv. et mitte tales xii
Sip. 1 c. aoet. maneque succundum
Salines with an excess of alkali or
offensive vomiting perhaps with Hydrocyanic
Acid are good e.g.
R Soda Bicarb. iii
Sip. Ath. nitri. iii
Ac. Hydrocyli. dil. (B.P.) 3 fs
Aquae ad iii
H. Krist.
Sip. 3i to be pounded as a powder drunk while offensively 0.3 h.

R Acidi. Tartarici gr. XV
H. Pulv. et mitte tales viii
The diet should consist at first of milk & Farniacea such as Anaroid Sage & later on Brotch, Broths, White-fish & broiled chicken may be allowed.

When the acute symptoms have subsided, Bismuth & mild boric will help to restore the tone of the stomach.

In the "Gastric Fever" of children a mild aperient (5-10 gr. of Gregory's Powder) repeated one or two mornings, low diet, and effervescing calcines will soon bring about a cure (January 11, 3).
Chronic Gastritis

Pathology - Post mortem the organ may be found enlarged or less, and though occasionally soft and friable, it is as a rule fleshy, dense, and fibrous owing to the formation of fibrous tissue. Thickening may exist in the mucous membrane alone, but sometimes it affects all the coats, giving rise to an appearance somewhat similar to that presented by a columnar bladder (Trousseau p. 58). There is a lot of mucosa especially towards the pyloric end, and very frequently several nodules irregular or extensive patches varying in colour from light-grey to black, never so black as those resulting from poisons, but apt to be confounded with the dark blue arising from cadaveric inhibition (Trousseau p. 58). The pigment, situated in the
intratubular connective tissue is the remains of old standing extravasation into the substance of the mucous membrane, and is the product of changes in the red blood corpuscles (Tropp's Sanders' Pathology Notes 177-178) brought about by the long continued action of the gastric juice (Matth. p. 1430). The mucous membrane as a whole is darker than usual owing to long standing congestion, and the cavity of the stomach is full of casts of the tubules. The secreting glands are atrophied, diminished in number, and in many instances replaced by cysts, or cavities full of necrosed secretion, and constricted at the mouth by newly formed intratubular fibrous tissue which, like all newly formed fibrous tissue, tends to contract.

Extravasations, ulcers, hemorrhagic erosions, and catarrhal abrasions extending half way through the mucous membrane, are some.
times met with, also opaque white patches from fatty degeneration of the cells in the gastric tribunes and the corpuscles of the intratubularConnecting lesions (Kristoff p. 414) The same author states that there is less congestion here than in acute gastritis, but Simms (p. 114) says that there is generally more evidence of vascularity after death in the chronic form, and I think the latter is nearer the truth because the vessels having lost tone from long standing congestion will be less likely to contract as they frequently do about the time of death in the acute form leaving no traces of vascularity at all (Simms p. 112) The microscope shows the basement membrane of the tubes to be thickened, and the secreting cells are in a state of fatty degeneration which gives rise to the rough, maccullated appearance of the interior of the stomach.
The symptoms merge into those of dyspepsia. The patient may have intervals of comparatively good health or its derangement is continuous. Vomiting of a lot of fleshy mucus, especially in alcoholic cases (morning sickness of drunkards) is a frequent and characteristic symptom. The complaint leads to debility, anaemia, bad circulation with coldness of the extremities, weak legs, palpitation, "fatigue" (Bristow p. 616).

There are at least four different types each having its own distinctive set of symptoms & requiring the treatment to be modified accordingly.

1. The Irritative Type
2. Oxaluric
3. Atrophic or Atonic
4. Hepatic

Irritative Type

In these cases the patient has a red, cracked tongue with prominent papillae, and sometimes...
though rarely, a little fur at the back. His gums are oafy, soft & prone to bleeding on slight provocation. There is redness of the face, with frequent hacking up of mucus, a bad taste in the mouth & often many carious teeth. He will have a capricious appetite. His excesses from habit, great thirst, especially after food. Directly the stomach gets comparatively empty there is a sinking feeling of want, which, when appeased, as it very likely will be, by some solid substance such as bread, cheese, red herring, fowl, place to a sensation, slight distension & pain between the shoulder, or in the throat or nipple, or succeeded in about half an hour by acidity, flatulence, nausea, 
A constant feature is an irritable condition of the nervous system, manifesting itself, especially after breakfast & dinner in the shape of bad temper or doveness accompanied
by the "Fidgets" i.e. a spasmodic twitching of the limbs and body which effectually banishes shivering. Bitter eructations are very common after taking butter, owing to the formation of Butyric Acid. The bowels are rather looseness, to the extent of two ragged ill-formed motions per day, & there is a tendency to Hæmorrhoids. The Urine is often seedy & dark in colour with a deposit of Urates.

**Oxaluric Type**

This patient has a pale, pasty complexion & a thin, emaciated body owing to malnutrition. His tongue is flabby with a thin, thick coating of fur. Sometimes, in consequence of its flattened out condition it is indented at the edges by the teeth, in these cases it is very thin smooth. The appetite is poor, and such meals as he takes are followed by distressing flatulence, eruc.
tion and acidity, rarely vomiting. There is extreme depression of the nervous system often even amounting to melancholia, but ranging on different days. If this condition continues the sufferer soon becomes a confirmed hypochondriac. When the urine is examined, the distinctive feature of this type is found in the shape of rhombic or dumb-bell shaped crystals of oxalate of lime contained in a markedly acid urine. A good quantity

Atrophic or Atonic Type

We meet with this type when chronic Cataract has arrived at a more advanced stage. Here, are no longer irritable symptoms, but a decided depression or atony of the digestive power. The tongue is more deeply indented than in the oxaluric; but the appetite, distension, flatulence, incontinence, acidity, and constipation are common to both.
In this however there may be no blood or urine, the urine is scanty and contains no oxalate and although the nervous system is depressed, this patient is not so responding as the last.

**Hepatic Type**

Here functional arrangement of the liver is superadded to gastric and presumably also duodenal cathartic, while the orifice of the Common Bile duct is more or less occluded by the obstructive condition of the nervous membrane and inspissated secretion. Digestion is not well performed at the bed of times or occasionally some attacks supervene. The face is characteristic, being deeply loaded with fur at the back & the papillae towards the tips being prominent. There is a bitter taste in the mouth, especially in a morning, due to the Bile acids & the fumes
are red with increased secretion of mucus which keeps the patient constantly hacking. His appetite is poor and fitful & he is troubled with flatulence.

With respect to the bowels, constipation is the only accompanied by light coloured stools, but sudden attacks of diarrhoea come on at intervals with dark green stools owing probably to the sudden clearing of the biliary I the bile duct & a copious outflow of the pent up bile. The constipation and irritable action of the temporary diarrhoea renders him subject to piles, and there is fullness and aching in the head, especially on stooping, as the closure result of the Liver complication. In many cases hepatic insufficiency goes so far as to produce a jaundiced condition of skin & yellow conjunctivae.

CAUSES —
Repeted attacks of Acute Catarrh
The long continued action of irritants, e.g. too highly seasoned dishes. An excess of sugar in the drinking water. The abuse of alcohol especially "sipping" tobacco and snuff or habitual gum chewing. Particular food forms irritating to individuals as porridge to certain children, brown bread to many people. Goose, salmon, eggs to most. Again the cancers which lead to passion or even active corruption of the stomach favour the development of chronic catarrh among the chief. There are cirrhosis of the liver, especially in its later stages, obstructive disease of the heart. Certain constitutional conditions predispose to it as struma, Bright's disease, gout, rheumatism, pituitary syphilis. Diagnosis is generally easy, but it is difficult to distinguish from other forms of dyspepsia, nausea. We should always be on the look out for evidence of the existence of ulcers or cancer.
to guard against mistaking a mere neurasthenia for the more serious complaint.

Prognosis. These may be stated in general terms as favourable when we get hold of the patient early or in the complaint. Prevail upon him to follow out our directions to the letter; but in the later stages it is less amenable to treatment, in many cases it is where there is very extensive destruction of secreting glands with the formation of cysts &c., incurable.

Treatment.

The most important point is, unquestionably, Diet & the following indications hold good for all forms of Chronic Cataract. Speaking generally, the food should be moderate in quantity, easily digestible, and from rather frequently; while the idiosyncrasy of the patient as regards certain articles of food agreeing with him & others the reverse should
be particularly attended to. Some people can't digest their breakfast unless they take something before rising according to the French fashion, a cup of cocoa or arrowroot for instance, or a tumblerful of milk boiled, or cold perhaps with a little lime water.

Breakfast - Taken perhaps an hour or an hour and a half after the last should consist of white fish (Sole, Whiting, Haddock &c) Mutton Chops, cold meat, or an egg lightly boiled or dropped into hot water. Bacon does not agree with most people, but this is by no means invariably the case. A selection from these should be accompanied by weak tea or coffee and stale bread or toast buttered lightly so that the butter may not soak in.

Luncheon - No alcohol (e.g. Sherry and Biscuit) Toasted water may be taken instead if agreeable. Soup or meat provided the latter
has not been taken to breakfast, with bread instead of potatoes as the last or simply a glass of milk and a biscuit.

Jarnyn (p 106) says vegetables containing that they agree & also recommends water cresses to breakfast occasionally if they do not cause emaciations.

Bristow speaks favourably of pounded raw meat on p 616.

Afternoon Tea - There is no objection to this fashionable refraction of to-day especially if the individual be hard worked and find that he is unable to digest his dinner without a rest or some slight filling beforehand, but the tea should be weak and accompanied by dry toast or a biscuit only.

Dinner - Soup or fish (Cev, turbot, sole, or Brill) Mutton, Game, Rabbit, Chicken, Pigeon or Beef with a small quantity of Potatoes & Cauliflower, Asparagus, Vegetables, Marrow or Sea Kale. If necessary...
Whiskey or half a wine-glass full of Cognac in a bottle of soda water. Afterwards a dose of Peppermint is required (especially if the atomic bomb). When there is constipation an excellent pill may be prepared for daily use by mixing together 1 tspn of Pip's Peppermint Extract or rather more of Extract of Barbados Aloes (Summer p. 106). Cheese, pastry, sweets, excess of starch, rich puddings, greasy dishes, too good preserved, twice cooked or salted should be avoided. We ought to regulate the strength and quantity of tea taken as the abuse of this beverage is a growing evil, especially among females in the lower ranks of society whose diet is very largely made up of tea & cheap American Bacon.

In addition to regulation of the diet, attention must be paid to regular moderate exercise, good hours & habits & change of air and scene.
Irritative Type

Avoid the cause viz. in nice cases out of every two too much unsuitable or too varied food.

The remedies found most beneficial are those of a sedative astringent nature. Bromo toluol holds the first rank and is given in cases of pain with marked vomiting either in fear or else after meals as soon as the feeling of discomfort arises. It should be continued for a long time. When pain is more severe than vomiting black oxide of manganese is indicated; whereas for vomiting alone oxalate of Cerrin answers the purpose. For pain alone officina is excellent in the form of Puls. Kino Co which contains 1 gr. of Kino in 20 of the powder & combines astringency with its sedative action.

If the case prove intractable we fall back upon nitrate of Silver with respect to which Ruiger says (2nd Ed. p. 164) 'give it in solution not in pill,' while棕色
(P 64) recommends eight to ten pills in the 24 hours each containing about \( \frac{1}{6} \) gr. of the Nitrate. I may mention that I have obtained capital results in practice from the administration of a pill of the following construction:

\[ \text{Rx} \]

\[ \text{Argenti Oxidi gr. } \frac{2}{3} \]
\[ \text{Pulv. Ofici gr. } \frac{1}{3} \]
\[ \text{Pulv. Aromat. gr. } \frac{1}{10} \]
\[ \text{Amar. Zing. gr. } 2 \frac{1}{2} \]
\[ \text{St. Bals et mitte tales XII} \]
\[ \text{Cupi et d. s.} \]

Next to Pulv. Kino Gr. Lacun. Acid Sulph. Aromat. or the officinal Infusion of Natica are the best local astrigents.

Counter-irritation is useful, thus we may order half a mustard leaf to be applied to the region of the stomach every night, or occasionally, each one being put on in a fresh place. Again many persons the habitual wearing of a wet compress consisting of
a roll of flannel or calico dipped in cold water, wrung out, placed over the stomach and covered by a piece of waterproof cloth (Samaur p. 531). When the affection is dependent upon obstruction in the head or ear, treatment must be directed to these organs. In a case of cirrhosis of the liver, death may be from 2 to 10 days by 20 on doses of nitric acid taken before or after meals which is found to be the most suitable; but as a rule the patient feels to feel uncomfortable. The acid may or may not be combined with squassia or calumba. Should this fail we go over to a persistent course of alkalis, i.e. Potassium, Carb. Acetate, or Citrate of Potash continued for a
long time.
Substances causing a deposit of calciu of lime in the urinary are to be avoided—Rhubarb for example.
A curst or starchy food.
The bowels must be regulated by Karlsbad Salts, Alum, Tinct. Glyceroligae etc. Tonic acids are necessary and we may recommend with advantage tepid or cold bathing and change of air (Janary, pp. 246 912) Atrophic or Atonic type.
Here we have some or many of the secreting glands impaired or destroyed & must aim at supplying their place by using artificial Enzyme Juices or previously digested food. Of such we at present possess among others Peptones, Acids especially Hydrochloric, Lactopepsins & Roberts' Peptones also Leude's solution of Meat (Leube 1870).
The best kind of Peptone is the essence of Peptone prepared by the Berlin chemical Schering...
after Liebreich’s prescription, and the next best is the French, which is a combination of Pepsin, Peptones & Lactic Acid (Lembo 1843). The composition of Lactopeptin is as follows:

- Sugar of Milk: 40 gr
- Pepsin: 8 gr
- Pancreatin (Pur): 5 gr
- Vegetable Trypsin i.e. Diastase: 4 gr
- Lactic Acid: 5 gr
- Hydrochloric Acid: 5 gr

and the dose is 10-15 gr after each meal in water or wine.

At the same time such glands as are doing their work may be helped by Fr. or Extr. of Nex, Tonicia or Strychniz by ISSIDIA, Calumba or, if it is well done Calumba.

Singer also recommends Ether, Alcohol & the alkaline mineral waters such as those of Vichy or Bilou (p. 495).

**Hepatic Type**

The main feature in these cases is constipation & we endeavour to counteract it by a diet consisting of coarsely ground articles such
as Tigs Prunes Porridge &c. and occasional purgatives of which the best is Podophyllin in doses of
1/4 lb. This is preferable to Muriatic cleaning the tongue & coping toxins in the mouth, and lighting
the whole system. If however we desire to give Mercury we may begin by a 5 pr dos. of Calomel
subsequently regulating the bowels with Aloes, Frictional, or Gregory’s Powder (Sannier 114).
Alkalies are often useful, presumably by altering the condition of the Duodenum if it is clotted
by inspissated secretion resulting from a low form of inflammation, perhaps simply an extension of
that going on in the Stomach.
We may also make use many valuable liver stimulants such as 4 or 5 doses of Sridhi three times
a day, Leptandra, Hydrastin &c. or Nitric Acid with Liquor Taraxaci.
Dyspepsia

Derived from Ἐρωμαῖος = difficult ἔλεγχος = I digest is about the communist and most fashionable of all complaints. Under this heading I intend to discuss principally all those discontents of the organ and its function which seem behind no definite lesion discoverable after death, and thus differ from such complaints as Gastritis, Ulcer, Dilatation & Cancer. It would be impossible however to treat satisfactorily if the subject were strictly limited in this respect. As clearly interwoven are the phenomena of functional & organic disease that Tanner states and proceeds to show (T. 101 et seq.) how the prominent symptoms of many of the diseases of the stomach are identically the same.

Pathology. The models formulae of a healthy stomach has been
treated of under the heading Physiology; now whatever disturbs the normal relation between the food and the digestive fluid will affect the process of digestion and give rise to Dysepsia. For instance, food in undue quantity or of unsuitable quality, deficiency in the amount of juices secreted, or that juice not bring of a healthy character, through alterations in the blood, want of general or local viors or arrangements of nerves. Again, the accumulation of Tryptones in the stomach is an obstacle to the continuous release of the still undissolved albuminoid substances (Leuk. 3495) so it is at any rate probable that want of absorption power in the past of the stomach is a cause of Dysepsia. In January, this argument we have the fact that in dilatation of the stomach the cleansing out of its contents a few times by the stomach pump renders matter considerably
partly, it is true, by allowing the over-stretched muscular coat to recover its tonicity. When digestion is retarded, from whatever cause, the food under goes decomposition, fermentation is set up; to acids and gas, the sources of most of the discomfort attending dyspepsia, are produced, sometimes in enormous quantity.

Causes. Those connected with the ingestion of food.
(a) Imperfect mastication from bolting bad teeth, sore or paralyzed mouth.
(b) Active bodily or mental exertion just before or after a meal.
(c) Over-eating once or habitually especially in sluggish or sedentary people. Too much fluid also taken at a meal overdilutes the gastric juice.
(d) Insufficiency of food.
(e) Improper arrangement of meals, as only taking one meal in the 24 hours or crowding them together too much (there ought to be an interval of 4-5 hours at least) or taking food between them.
5. Injudicious admixture of different kinds of food. Reasonable variety is good and indeed necessary, but heterogeneous mixture is hurtful.

6. Indigestible or unwholesome aliment.

Some things are absolutely injurious, others only relatively so. Things some people can't do with impunity, many fall out with meat, fish, shell-fish, fowl, while others, the abuse of Alcohol, Tobacco, Conduits, Tea, Coffee &c. on the other hand it is possible that abstinence from some necessary articles of diet may be the root of mischief in the same way as the development of Scurvy, Disorders or diseases of other organs or of the system generally.

7. Constipation

8. Pressure on the stomach by surrounding morbid organs e.g. Anusmum

9. Disturbance of the Nervous System as by a powerful mental impression or emotion; also the reflex phenomena of early pregnancy.

E. Movbid states of the Brain, Cere, Liver, Ultimo produces pectoric disorder with most troublesome vomiting by reflex action, and it is marked in the later stages of Bright's Disease when the blood is contaminated by the urea which ought to be eliminated by the kidneys (James p. 99)

3. Herpetic diathesis may be the origin of the complaint, or it may appear after the healing of some chronic skin eruption, or even alternate with the same (Sunnyside)

III. Movbid conditions of the organ itself

In addition to these, I am of opinion, we have functional derangements giving rise to difficult digestion &c. Irritability, Excessive secretion most marked in tainted & Rheumatical subjects. Diminished quantity of Juice (atonic Dysphoria) Perversion of the quality of the secretion 

Symptoms

May be divided into

1. Those referable to the Stomach
2. ... other organs
A *drunken* appetite

*Flattened* sensations

flatulence + eructation

*nausea* + vomiting

Acidity; *pyrosis* or *heart-burn*; *cardialgia* or *heart-burn*

An *appetite* is very variable. It may be natural, or the patient finds that certain things begin to disagree with him, or he loses his appetite, or worse than that, he has a positive repugnance for the sight even of food. Then again, there may be a constant craving, easily satisfied; but scarcely followed by discomfort. One phase of the symptom at present under consideration -viz.-increased appetite constitutes a distinct variety called *Bulnieic Dyspepsia*. This is characterized by a feeling of emptiness shortly after eating, which, if not attended to, causes faintness and a painful sense of cringing about the forecardia. Eructations and pyrosis generally come on soon after meals with
Diarrhea produced by excessive muscular activity of the walls of the stomach and bowels. The condition is caused by Habit, Worms, Enteric disease, Diabetes Mellitus, or General Paralysis. Perhaps the best method of treating it is by giving diet: Opiis before meals in one 1/8 dose at first, afterwards gradually increased but not too far for fear of dulling the muscular and secretory excitability too much. Antispasmodics are useful also as 1/2 or 3/8 per night of Belladonna (Struensee 133) Launae (p. 101) recommends Cold Liver oil, with Opium if required, or Charcoal for the acid eructations. In hysterical Chlorotic females, and in idiots we occasionally meet with an appetite so depraved (Pica) that they prefer Cinders, Chalk, sealing-wax, Earth & to ordinary food.

Thirst may be present or absent.

b. Abnormal Sensations: Usually consist of uneasiness or pain.
There may be a feeling of swiftness or fullness; a sensation as if some weight, a stone, for example, were laid in the stomach, or a shooting pain or burning pain & referred to the pit of the stomach and its neighbourhood or the interscapular and left infra-scapular region.

Abrecombie quoted by Watson (1972) gives a good practical division of Gastralgia (Yaoting: The stomach & La Voix = Pain) into four varieties.

1. When the stomach is empty
2. Immediately after food
3. Coming on 2-4 hrs after meals, lasting several hours
4. At uncertain intervals in violent paroxysms

The pain which comes on when the stomach is empty is sometimes cured by eating a biscuit, or almost magically on swallowing half a teaspoonful of magnesia. Reid says it is often accompanied by slow pulse & cold surface of the body & is relieved by the recumbent position & Hydrocyanic Acid.

2. When it arises immediately after food we ought to suspect
Chronic Gastritis, Ulcer, or Irritability. Small doses of Nitrate of Silver have been recommended. If it is accompanied by indisposition for bodily or mental exertion with weight at the epigastrium, scanty secretion of Gastric Juice is the inference & this is to be stimulated by small doses of Rhubarb or Asclepias before meals & condiments as Mustard, Salt or Cayenne with them. Alcohol also in suitable cases & with proper restrictions is doubtless of value.

3. The commonest form is that beginning from 2-4 hours after food has been taken. Waton conjectures that this is due to an excess of acid left over after digestion is complete, because it is cured by an alkali or a cup of tea (Dilution of Acid); but more recent experiments teach us that Alkalies stimulate an acid secretion. J. W. H. Jones gets over the difficulty by saying (p. 336) that acids and alkalies act as powerful medi-
ifirs, not only of the functions of the organs, but also of the whole economy, by virtue of which the abnormal acidity of the secretions is corrected. Lenta (1849) who does believe in excessive secretion, yet but says that when real acidity of the contents of the stomach does exist it is due to lactic Butyric and Acetic acids (fermentation products) found on drawing up some of these acid matters with the stomach sound that digestion was materially promoted by the addition of a few drops of Hydrochloric acid. I therefore think that the modes operandi of the alkali is twofold, part of it going to neutralize the fermentation acids & part to stimulate the numerous membranes of the stomach to secrete more acid & thus effectually complete the work which it was only half done before.

4. The fourth division, that occurring at uncertain intervals in bed.
Gastric pain called technically Gastralgia (γαστρίς = Stomach; ἀλγία = anguish) is popularly known as Cramps of the Stomach or Spasms. It may be recognized by great distress, much anxiety, perhaps Hysteria, and pain shooting to the back and shoulders. Sometimes perhaps of a neurasthenic nature, it is also apt to be confounded with the passage of a Gall-stone. Again, as much as abnormality says it is often removed by a strong purgative enema, there is a possibility that in some cases at any rate the seat of trouble is the transverse colon and not the Stomach at all. Usually Gastralgia yields to camomilies as called because they possess "win camomia"; the poison of a charm, sometimes good results accrue from the administration of Opium, Bismuth, Hydrocyanic Acid or Sclavo. I have myself found Sulphuric Ether excellent. In early people Laudanum or Brandy, or a mustard
Flattulence & Eructation. May be from:
1. Air swallowed with the food. The eructations are odorless & tasteless.
2. Decomposition of the contents of the stomach or bowels. The wind passes upwards or downwards, is very foetid, sometimes smelling like sulphuretted hydrogen, and is often accompanied by nausea, pricking, borborygium, vomiting &c.
3. Gas secreted by the mucous membranes of the intestinal canal. This is rarely met with except in hysterical cases (doubtful the) when it is generally expelled by anoine and has the odor of healthy feces. With respect to this hysterical wind, many authors have doubt or or deny altogether the fact of its secretion; but Burgoyne says (p 19) that, as we of these patients will distend under your very eyes when there is no food in the digestive canal, it must be the result of a disturbance of the nervous system.
like a copious flow of tears. Watson (p. 471) remarks that flatulence is apt to supervene in some people if a meal is delayed beyond the accustomed time. I think myself that the balance of evidence and argument is in favour of the supposition that the gas is simply diffused from the blood vessels. The form with which we are most concerned in dyspepsia is that arising from a fermentation or decomposition of the sugar taken as such in food, or produced from starch. The wind ejected consists of Carbonic acid, Hydrocarbons, and more rarely Sulphuric acid. Hydrogen. Often some of the contents of the stomach are brought up at the same time. When this kind of thing is excessive it is called Ruminations according to Bristows (p. 706).

**Nausea & Vomiting**. This often very distressing & persistent symptom may even be accompanied by nausea of appetite, in functional disorders esp.
ecially in Pregnancy. It may occur
when the Stomach is full or empty
also at any stage of the process of di-
 gestion or at long intervals; and the
matters ejected may consist of
1. Unaltered food indicating Irritability
2. Alkalineropy mucous generally Inflammatory
3. Acid Gastric Secretions
4. Neutral watery fluid like Saliva
5. Fermented matter.

The last mentioned generally
occurs a considerable time after
the digestion of food and contains
Acetic, Lactic and Butyric Acids. On
standing either a brownish frothy
semen forms on the surface ac-
 companied by more or less sed-
iment; or else putrefactive changes
take place, evolving an odour of
rotten eggs, sometimes of feces.

We can always find the Yeast Plant
(Yomla Carcinica) in the semen or
sediment; sometimes more especi-
ally in Pyloric obstruction or ma-
lignant disease, the Sarcoia Ven-
tricularis is called from its re-
semblance to a number of little
packets tied lengthways & across with string.

Sarcina Ventriculi  Torula Cervisiae (Yeast fungus)  
(After Bristow p 679)

The amount of matter ejected is sometimes enormous, especially when the act occurs long after food, or at distant periods. When fermented and putrifying matters are brought up they indicate retention of the food in the stomach. In a boy from 4 very often a defect in the relation of the quantity of food to the amount of gastric juices secreted. If vomiting goes on for a long time bile regurgitates from the duodenum producing what is called Bilious Vomil. In cerebral vomiting pain or tenderness about the epigastric region
to sure, so is nausea. It occurs in
especially food with a clean
tongue, usually constipated bowels
headaches and other nervous
phenomena; whereas the sickness
of hepatic disarrangement is that ac-
companying an unhealthy condi-
tion. If the blood is characterized
by constant and depressing nausea,
thickly furred tongue, with head-
aches but no other pain, flatulence
and disordered bowels.
Epigastric tenderness is generally
absent in dyspepsia; and we
should be very careful not to
mistake man aching of the
Ricter muscles for gastric pain.
2. Acidity. This condition is
in most cases brought about
by the fermentative decomposition
of starchy and macerated food
producing Lactic, Butyric and
Acetic Acids. Occasionally we
have it as the result of in-
creased secretion, occurring
more especially in Gouty & Rheu-
atitic subjects & reflexly in Dysema-

It is manifested by heartburn, sour swallowing, emetations, the rising up into the back of the throat of an acid fluid which prompts the swallowing of salvia for its neutralization.

Ptyalosis or Water-brush, dimind from two to six & set on fire, consists of a sharp feeling of constriction or pain at the epigastrium followed by the rising up into the back of the throat of a clear, generally neutral, thin, tasteless fluid, in quantity varying from a tablespoonful to several pints. Bridel & Friesius quoted by Brisson (1702) say that the fluid is simply salvia which has been previously swallowed. The pain may be ascribed to a spasmodic contraction of the lower end of theullet. Ptyalosis is often connected with malignant disease of the stomach, liver, in pancreas. It is common in women of advanced life and in those having a decayed uterus or
Nervous system: but the usual cause is irritative articles of diet: hence we find the complaint prevalent among the lower classes more particularly in Scotland and Flanders because of the predominance of vegetables in their daily food in all probability.

Cardialgia or Heart Burnd. Is an uneasy, sometimes burning sensation in the stomach accompanied by a dull feeling at the heart & the rising up the oesophagus of a burning pain often along with a quantity of wind. This disagreeable symptom is a very common one & continuing for hours together. It is caused by the formation of Butyric Acid in the stomach from an excess in most instances, of sweets, pasty or other indigestible food.

It referable to other Organs. The Tongue. This most useful index of the condition of the gastro-intestinal canal varies considerably in appearance, thus we have—
1. The red tongue, with prominent papillae, I thin cracked or fissured, of irritable dyspepsia.

2. Turned away to an increased formation of epithelium; the scales of which, perhaps in a state of fatty degeneration, get mixed with buccal mucus, confection, food, altered blood, and pigment, giving rise to a white, yellowish, or brown, dry appearance. The fur may be local as at the back in hepatic dyspepsia, or at the front or on one side only, especially where there is local irritation.

3. Swollen, pale, flabby, and indented at the edges occurring generally in anemic patients.

4. Small superficial ulcerations frequently cured by a simple application of liniment.

5. Clotted tongue of chronic dyspepsia brought about by a chronic inflammatory process on the surface with defective epithelium a brown excess of the fibrous tissue of the superficial layers.
It is a doubtful point whether the condition of the tongue is due to the direct influence of a disease, or is secondary to the influence of that disease on the gastro-intestinal mucous membrane; in favour of the latter view we have the fact that the silvery arsenical tongue does not arise until after the dyspepsia which that irritant produces.

The bowels are generally constipated; but there may be irregularity or diarrhoea. Sometimes undigested food is passed per anum owing to too rapid transmission along the alimentary canal. (p. 708) Downes, quoted by Brandreth, describes this to excessive irritation of the circular walls of the stomach and bowels.

The urine may contain phosphates, oxalate, or urates.

The heart's action is generally quickened; but it may be retarded slower or irregular. Palpitation is a frequent symptom.
especially after meals or in the night time, and often gives rise to great alarm in the par of the patient. Skin diseases, Acne, Rosacea on the nose and cheeks is a frequent concomitant of Dyspepsia and Urticaria, Eczema, Lichen, and Erythema are met with. Another symptom to which our attention is often drawn is Stomach Cough. A harsh dry tickling cough, worst on an empty and often leading to a suspicion of Phthisis because of its coexistence with Neuralgia of the chest walls especially of the back shooting into the sides. The usual treatment for bad coughs will be ineffective here. Spasmodic Asthma again that complaint so widely spread in these Islands is in most instances referred by the sufferers to something they have eaten which has not agreed with them and there is little room for doubt that it is a reflex spasme, brought
about, in those predisposed to it, by irritation of the peripheral terminations of the vagi in the stomach. The general bodily condition of the patient is sometimes one of considerable inanition and debility, and if the complaint go on for long it may lead to anemia, swelling, murmurs, and one or more irregular furrows between on the thumb. (Grussmann, 1822) Nervous disturbances are vertigo, distressing head-aches with in-tolerances of light and sound, depression sometimes amounting to hypochondriasis, irritability especially after meals, sleeplessness, night-mares, and various forms of neuralgia. Occasionally we find anaesthesis of some part of the skin especially the internal surface of the fore-arm; or the patient may feel the penetration of a pin, but not the pain by which it should be accompanied. There are two special varieties
which merit a description separately.

The first of these is -

**Nervous Dyspepsia**

It occurs as a rule in females especially at the commencement and close of pelvic life and in those afflicted with Chlorosis, Anemia, Nervous tenderness about the ovaries, irregular menstruation or Hysterea. The sufferers are of neurotic constitution, thin, excitable, and complaining much of their condition, with a persisting appetite as if things generally looked upon as indigestible agree best with them. There is complete absence of appetite sometimes, but this may be only figured; on the other hand they may be voracious eaters. The stomach often secretes too much juice & marked vomiting occurs just after food has been taken.

Another important symptom is pain in a semi-supine position aggravated in an equal degree
by the lightest touch and firm pressure, and very often immediately relieved by eating a biscuit. The tongue is pale and flabby with indented edges; there is very obstinate constipation, and occasionally visible arterial pulsations.

Cause. Peripheral irritation from various kinds, particularly of the Uterine system, or the Stomach itself through the habitual eating of indigestible food, also doubtless changes ill-understood at the central end of the nerves sometimes of a manifestly organic nature. Many constitutional conditions as Cyst, Malaria, Hypochromia, a hereditary tendency.

Prognosis. Favourable as regards life, but not the enjoyment of good health for a long time at any rate.

Treatment. We get best at the root of the disease by early remedies to abate the undue excitability of the nervous system. Of these her Brucides hold the first place.
and the Balsam of Ammoniacal Soda excel the Balsam of Potassium in having a less depressing influence upon the heart and circulatory system generally. At the same time the more distressing symptoms must be palliated by the usual remedies which will be enumerated hereafter. We should however be very mindful in the employment of Opium or Alcohol as both have been known to lay the foundation of a habit very difficult to get rid of in this particular class of cases.

Atonic Dyspepsia

So really a want of tone in the stomach i.e. the glands do not secrete enough juice and the muscular walls do not perform their duties efficiently. This was the state of affairs when St. Martin was fashionable we said it existing as a chronic complaint under bad sanitary conditions, in general debility,
Malaria, Fibrile and nervous affections generally, and Syphilis hereditary or acquired. The complaint manifests itself by more or less of the symptoms previously described, particularly flatulence and eructation from fermentation of the contents of the stomach; uneasiness after meals, pale flabby tongue, and bad appetite. People try to stimulate their stomach by strong spices &c.; but it is better to use Rheubarb &c. before dinner for that purpose.

E.S.

Rub. Speciae fr 1
Rub. Rheii fr 1/2
Asparagi Oidii fr 1
Confect. Rosae Caninae 2 S. H. Pil. (Summer 5197 5179)

In preference to this, Leblé recommends (p. 493) ether, alcohol, alkalines, mineral waters as those of Vichy, or Air and Bitter, which last, according to this experiment acts reflexly partly or wholly, perhaps by stimulating...
The secretion of saliva, which, when digested, is a powerful gastric excitant. Alkalies taken shortly before a meal undoubtedly stimulate secretion in a similar manner to the saliva which has an alkaline reaction whatever other natural advantages it may possess with the bargain.

Tonics are necessary in the shape of nervine tonics as Dr. Huc. Van., Blood Tonics as Iron, 2-6 gr. of Ferrum Redactum with 3 gr. of Pericaria in two pills, taken every day at dinner. (Tanner p. 108)

Functional tonics are the bitter infusions e.g. Quassia, Cascara, etc. with acids or alkalies.

When the case is a more severe one and the organ does not respond to our stimuli, we must attempt to do its work for it, and for this purpose supply the patient with Peptonized foods Peptonie, Hydrochloric Acid, etc. Lincts found by direct experiment (p. 489) that in the majority of
cases it was the acid constituent
of the juice which was deficient,
and accordingly ordered m viii of
Hydrochloric acid in half a wine-
glassful of water an hour after
meals repeated in the worst case
three hours later. With regard to
the administration of Pepsinc we
should bear in mind the Phys-
tiological fact that although
digestion can go on with a very
small & unreplenished supply
so long as sufficient acid is
added, still its process is ma-
terially hastened by our view
of the quantity of the ferment
in question.
Treatment of Dyspepsia

There are a few preliminary points sometimes playing an important part, and for that reason, deserving our attention thus:

The truth may be curious & painful only allowing the patient to eat on one side, perhaps then only with difficulty. These should be removed as also might the one or two pole-sitting stumps which do not correspond in old people, and only serve to prevent the jaws coming into opposition. For the last class, a mincing machine is very useful. All patients should be instructed to eat slowly, so that the food may be well triturated and mixed with saliva, previous to being swallowed. As a rule, three ought to be an interval of 4-5 hours between meals, and even where it is preferable to order a little at a time, this interval should be regular and appreciable. Valuable therapeutic results
are obtainable by horse-riding, and sea-bathing, or, in place of the latter, the patient is directed to envelop his body for a minute or two in a sheet, wrung out of cold water, then to rub himself with it, and afterwards with dry linen, dress, and walk for 3½ hr. (Foussard). An indolent sense of contentment is to be encouraged after dinner, so that the nervous force may be concentrated on the business in hand (Sauvage, p. 108). I believe that to own the least of it, there are numerous exceptions to this axiom: many people are all the better for a little light employment after meals and the less nervous force, of a voluntary nature at any rate, there is directed to the process the better.

Diet. It is not always well to lay down the law too strictly on this point. It is remarkable how some people, troubled with a weak stomach, find out the
Things which agree with them and those which do not. We must remember that "what is one man's meat, is another's poison." A few negative directions, however, are of advantage; for example, the avoidance of sweets, pastry, twice cooked meat, salt & toned provisions also raw vegetables such as salad, cucumber, celery &c. Again fruit seldom agrees with old people at any time, and with the exception perhaps of ripe grapes, oranges, and roasted apples is objectionable in all cases of dyspepsia. Alcohol should be used sparingly and well diluted in those cases only where it is necessary; and smoking to excess is hurtful by dulling the excitability of the stomach. Medicinal remedies should be so combined as to attack at the same time the cause of the complaint, and its more disfiguring symptoms; for instance, if Anemia, Phthisis, or Cold be the root of the evil aim at them
not forgetting to put something in the prescription say for the sympathetic vertigo of Phthisis. Loss of Appetite. The milder forms yield to Gentiana or Quassia with Tonic Rhiz., Sr. Card. Co., and Soda Bicarb. (in old people especially) the last named being replaced by a mineral acid in the young, alcoholic, convalescent or those with a chronic morbid diathesis. Quinine, Strychnia, and Oro, the active ingredients of Easton's Syrup are useful, etc. we may employ that preparation itself.

When the anorexia amounts to a persistent loathing for food the patient must be encouraged to take a little and often. Sometimes narcotics are necessary.

Flatulence. The most useful remedies for this are the Camomile, of these Peppermint water is about the best, Sr. Lavanid. Co., Sr. Cardi Co., and the homely
Ginger Tea are others. Temporary relief often accrues from the administration of Ammonia, Brandy, or Sulphuric Ether; and Watson (p. 471, 472) says where the flatulence is evidently the result of fermentation we should first use Charcoal & Creasote which, like the gastric juice, are powerful antiseptics. All these however are merely palliative, the point to be attended to are the diet and habits of each individual. Tanner (p. 105 Foot Note) recommends the unfermented aerated bread prepared with Carbonic acid instead of Yeast.

Mineral Waters containing Chloride of Sodium, such as those of Niederbourn, Kiessepen, or the natural Eau de Selts are indicated, so are certain Liqueurs for example Anisette Fine de Hollande (French p. 39).

Nausea & Vomiting. A host of remedies are used for this symptom when it exists in a slight degree
only, Alkalies or the following effervescent saline will relieve it. As
R. Ac. Citrici Succ.
Ac. Hydrocyanici dil. (3:1) m.48
Sr. Auranti Sit.
Aqua ad 3 vi

H. Mist. C. 3 gr. 0.3. h. pouce on it one of the
powder in a wineglass, and drink
while effervescent.

R. Pot. Bicarb. gr. xviii
H. Chartula et mitti tales xii

The Carbonic acid displaced
from the Bicarbonate of Potash
by the Citric acid has a direct
salutary action on the mucous
membrane.
If this fail it may be aided
by Lime Water, sucking small
pieces of ice, and a quinacrin
or Opium Plaster to the epigastrium,
or replaced by Biennuth (3-20 gr.
in powder) or the Nitrates or Oxides
of Silver in pill or Sir James
Euipson's Specific for the vomiting
of Pregnancy - Oxalate of Cerium
or again Sir Robert Christison's favourite - small doses of Liquid Mephitic (0.8 m)
Carbonate is useful the further the condition of the stomach is removed
from inflammation (Watson p.470) and I have obtained excellent
results with $\frac{1}{2}$ - 1 or doses of Carbolic Acid. The two last named are
most useful when there is flatulence and vomiting resulting
from fermentation. When Sarcinae are present in the converted matter
and toxins it becomes necessary to employ a still more powerful
counteractive, and this we find in Hypochlorous $\chi$ Soda - $\chi_2$-$\chi_2$-$\chi_2$
in water soon after meals or at
the beginning of fermentation.
The effect of this salt is depend-
dent on the fermentative acids
depending for the Sulphurous acid,
which they readily do, and the
latter is then at liberty to exert
its strong antiseptic influence
upon the vegetable organisms in
question.
Intestinal, and consequently the vomiting occurring from that condition, is best arrested by hydrochloric acid perhaps along with the administration of Pepsin (Brislow p. 710).

Watson says (1847) that, after all, the best way to treat chronic vomiting from simple despepsia is to reduce the quantity of food to that amount, whatever it may be, which the stomach will bear, and to make the quality of the food as bland as possible.

Acidity—In the treatment of this it is necessary to bear in mind that acids seem shortly before a meal check acidity by diminishing the amount of juice secreted, while alkalies join just before meals increase secretion, whereas if they be taken even after they simply neutralize the digestive fluid and thus delay the progress of digestion.

Ptyalosis or Water-brush—This condition requires sedation and
Astringent remedies to allay the superabundant secretion of acid by the stomach, which is probably at the bottom of the condition in those cases where the regurgitated matter has an acid taste. (Sauer p. 102). Bismuth and gum fulfill the former purpose. Aromatic Sulphuric acid &c. No the latter; and indeed it generally yields to bismuth, especially if combined with an astringent as in the Pulv. Bism. Co. of the B.P.; but unfortunately, the bismuths tend to keep up the confined state of the bowels, which is a frequent concomitant of Typhosis. We must therefore combat this constipation by administering 2 or 3 grs. of the Extract of Aluca, or one or two 5 gr. Compound Collophtha Pills according to requirements. Cardialgia. The best plan is to avoid the cause. An acute attack may be ameliorated or stopped by 10-15 gr. of Bicarbonate of Soda (formerly perhaps the Buteyros of Soda).
or one of the Rhubarb, Bismuth, & Soda Powders; but I find that
the distressing & persistent same
which so frequently accompanies
Pregnancy often yields to acids
than Alkalies.

Constipation. As one of the com-
monest symptoms, and in many
instances the cause, if dyspepsia
in order to relieve it "secondum
artem" it is necessary to endeavor
to effect, as nearly as possible, ex-
actly as much as nature requires.
and the best way to ensure this
end is to administer each article
of diet as will stimulate the in-
testines without producing indi-
fection, for example Brown bread,
figs, Prunes & various kinds of fruit.
at the same time the patient
ought to form a habit of trying
to get the bowels to act every
morning after breakfast. Should
These means prove insufficient
let him take a few grains of Aloes
or 8-16 gr of Rhubarb before dinner.
This ought to produce one stool per
Small enemata of cold water (since warm increases the astringency of the feet) are sometimes more useful, and occasionally injurious.  

Hudson (p. 57) speaks very highly of Belladonna.  Thus—

Extr. Belladonnae
Pulv. T.1. Belladonnae 20 gr 1/6
Tinct. Pulv.
Sip. Nocte, illamæne sedundum.

If this do not succeed the dose of Belladonna may be increased with 3/4 of a grain, never beyond, and a tea-spoonful of Castor oil may be administered at the same time.

Muirral waters containing Sulphate of Magnesia as those of Seidlitz in Bohemia are indicated, and the present custom in England of occasionally drinking a third of a tumblerful of Friedrichshall or rather more Hungarian Jameson water in a morning while dressing is a very convenient
method for securing an easy action of the bowels.
The opposite condition, diarrhoea, is usually dependent on an acid state of the contents irritating the primae viae. What we must aim at then is the neutralization of this acidity by such remedies as Prepared Chalk and Bismuth combined with astringents like the Tincture of Quicksilver or the decoction of Horntower, the bowels being of course in the first instance cleansed by a good dose of Castor Oil.
The Ulcers of chronic catarrh ascend slowly and insidiously, as distinct from the form about to be considered—simple perforating Ulcers. This seldom occurs before the age of 10 or 15; after that, Brinton says it increases in frequency, as life advances; but, clinically, we meet with it most commonly in adolescence and middle age especially in females, domestics between 15 and 25. At all events it is in these that we must frequently see perforation, and its fatal result.

The same author, quoted by Watson (p. 431), found that Gastric Ulcers constituted one per cent of his cases at the Tre Hospital, that in the dead subject cicatrices existed as often as open Ulcers, and while perforating Ulcers of the pyloric extremity of the Stomach were commoner in men, the complaint—
taken as a whole, occurs three times as often in females as males. In some it often coexists with anaemia, anaemia, and chlorosis; in the latter with the cachexia produced by drinking, dissipation, and syphilis which may be the actual causes; but more probably act by retarding the healing and promoting the spread of ulcers beginning independently, as those of Gastritis do.

Causé—There is much uncertainty on this point. The alterations in the composition of the blood, and the nutrition of the body which occur during and after puberty must have a direct bearing on the etiology. For example Virchow & Koechlin, quoted by Ziemssen (p. 51) found the vessels of a chlorotic girl narrowed in calibre, with thin walls and premature fatty degeneration, rendering them friable, and apt to allow of haemorrhagic infiltration. Pany also, quoted by
the same (p. 30), proved, by ligaturing the branches of the gastric artery and thereby producing ulceration, that occlusion of the lumen of the small arteries by any means such as embolism & thrombosis, or fatty, atheromatous, and angiole degeneration might lead to a similar result through cutting off the nutrition of a portion of the mucous membrane & leaving it incapable of resisting the corrosive action of the gastric juices by reason of loss of vitality, and the absence of the neutralizing effect of the alkaline blood which normally permeates the peripheral portion. The existence hypertrrophic inflammation, and that arising collateral from extrinsic leaves; also great mass states produced by some obstruction in the portal circulation, would all give rise to such a condition of the vascular economy of the stomach as might readily allow of a small hemorrhagic infiltration and consequent loss of
vitality in a limited portion of the mucous membrane. The resulting ulcer is prevented from healing by the continued irritation of the gastric juices or acid products of abnormal digestion on the one hand, and the constant muscular contractions of the stomach when it contains food on the other.

Possible causes are—Blows on the epigastrum, excess in vomiting, tight clothing, and the swallowing of too hot or too cold food or liquid.

The lesion is likewise frequently associated with Tuberculosis and Chronic Pneumonia; extrinsic ulcers being a frequent companion or predecessor of incipient Thymus.

Pathology—The size of one of these ulcers varies from a four-penny bit up to a crown piece and the shape is wound or oval, the place looking as if it had been punched out in recent cases, but the edges being thickened and velvety from inflammation and the formation...
of fibrous tissue in these older standing. The commonest situation is the posterior wall, at the pyloric end, near the lesser curvature. Supposing a ship to be impacted in a branch of the gastric artery, the progress of an ulcer would be as follows. A scab composed of the necrosed portion of mucous membrane is formed on the surface. This rapidly disappears and an open ulcer is left varying in depth according to the magnitude of the artery, which is plugged, because the arteries divide and subdivide into smaller branches the nearer they approach the internal surface of the stomach. It is for this reason that the coats are destroyed to a regularly diminishing extent from within outwards, giving rise to the characteristic terete which the sides of the ulcer present. The process of ulceration now continues its progress deeper into the walls of the stomach, sometimes to the extent of perforating all
its coats. In some cases even after forming adhesions to neighbouring organs such as the pancreas & liver it goes on eating into their substance - why it is difficult to explain - the formation of adhesions to neighbouring organs is a desirable result which takes place more especially in chronic cases and when the Ulcer is situated in the posterior wall.

The most unfortunate termination is for the contents of the Stomach to be extricated through a small hole in the peritoneal coat into the large arteries one of the peritoneum where they immediately light up intense inflammation which almost invariably proves fatal after agonizing suffering in 24-48 hours.

Another danger occurring in 4-5 per cent of the total number of Cases (Watson p.432) is the extension of the ulcerating process into one of the larger arteries in the neighbourhood of the
Stomach, the splenic or coronary for instance, when death may ensue from loss of blood manifested by faintness or syncope at first, hematicmenis Frederic later on.

The most frequent termination, one which, according to Tanner (1817) occurs in two thirds of the cases, is happily healing by cicatization in the following manner: the thickening of the walls diminishes, the sloping edges become so sloping that they are indistinguishable from the general internal surface of the stomach on the one side and the floor of the ulcer on the other. The surface of the ulcer now contracts so that the central raw part becomes smaller and smaller, until it is all healed leaving an opaque white smooth tough and depressed area. The surrounding mucous membranes at the same time becomes puckered and drawn into radiating
Solds which if the ear has been in the neighbourhood of the pylorus often lead to con-
traction of that orifice, and consequent dilatation of the stomach. Hourglass contraction, and
striction of the oesophagal aperture are results which may be similarly induced.
Ulcers tend to last a long time, in some instances for 50 years; but as a rule they either heal
or are fatal long before that. Jenner says (p. 117) they may be fatal in ten days generally by per-
foration, sometimes by exhaustion, very rarely by haemorrhage. This result does not however ensue
in the majority of cases for some weeks or months.
Gardiner quoted by Simmsen (p. 3) states that Ulcers in their cicatrizes are met with in 2–3.5 of all
corpses; and the complaint is commoner in Germany, still more so in Denmark.
As to two or more small Ulcers
may run together, and form a large irregularly shaped one, and the floor may present a smooth, flocculent, or superficially semisaciosus appearance; or it may be formed of granulation-like bodies consisting of the tubules of the eroded Pancreas (Bristowe, p. 623.) When a cors is once formed, it may remain quiescent, or extend in surface and in depth, especially the latter. To such an extent as to make its way into the transverse colon, small intestines, Portal vein, cavity of pleura, or more rarely by a process of limited Peritonitis, abscess formation and subsequent rupture, through the abdominal walls into the open air leaving a temporary or permanent fistulous opening.

Perfroration is more than twice as common in females as males, especially among young domestic servants, indeed after thirty, as age advances, although Ulcer
are said to be I more frequent occurrences, the chances of perforation are certainly few. The "last straw" which determines perforation generally consists of some slight pressure as in the act of sneezing, vomiting, or coughing, or the event takes place after a heart meal. We should therefore be mindful how we practice palliation in these subjects.

Ulcers, unlike misfortunes, generally come singly; in fact out of 79 cases examined 67 presented one only, 12 had 2, 4 had 3, and 1 had 5. (Notes 180-181)

**Symptoms:**

Since this is, for the most part, a complaint running a chronic course, the symptoms are of a similar character. They creep on with intervals of remission from bad to worse. At first the patient complains of distress in, flatulence, and uneasiness particularly after food, with a bad appetite, subsequently the three distinct
symptoms. Pain, Vomiting, and Hoarseness begin to show themselves. This is the history in most cases — the chronic ones — but the process may be so acute that the first symptoms are those of Peritonitis from perforation; or after a rest from longer or shorter duration we may have a blood vessel suddenly giving way, and a fatal result rapidly supervening.

**Pain.** So generally situated in the epigastric region which is excising tender on firm pressure especially at one point on which you can lay your finger, or it may be referred to the spine about the last three dorsal and first three lumbar vertebrae. The muscles on either side often being tender, also other situations are the interscapular or umbilical regions, and when the pain is severe it is of a con- burning, boring or shooting character frequently radiating from these points and always aggravated by food. In some cases
indeed it is absent at all times other than the interval between the ingestion of food and its rejection by the stomach. Vomiting may even be voluntarily induced for the express purpose of getting rid of the intestine suffering. Pain however may be independent of food & of a paroxysmal character coming on at long intervals although the rule is that it comes on a few minutes after food, rarely so late as an hour after. Sufferers from this disease acquire a habit of stooping forward so as to protect the epigastric region from injury.

Budd & Brinton quoted by Bristow (p. 225) are of opinion that pain referred to the front of the body is indicative of the ulcer being on the anterior wall of the stomach while when it is in the back we may expect to find the cause of the mischief in the posterior wall. This must be a distinction I doubtfull unless however; because
Ulcers are fortunately more addicted to the posterior wall of the stomach, while the epigastric is the more usual seat of pain. The same authorities also add that the patient when assuming the recumbent position prefers to lie on that aspect of the body furthest removed from the seat of trouble. This seems more probable as the contents of the viscera would then gravitate in a direction away from the ulcer and cease to come in contact with it.

**Vomiting.** May be abrupt and sudden, but generally occurs when pain has been a symptom for some time, and is then often very persistent. It comes on a little time after food has been taken, is violent and spasmodic in character, or merely amounts to respiration, and it relieves the pain by simply removing the source of irritation.
the matter contained consist of partially digested food, blood, dregs or in the advanced stages mixed with food and rendered black by the action of the gastric juice. According to Trousseau (1866) they may also consist of faecal matter in great quantity. This is the result of irritation of the mucus membrane in the immediate vicinity of the ulcer causing increased gastric secretions. This irritation accounts for the marked acridity sometimes observable in these cases which may however be quickly from the abnormal products of a perturbed digestive action, manifested by heart burn &c.

Haemorrhage. Although this, like the last, may be absent; it is a very common and often the first symptom occurring daily to the extent of slight oozing from the surface of the ulcer or the surrounding corroded mucus membrane; or sometimes...
when a vessel of greater magnitude happens to be eroded, becoming of a very serious nature. Occasionally, although the hemorrhages during life has been considerable, no eroded vessel is discoverable post mortem. It is remarkable how seldom extrinsic hemorrhage does occur—only in 1/3 or 1/4 of the cases—showing that, in all probability, thrombosis takes place previous to corrosion in the case of the smaller arteries; while the larger ones are less frequently attacked, because they have a deeper distribution. (Ziemssen, 55.) Since very little food gets as far as the bowels as far as the bowels we have marked constipation existing; for the same reason evacuation rapidly takes place; and young females, the subjects of serious hemorrhage often suffer from amenorrhea. The patient's tongue is healthy, or red and angry looking, and he has an appetite almost amounting to craving; but is afraid
to eat through a knowledge of
the penalty incurred thereby.

**Diagnosis** "Long continued dys-
pepsia, pain with the above
characters induced by food, &
commencing or at a certain
period after food pretty constantly,
are strong evidences of Ulceration.
If homeostaticism be superadded
there can be little doubt of its
existence" (Boistoun p.625)

Again "profuse & repeated stomachal
haemorrhage with or without mel-
ocena; gastralgia in the enosis of
rhachidian regions along with
the absence of a tumour justify
the diagnosis of Ulcer, especially
if recovery result; but there
are many exceptions and the
diagnosis of this complaint is
really obscure" (Brusseau p.63)

By both authors the greatest
stress is laid on the severity
haemorrhage, next on the character
of the pain. Now haemorrhage
occurs in Cancer; but is generally
super in putting up an appear.
Once, and we have the hectic look of the patient and the disease going on gradually from bad to worse in spite of treatment often along with a distinct tumour in the epigastrium to guide us towards the recognition of malignant disease. In spite of all this, however, cancer, when it arrives at a certain stage, is ulceration of the stomach, and for that very reason is only distinguishable with difficulty from that particular form of which we choose to bestow this title. The disorder next most likely to be confounded with the one under consideration is - Nervous dyspepsia - occurring especially in chlorotic girls and those suffering through uterine causes. Here, however, is no haemorrhage slight & fine pressure are equally disappearable, pain varying in position precedes food instead of following it, and what vomiting
There is comes on immediately after anything is taken into the stomach, while in Ulcer the patient has to go through a very painful interval before he rises himself of the offending mass.

Chronic Catarrh is another disease which requires elimination, because in it there is often bleeding though to nothing like the extent met with in Ulcer; apart from the long history however the pain of Catarrh is neither so acute, so resistant to treatment, nor so definitely located as that of Ulcer; while the vomiting is of much less frequent occurrence and still later on than the last with reference to the ingestion of food.

Prognosis Uncertain. The commonest termination, presupposing good treatment, is a cure. There is, nevertheless, a great tendency for a healed Ulcer to break out again; and although Perforation may be followed by limited
Peritonitis & Pusaccumulation, this may almost be looked upon as a pathological curiosity (Zimmer 1876) so certainly does a fatality seem to attend the catastrophe.

**Treatment.**

These patients get on best when treated in bed; because, inasmuch as there is under these circumstances a minimum expenditure of strength, less food suffices & this is a most important point since all exercise of its function on the part of the stomach is diametrically opposed to the healing process which we wish to further.

The next great element in successful management is diet, and the article from which the most nourishment is obtained with the least irritation is milk, half a wine-glass full of which may, in special cases, be given every hour with some water or if there is much constipation Penn's Fluid
Magnessia. The former of these protects the milk so that it does not call upon the stomach to digest it; but waits for that process until it reaches the duodenum. Sometimes even this excites pain of vomiting so that we are driven to nutritive enemas, administered in the following manner: first clear out the bowel with a simple enema, then slowly inject thick nutritive material to the extent of not more than 5 or 6 oz. at the outside, and repeat the process three or four times in the twenty-four hours. The first enema for ordinary use is 4/3 lb. of strong beef tea with 1/3 lb. cream, 2/3 lb. Brandy, 9 or 10 of brandy. The last to prevent excitation of the stomach gives the following direction for another form - Chop finely 5 or 10 lb. of meat, add one third of its weight of finely minced Pancreas, 1 lb. of nice, mix in a mortar with 5 lb. of luke-warm
water & reduce to a thick soup. This is easily absorbed by the large intestines, hardly ever inducing diarrhoea (Notes 178-179). Roberts quoted in an article in Rectal Alimentation in the British Medical Journal for March 23rd 1882 recommends milk, beef-tea or milk gruel with 3/4 oz Liquor Pancreaticus (Brieger) 1/4 oz Soda Bicarb. to a pint of the warm gruel. About 3 3/4 to be injected every two, four, or six hours.

Pancreatin is more suitable for this purpose than Pepsin; because it has the power of changing starch into sugar, as well as Pepsin into Proteins; and it has a better chance of doing this in the Rectum than in the Stomach, much more as it works best in an alkaline medium. Darby's Peptomized Thrid Meat & emin Liebig's Extract are also of value.

By these means we can relieve the feeling of hunger, keep a
man alive for a week or ten
days to give the Ulcer in his Stomach
a chance to make progress
from wound cicatrization. Afterwards
we go back first to the milk
wine-water, then gradually upon
the diet with such articles as
powdered Biscuit, Arrowroot,
Eggs, Whiting, Chicken & according
to the tolerance exhibited by the
Stomach. Bristow (p. 626) finds
pounded raw beef with sugar
or currant jelly agree very well.
All hot liquids such as Tea and
Coffee, all stimulants (unless
absolutely necessary, then a little
weak cold Brandy & Water) raw
fruit, vegetables, pastry, fats,
& excess of Sugar are to be
avoided throughout.
Sears (p. 506) recommends that a
salt of his solution of Meat equiva-
 lent to half a pound of Beef
taken daily, also two cups
of milk with Biscuit powder
cooked in them. At the same
time, the patient is to lie in bed.
for two or three weeks and has
have hot poultices on his epigastrum
all day, and one of Prussian ap-
lications at night.

Strousan (p. 293) branches out
in an entirely new direction
with the startling statement that
in this as in all other diseases
of the stomach, he is of opinion
that the diet usually recom-
mended is of too exclusive a
character; and that, when the
organ becomes a little more
tolerant, each meal should
consist of several dishes, a pro-
cessing which according to him
is even yet to be tolerated.

There is doubtless some truth in
this when we have a comparatively
moderated stomach to deal with; but
I must say that a case of the
disease at present under con-
sideration would require to be, if
a very mild & chronic type &
induced me to try the advantages
of such a system.

After regulating the diet our next
care is to relieve symptoms, and the
first I these is-

PAIN - to which opium in one
form or other is the most effectual
remedy. $\frac{1}{4} - \frac{1}{2}$ gr doses of the extract
may be given in pill frequently
during the day especially about
meal times; or $\frac{1}{3} - \frac{1}{2}$ gr of Pili Saponis
Co., or we may raise a small
blister by covering a little chlor.
form with a watch glass & sprink.
le powdered opium on the raw
surface. Again $\frac{1}{2}$ gr of Pili Saponis
several times a day may be ad.
ministered internally or injected
hypodermically for the first eight
days.

Bismuth is good, especially in the
later stages; but the doses ought
to be somewhat large. I prescribe
often even 30 - 45 gr three times
a day (p 92). The best plan perhaps is
to combine opium & Bismuth thus:

R |

Bismuthi Subnitri. gr X
Sip. 1 f. c. s.

H. Pulv.
It is better to avoid opium, if possible, or trust to Bismuth, Black Oids, Manganese, and external applications in the shape of hot fomentations, Mustard Plasters, Ipecacuanha stripes, Iodin, Blisters, &c. Watson (P. 436) recommends the application of a stimulating liniment containing opium to this epigastric region of back, but I think that the rubbing would involve a risk of causing perforation.

Vomiting—often yields to Bismuth in 20-30 gr. doses with opium (highly spoken of by Bristow, P. 626). The previously mentioned remedies for this symptom hold viz, Soda Water, Oxalate of Potassium, Ice & Hydrocyanic Acid hold good here also. Janes (P. 119) gives mix of the official Aqua Squamosa in half an ounce of iced water every three hours for persistent vomiting & quotes Dr. Bruxton as recommending small doses of Iodide of Potassium with Bicarbonate of Potash and some bitter infusion in
cases where there is much flatulent nausea. I think that bowel
water simply acts in virtue of
the hydrochloric acid which it
contains, and being a very unreliance remedy it would be
better to prescribe the latter.

The action of the Jodide of Pot.
acumin is more difficult to
explain. Possibly it is an alter-
ation & absorbent in the chronic
cataract, which according to Zie-
seen (p.63), is the constant com-
pansion of Ulcer by causing a
profuse secretion of mucus (an
active ferment) brings about a
constant condition of acid per-
orientation in the organ without
which Gastric Ulcer would not
be half such a formidable
complaint as it is. This cataract
condition may also be combated
by washing out the Stomach
either every day or twice a week
while the tendency to vomit con-
tinues with coldy warm water by
means of a tube which pen
units of the impres of fluid readily and it allows it to flow out again when bent into a siphon form. The process should be continued until the Curdy flows away untainted & between the times of washing out we may have recourse to such antifermantative remedies as 10-30 gr doses of Hyposulphite of Soda.

Acidity can be modified by the use of alkalies especially Bicarbonate of Soda.

Zirnussen (p. 59 et seq.) lays the greatest stress on this department. He thinks that the chyme is retained in the stomach by contraction of the pylorus brought about by

1. Catarrhal swelling
2. Irritation of the floor of the ulcer causing spasmodic contraction reflexly.
3. Diminished power of the muscular coat more especially in chronic cases. And although the amount of fooded matter may be very great still, as Kussmaul found by means of his stomach pump.
there is always some left in the stomach which sets up fermentation in future food. For one of his recommendations the artificial Karlsbad salts, consisting of Sulphate of Soda with one per cent of Chloride of Sodium & Bicarbonate of Soda, because it—

1. Checks acid fermentation
2. Neutralizes the acid contents of the stomach
3. Stimulates the organs to empty itself of its contents.

At the same time the following recipe is to be carried out:

Every morning take, fasting, 3 or IV of the salt to one pint of boiling water cooled down to a takeable temperature and divided into four parts one of which is to be drunk every ten minutes.

Half an hour after a glass of milk with some bread, 	 Coffee at 10:30 Breakfast of cold roast meal or chicken with white bread, or else raw ham with slices of bread. Dinner at one consisting of Soup or milk, roast meal or chicken, bread
Table-spoonful of mashed potatoes
1/2 glass of Claret.
At 4 glass of milk with bread.
At 7 soup or stew 1 milk cold meal
meat & bread.
Between 8 & 9 a bottle or tumbler of
Boiling water in cases where the
Catalepsy & Pyrexia are extreme.
At 9 - 10 p.m.
"Four weeks of this treatment
are almost always sufficient
even in the most severe cases." With
regard to this experience I
think that real is a substance
difficult to digest since it
remains in the stomach about
twice as long as Beef or Mutton.
So rare have the objection connected
with Ipecac Soluins might be
raised, and Claret & Coffee an
also bad.
Hoemorrhage. Oil is the great
thing for this. A bladder of it
mixed with salt is to be placed
on the epigastric, and small
pieces should be swallowed
"en masse" so as to get directly
at the bleeding point is possible. At the same time the patient must be made to remain in the horizontal position so as to keep the action of the heart quiet, and abstain entirely from food. We may administer Iannic Acid in 10-15 grain doses or Gallie Acid in 5-10 grain doses, combined with Laudanum (to allay the muscular irritability of the organ). Perhaps Iannic Acid is more useful as being the direct distenagogue whereas Gallie is more preferable in remote hemorrhage. If the bleeding prove obstinate recourse may be had to the injection, deeply into the substance of the muscle, of 5 gr of Epotonic previously boiled. This case should be constantly watched when this is employed and the operation repeated as soon as the effect wears off. (Nov 7th 1847) A convenient mode of administering this remedy is by means of the discs manufactured by Savory
and Moore which simply requires to be heated in a metal spoon over the gas previously to being injected through the hypodermic
Trousseau (p. 93) recommends Rhaptone Sulphuric Acid; and Trousseau (p. 95) objects to the use of astringents on the ground that when the stomach is full of blood they can't get at the bleeding point and only do harm by exciting nausea and vomiting. This may hold good in some cases when the expotia might be used; but there are doubtless many others where the neglect of astringents would be very serious.
Other remedies for the same purpose are Lead & Quinine Pills (8th) & Quent: Ixori Perchlor:

for the Constipation it is best to administer enemata of warm water, Greek & Castor oil occasionally, supplemented by small doses of the last orally.

There is a special method of treating this disorder viz. by administering
remedies to stimulate the healing process in the ulcer itself.

Nitrates of Silver is the agent usually employed, and its modes of action is either by coagulating the albumen in the surface of the ulcer, or by forming a protective covering, or by stimulating the dose to a more healthy action as we are in an ordinary indolent ulcer of the lip. This more recent mode of proceeding is first to wash out the stomach so as to allow the remedy to get more easily at the spot, and then to inject a few ounces of a solution containing 5 grammes of the Nitrates in an ounce of water. This however is not admissible until a month or two after the first appearance of symptoms. On account of the pain excited thereby, and it often fails.

Irrensean's plan (p. 92) is to give 30 or 45 gr of Bismuth an hour before meals three times a day for ten days. Then 1/4 gr of Nitrates of Silver in pill three times a
day an hour before meals for five days; next remain the Biscuit for ten days; after that to follow Calomel in sugar before breakfast and midday for five days. Now start at the commencement again, and so regularly through times after times for three or four months. Afterward this regimen is to be stopped for a month, resumed for two months, then continued suspended for two months, then continued for one month, and so on for at least two years, by which time the complaint is cured and recurrence extremely unlikely. The last remarks with regard to prolonged after treatment have an important bearing on all cases, and patients should immediately have recourse to their old regimen on the first reappearance of symptoms. When blemishes are under control, and pain subdued, we ought to aim at improving the general health by
bitter tonics as Lussicia, Decoction of Rhus Toxicodendron. Secondly by iron especially when there is anemia because it is a direct improvement of the quality of the blood.

Trusseau (p.82) says the pure iron waters are badly borne even in these anemic cases unless the bowels are well kept open. This he secures by giving 4 or doses of the Extract of Rhubarb combined, if it causes pain with $\frac{1}{6}$ or $\frac{1}{3}$ of Extract of Belladonna. Trusseau also praises Rhubarb (p.93) as being both tonic and purgative in its action.

If perforation takes place the patient is to be placed so that his ulcer is uppermost, and the contents of the stomach therefore less liable to be extravaated. (James p.119) Opium is to be rapidly administered in large doses because there is a peculiar tolerance of this drug in acute Peritonitis. It is best from ac-
according to Zimmerman (p. 77) by hypodermic injection or in the form of suppositories.

The usual local applications are hot fomentations, but I see that Zimmermann (p. 77) prefers a large bladder of ice or an iced cataplasm. All food, and particularly brandy by the mouth are contraindicated even though the patient be in a state of collapse. Nourishment is to be conveyed by the bowel instead.

When the process of cicatrization leads to contracted pylorus and subsequent dilatation of the stomach by retention of food we have catarrh, acid fermentation and vomiting becoming more frequent until the last mentioned occurs regularly after each meal. The lower part of the body often falls in rendering the stomach very prominent and traceable in its outline externally. For such a condition, the best treatment is not a course of
Karlsbad salt (Ziemsen, p. 81) is that from insufficient the organ should be washed out every day, twice a week, or less frequently according to the requirements of the case, with simple warm water, Condé’s fluid, or Viely’s soda or Billee water. The mechanical details for carrying this out with no form of apparatus are as follows.

i and i’ are two pieces of flexible tubing connected by a T shaped
piece of glass tubing to the vertical portion of which a third piece of flexible tubing is attached at the top is a reservoir placed, and underneath it a basin. Two clips are situated at c and c', just beyond the glass tubing. Armed with our apparatus by this description we place our Condy's fluid for instance in the reservoir and tie it to the palatine having previously fastened both clips. Now we pass the tube into the Stomach and unfasten the clip c' so that the fluid runs down into the Stomach. When enough has got in our next care is to get it out again and this is effected by simply unfastening the clip c and closing c' when a siphon action is established and the Condy's fluid flows out into the basin. 

The operation is to be repeated until the fluid returns unchanged in colour.