Original Communications.

ON ORAL, GASTRIC, AND DUODENAL DYSPEPSIA.

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[Read before the Manchester Medical Society, October 1865.]

BELIEVING, with Shakespeare, that there are many things in heaven and earth not dreamt of in our philosophy—yet, in our philosophy, it appears to me, we cannot do better than adopt the positivism of Comte. At all events, his classification of phenomena, from the simpler to the more complex, seems so natural, as to suggest the doubt whether, after all, it is a discovery or not. I suppose most of us had adopted some such order long before we knew anything of the positive philosophy; and certainly we had been taught by authority a good deal about altruism, and the supremacy in rank of the moral over the intellectual faculties—two other much vaunted *soi-disant* discoveries of Comte.

Certainly it will save us from some prevalent errors to bear in mind “the hierarchy of the sciences.” The body of man, of which we have to secure, as best we may, the soundness of the solids, the purity of the fluids, and the ease of the spirits, is not merely a machine; though it is a machine, made on the most approved principles of mechanics, hydraulics, and pneumatics. It is not merely a chemical laboratory, though in it the highest phenomena claimed by the chemists are to be found; viz., those of catalysis, dialysis, and fermentation. And it is not merely an organism, though in it functions exist which the positivists themselves are constrained to range under some such term as physiological or biological. There are other phenomena which belong to the new science of sociology; and, though Comte would fain stop here, even he is constrained to talk of a religion.

I wish to call attention this evening to some of those processes usually called chemical, specially to fermentations; and, though there may be disciples of Pasteur present, they will not be required, even for argument's sake, to give up their conclusions from the demonstration of living germs in all fermentations and putrefactions. The phenomena in question, viz., fermentations, are either the highest chemical or the lowest vital phenomena; so that of their position there is no controversy. Nor, I presume, can there be a difference of opinion that any explanation of the higher phenomena by the lower is an inversion of the natural order. We cannot explain chemistry by mechanics, so neither can we explain physiology by chemistry. And yet, as Lewes has well shewn, there is great danger of this in the present day, or why should so much be written on organic chemistry?

One word more on the principles and aim of this paper. Every change in the human body is the resultant of many forces; and, when any force appears to us to be destroyed, it is not really destroyed, but has become latent. The lowest phenomena—the physical—have the power, as obvious causes, of thus rendering latent the highest; and, when the physical forces are rearranged by the surgeon, it not uncommonly happens that the very highest functions again start into activity. It is this that gives to

surgery such a fascination in the eyes of the young student. Now, I maintain, that we may employ chemical means with at least as good a prospect of success, as the surgeon uses his mechanical means. In the body there are certain processes, call them what you will—chemical or physiological—as clearly made out as facts, as are the physical facts referred to; and when we avail ourselves of them, expecting like chemical or physiological consequences, we cannot be disappointed. It is true that the higher physiological functions may alter considerably the direction of the resultant, but they rarely turn it aside altogether. For, to speak figuratively, the higher orders are more dependent on the lower than the lower are upon the higher, just as in society at large.

How dependent, for example, is the chemist on the mechanical pulverisation of his materials! And at least, equally so is the physician upon the chemical or physiological solution of the food he prescribes. The foundation would continue to exist without the superstructure; but the superstructure, whatever its exquisite perfections, would be annihilated, so to speak, without the foundation.

Without further parley, let us come to close quarters.

1. Can we accept the following propositions as facts?

All solid food must be prepared for absorption either by its solution or by its reduction to a molecular condition.

In the mouth, starch is thus prepared by being changed into dextrine and glucose.

In the stomach, flesh, cheese, and white of egg are thus prepared by being changed into peptones.

In the duodenum, fat is rendered absorbable by emulsification with the chyme.

Dr. Pavy spoke of all these changes before the College of Physicians, as of facts about which there is now no controversy.

2. Is there similar agreement that, when the various kinds of food just named do not undergo these changes in the mouth, stomach, and duodenum respectively, various other changes are apt to take place? For example—

Is not starch apt to undergo the vinous and acetous fermentations? Is it not very probable that fibrin, casein, and albumen will putrefy? And does not fat readily pass into butyric acid?

3. If so, can we pick out from the multitudinous symptoms of indigestion those which will indicate at once which of one or other of these changes is going on? I think we may.

The presence of acid in excess is known at once by a “sour stomach”; i.e., by the taste. A vinegar-like and not unpleasant taste in the mouth, edging the teeth, is the pathognomonic sign of acetous fermentation. Flatulence and “rifting” without any taste, i.e., eructations of carbonic acid, are the pathognomonic signs of vinous fermentation. With them there are almost always more or less vertigo, and other evidences of disturbed cerebral function, such as loss of memory, peevishness, and headache. Surely these cerebral symptoms are of alcoholic origin, and belong to Dr. Budd's “alcoholic dyspepsia.” Acidity without flatulence may be due simply to an excess of lactic acid. Should there be a sweet taste in the mouth, we should also suspect a craving appetite, saccharine diuresis, and emaciation—in short, diabetes. Bouchardat, as all know, attributes every case of diabetes to the primary mal-assimilation of starch. Prout recognised mal-assimilation of starch as one great cause. And, what is still more to the point, Bence Jones describes cases of intermitting diabetes where flatulence and saccharine urine replace each

other. When the transformation of starch is arrested in the earliest stages, the presence of glucose in excess soon reveals itself. All amylaceous food, then, when not digested, is apt to undergo changes which are at once recognised by their products—an excess of glucose, alcohol, carbonic acid, acetic, or an excess of lactic acid.

When protein elements of food, containing sulphur, are not digested, and undergo putrefaction, they give off some form of sulphuretted hydrogen, which the patient often describes as “the rifting of wind, with a taste like that of Harrogate water, or a rotten egg.” A sinking at the pit of the stomach, often expressed as the “feeling done” there, with debility, despondency, cold feet, easily excited perspirations, and starting on dropping asleep, are almost equally pathognomonic. They are, in fact, the symptoms of septic poisoning, *i.e.*, of putrefaction. The bowels are accordingly as much inclined to looseness, as in acid dyspepsia they are to constipation. This diarrhoea is the commencement of the lenteria of old writers.

At other times, a patient complains of heartburn, or of sourness of a most unpleasant and disgusting kind, like that of bad fat. His food has gone rancid; *i.e.*, the oily part of it has undergone the butyric fermentation. The stearic and margaric fermentations may replace the butyric, but in any of these carbonic acid and hydrogen may be given off, so that here also we sometimes have tasteless eructations. Other very characteristic symptoms are the relief often afforded to gastrodynia by eating; discomfort or pain being referred to the right side; and the presence of spasmodic stricture, hypochondriasis, and other evidences of remote sympathetic irritation, so fully described by Dr. James Johnson. Indeed, he says that in duodenal derangement we may have these remote sympathies only, without any direct local evidence of disease.

Is it not thus clear that the various fermentations of food may be easily and unmistakably recognised by marked symptoms; and that, in very many cases, the products of these changes are actually present, and may be demonstrated by the chemist? If so, we have not yet wandered from facts into the region of theory.

The treatment of these three forms of indigestion—the oral, the gastric, and the duodenal—is obvious. Dr. Turnbull very properly suggests antifermentatives; and the hyposulphite of soda and carbolic acid are antifermentatives. The propriety of administering alkalis in acidity, and acids in alkalinity, is equally obvious. But our chief resource consists in cutting off, as entirely as possible for a time, that kind of food which is capable of undergoing a fermentation similar to that which is annoying our patient. So far as I know, this practice is peculiar to myself, though it is borrowed from the established treatment of diabetes.

In diabetes, from Rollo's time, an exclusively animal diet has been adopted by the majority of the profession; and Camplin's bran cakes, and Durand's gluten bread, bear witness to the pains that have been taken to exclude every particle of starch. But diabetes is not always a disease of primary mal-assimilation. Sugar may be found in the destructive metamorphosis of the tissues; it may be formed in the liver; and, whenever flesh undergoes the saccharine fermentation, we have to do with something more than oral dyspepsia. Nevertheless a rigid adherence to animal food, with the jealous rejection of starch and sugar, will do all that is chemically possible by diet. It is interesting, too, to find in what favour alkalis are held, and moderated doses of opium, in the use of each of which we have analogies

in the management of the less severe forms of oral dyspepsia.

The vinous fermentation, with flatulence, is a less severe form, as is demonstrated by cases of intermitting diabetes. If, in health, acetic acid is formed, it is almost certain that an alcoholic stage has preceded. At all events, in alcoholic dyspepsia, the normal processes appear to go on one stage further before they are arrested, or err by excess. For this reason, in diabetes I have adopted the use of yeast, as recommended by Mr. Mosse, of Hampshire, to use up the sugar, and push on the digestion, so to speak. To employ similar treatment in diabetes and in alcoholic dyspepsia, appears most natural. And most cases of the latter yield to it in a few days. Still there are instances where tasteless eructations and flatulent distension continue in spite of the greatest faithfulness to directions on the part of the patient. In these cases, I suspect that the stomach changes the sugar of milk into glucose, or even that sugar is manufactured from muscle, giving them another family-likeness to diabetes; and no wonder, then, they are so obstinate. In their management we must be as obstinate, and for a prolonged period supply the need of non-nitrogenous food by hydrocarbons or fats. This, in fact, is done in the dyspepsia of tuberculosis, which is oral and obstinate; but equal care is not always taken to exclude the carbo-hydrates or starches, and especially sweet fruits. Surely we have some insight given here of the purposes to be served by the division of non-nitrogenous foods into starches and fats. In fevers, when the tongue is dry, Dr. Chambers gives beef-tea and wine; and in infancy, where also there is a deficiency of saliva, milk without bread is the natural and proper food. Whatever may be said of smoking, the loss of saliva in expectorating must be injurious.

It should not be forgotten that the decomposition of urea gives rise to carbonic acid, and therefore in obstinate cases the urine should be examined. In a process, analogous to crib-biting in the horse, some persons swallow atmospheric air, which may return very noisily. Whether gas is secreted in hysteria was a topic sometimes discussed by Dr. Todd, but one on which I can throw no further light. The common opinion that wind accumulates in the stomach, when it is empty, I regard as a popular error, though I cannot prove it to be erroneous.

Simple acidity of the stomach is the mildest form of indigestion. It may be due to acetic acid, or to an excess of lactic acid, which competes with hydrochloric acid for the honour of rendering the gastric juice acid in health. The acidity in sympathetic vomiting is probably of a normal character, being due to secretion. Soda and magnesia are the best antacids, and there are fewer combinations more useful than Gregory's mixture. When acidity is acquired by improper diet, these medicines will comfort; but they cannot cure until the cause is removed by an entire change. What can a doctor do in the Fylde district, where the farm-servants have tea and rhubarb-tart for breakfast, tea and rhubarb-tart for tea, and rhubarb-tart and tea for dinner? If the acidity be inherited, as in the strumous, it is to be regarded as a symptom of the predisposition, and there may have been no errors in diet. We have then, as a chief external sign, almost always present, Dr. Thompson's red line on the gums; a condition independent of tartar, though often associated with it, being, in fact, the commencement of alveolar inflammation. As the absorption of the alveoli continues, the teeth drop out whole, and the patient early becomes edentulous. One dentist will put on a leech, and ask if you smoke; another may accuse sugar, which certainly makes such teeth ache; but the true

treatment consists in a supply of vital stimuli found in perfection in the air of the sea-side, or on the sea. This red line is the outward sign of scrofula; it is by no means peculiar to consumption. Neither is the dislike of fat its common attendant. With sea-air for the predisposition, and cod-liver oil, bacon, or cream, for the symptom, very much may be done. Butter is theoretically right; but it is generally the last of the fats that such stomachs can tolerate, probably from its complex composition and unstable character.

One point I think I have established: that, when farinaceous food is rigidly prohibited, the patient will often be found able to take wines and beers, and will be nourished by them. Of course, when a stimulant is indicated, brandy is by far the best at first; then claret and Burgundy; and soon any fermented drink. In sound wines, fermentation has ceased, and therefore they are far preferable to home-made wines, in which fermentation is often just beginning; whilst perhaps even these are better than the fruits themselves from which the wines are made. For the same reason, I should conclude that, in degree, fermented bread should take precedence of the aërated bread and of biscuits. The fermentation has been partly got over in the fermented bread, and seems to ease the labour of insalivation. It has long been known that a lemon will suit when an orange will not; and, as soon as a patient with oral dyspepsia can take an acid, he may be considered as far advanced in convalescence. Indeed, as of wines and beers, so, *à fortiori*, one great advantage of avoiding starch at first is that acids can be then speedily tolerated, and they strengthen. In diabetes, after alkalies, when, with a diminution of sugar, great prostration is complained of, the astringent acid preparations of iron are often of service, just as in the corresponding stage of rheumatism. And, as hinted before, do not stimulants in oral dyspepsia occupy the place of opium in diabetes and rheumatism? We are much indebted to Dr. Anstie for demonstrating the correspondence of moderated doses of stimulants and narcotics.

The treatment of gastric dyspepsia need not occupy us long. Chlorine is the antidote of sulphuretted hydrogen; muriatic acid and lactic acid, one or both, will correct the alkaliescence. Pepsine, fresh made according to Dr. Pavy's recipe, might be added with advantage. Carbolic acid will arrest the putrefaction. But, above all, let the diseased organ have rest, and supply it with no albuminates. Prohibit meat, the cheese of milk, eggs, and the cruciferæ; just what you allow in diabetes. Do this till the rotten-egg taste is fairly gone for a day or two, and then cautiously return to their use. Port wine is felt to be most grateful to the stomach. It is acid, and, besides, some stimulus seems to be needed to relieve the painful sinking at the pit of the stomach. Tea-drinking and poor living are the chief exciting causes, with smoking. But exhaustion from any cause, as night-work and anxiety, is sufficient. Therefore, all the rest and recreation available should be called into requisition.

Duodenal dyspepsia is a more difficult disease to treat, because more complex. The duodenum receives the chyme from the stomach, and transforms it into chyle by means of the secretions of the liver and probably of the pancreas. Therefore, excepting when inflamed or ulcerated by burns and morbid poisons, impaired action in the duodenum is almost certainly secondary to disorder in one or other of these three organs just named. There is much to be cleared up respecting the so-called glycogenic function of the liver; and physiologists are divided in opinion as to the function of the pancreas. Practically, neverthe-

less, we can control heartburn and foul acidity by arresting the butyric acid fermentation. Soda is soothing. Spanish juice I have known, from a boy, to be most grateful in heartburn. Nitric acid aids the secretion of the liver; ox-gall supplies its place, but should be much more largely given than is usual. The nitro-hydrochloric acid, so much used in India as a cholagogue, I happen to have prescribed most frequently, because a form was at hand in the hospital. And, as to diet, by far the majority of the patients have been told simply to avoid butter, cream, and fat—in short, everything greasy. Tea, except at tea-time, has also been forbidden; for tea-drinking in excess has pre-existed even more frequently in duodenal than in gastric dyspepsia. The non-nitrogenous element is abundantly supplied by the starches, and by wines and beers, which are grateful and useful.

The majority of cases speedily recover—i. e., the symptoms of duodenal dyspepsia disappear, whether they have been the disease, or only symptoms of some other. Indeed, so far as we seek a chemical result, that, as I have already maintained, is certain. And who can estimate the possible consequences of one right step? Half the cases of insanity, speaking in round numbers, are due to indigestion, and to indigestion of this particular form for the most part; and surely more might be attempted by diet and medicine; for in asylums the diet is nearly uniform, and comparatively little medicine is prescribed. Epilepsy, too, is often excited by indigestion of any of the three kinds, as well as by worms, and not uncommonly disappears when the exciting cause is removed.

And, truly, the symptoms of indigestion, even when only itself a symptom, are without number: therefore, only those which are pathognomonic of each kind of indigestion have been dwelt upon. A bitter taste, for instance, is not pathognomonic of duodenal dyspepsia, though it certainly indicates the regurgitation of bile. When it is not the effect of prolonged vomiting, all sugar and fat, which are known to be bilious, should be withheld. Vomiting, just named, may be present in any of the three kinds of indigestion, and yields with them to the special treatment required. When there is organic disease, vomiting, of course, can only be soothed; but, when it is sympathetic, the late Mr. Catlow's theory holds good, and the patient may be allowed to indulge in any fancy, for in that case, as Dr. Budd suggests, the gastric fluid is secreted in the empty stomach, and is prepared to dissolve the morsel for which it has suggested the instinctive craving.

To recapitulate:

1. In oral dyspepsia, or impaired solution of starch, give no starch or sugar, and prescribe alkalies.
2. In gastric dyspepsia, or impaired solution of flesh, cheese, and eggs, give no flesh, cheese, or eggs, and prescribe acids, especially the muriatic.
3. In duodenal dyspepsia, or impaired emulsification of fat, give no fat, and prescribe cholagogues, as nitric acid.

I have flattered myself that, by prohibiting only certain kinds of food, and by allowing the greatest freedom with every other kind, we may steer fairly between Dr. James Johnson's Scylla and Charybdis. By the prohibition we avoid irritability, and by the permission we equally escape debility.

I think, too, we may reconcile the "gruel doctors", who would reduce their patients to Abernethy's biscuits, and Mr. Thomas Hunt, who for more than thirty years has advisedly recommended his patients to take whatever the most capricious appetite might suggest. Abstinence produces debility, and debility keeps up indigestion. After pro-

longed enforced fasting (and Mr. Hunt's cases, sent up from the country, have probably been restricted more and more), instinct may well be trusted; for Hippocrates says, "What pleases the appetite nourishes."

Much more might be said, as to the causes for example; and a few remarks shall be made in concluding. Many symptoms have been omitted; and only the conclusions of physiologists have been made use of, not their controversies. What has been written, however, is, I trust, perfectly plain and intelligible; and that it will prove of practical value, is a conviction increasingly strengthened by the testimony of former pupils. Indeed, so far as the solution of food is concerned—the signs of chemical or fermentative changes replacing the physiological, and the corresponding treatment required—I am enthusiastic enough to say that we are rapidly arriving at perfection.

To prove this, it may be affirmed:

1. That our knowledge is exhaustive. The chemists, as Lehmann and Mulder, divide food into five proximate principles—nitrogenous, carbo-hydrates, hydro-carbons, salts, and water. We have to do with solution, and no organs are required for the salts and water to prepare them for absorption. Therefore we have only three proximate principles left; and as to what becomes of them, and where, physiologists are agreed. As to the how, as positivists we have no need to trouble ourselves.

2. That the argument will bear the severest test. Dr. Barclay, on *Medical Errors*, has been acknowledged to be the most severe critic: therefore let us examine the logic of this paper by his rules. The phenomena of chemical or fermentative action are so obviously connected with the symptoms, that we have not to collect cases to any power of 2—1. And, as to causes and symptoms, though possibly not one of all of us here present ever saw two cases exactly alike in all the phenomena, yet we have each seen many cases exactly alike in the characteristic phenomena—so much so that, when we hear of one, we can soon assure ourselves of the other by the method of elimination. To mention a symptom not yet named, and yet most common—viz., palpitation and supposed "disease of the heart"—when a patient complains of it, we may safely say, "Then, ten to one, you've wind on the stomach." Or we may first prudently examine the neck for abnormal pulsation; employ auscultation; and inquire what emotional causes have existed. Should, then, all these inquiries fail to furnish a possible explanation of the palpitation, we may at once make a bold and a scientific guess that the case is one of indigestion. In like manner, when there are tasteless eructations, we may as safely charge our patient with being "giddy", if punning be permissible. In guessing from the state of the gums, you will not be wrong once in a hundred times; though it is possible the patient may be scorbutic, or have been taking mercury, or even have had indigestion without knowing it. You may tell your patients of what they are fond. You tell the boy with sick-headache, specially if his gums are not red, that he is fond of sugar, bread and butter, and potatoes; and that he eats quickly and long. You tell the poor woman who feels "done", if there has been no other cause of exhaustion, that she has been living poorly, with tea-dinners; and you tell the duodenal patient, if not obviously constitutionally weak, that he has been living on tea, and has been eating too much bacon, or is too fond of butter. And, in making these guesses, you will be as often right as you are when you promise that quinine will cure an ague, that arsenic will cure lepra, and that the male fern will expel the tape-

worm. The connexion between the phenomena is obvious, and in one sense invariable. Therefore we need not multiply cases; for, as Dr. Barclay teaches, in such circumstances a comparatively restricted investigation is all that is required.

This passing reference to the etiology of indigestion appears to me to complete the argument of this paper, on Dr. Barclay's own principles. But let us venture further, and examine our thesis by his four stages of every medical argument.

1. Facts have been collected and compared with each other. My own infirmary-books show some twelve thousand cases where an attempt has been made to distinguish between oral and gastric dyspepsia, with the causes; and some three thousand in which duodenal and oral and gastric have been collected and compared.

2. A hypothesis has been suggested—viz., that of fermentations—according to views held long before Sydenham and the chemical school, though adopted specially by them. In our day, Dr. Turnbull has written on the *Disorders of the Stomach, with Fermentation, etc.* He quotes from Ure's *Dictionary of Arts* twelve kinds of fermentation—the alcoholic; the saccharine; the viscous or mucous; the lactic; the acetic; the gallic; the peptic; the benzoilic; the sinapic; the ammoniacal; the putrid; and the fatty. This hypothesis of fermentation, then, is a deduction from analogy, and suggests the reason or cause why two facts are united as antecedent and consequent, so that the presence of the one necessitates that of the other, except there has been some interfering circumstance, not in any way of a constant kind. It will not be questioned that the symptoms mentioned as pathognomonic are necessary consequents of the antecedent fermentations.

3. The hypothesis has been tested by experiment, by critically examining old cases, and selecting new ones. The dietetic treatment has been a series of experiments, carried out on a large scale, roughly, amongst the out-patients, and carefully and minutely in the wards. For twelve years, the actions of food and medicine have been separated as much as possible from all interfering causes, and made the subject of constant clinical teaching and observation. This Dr. Barclay declares to be the most characteristic part of the inductive process. When an hypothesis has stood this test of full experimentation, and a relation of cause and effect has been established between the phenomena, then the hypothesis becomes a law.

4. The application of the laws thus established by pure deduction to fresh cases has been partly supplied by the ability afforded, as a rule, of anticipating the causes in the circumstances and habits of the patients, before receiving any information whatever concerning them. It is true that, when we pass from chemical phenomena to physiological, as when we leave the simple pure laws of fermentation to go to the complex empirical laws of etiology, exceptions commence and multiply; but, when examined, as Dr. Barclay explains, the exceptions prove the rule, just as the rising of the balloon demonstrates the more exquisitely the law of gravitation. So, when there is dyspepsia present, and yet there has been no error in diet, and there is no constitutional predisposition, all our rules appear to fail; but when we trace some other cause of impaired secretion, as subacute inflammation, or a general febrile action, or a concealed mental anxiety, the case at once becomes plain. And the longer we may be in ascertaining the true cause, the more confidently do we, in our next difficulty, deductively affirm that there must be some force at work as yet undiscovered. Practically, we illustrate this fourth stage of deduction when, all

our dieting and prescribing being in vain, we confidently pronounce the existence of organic disease long before obstruction, or hæmatemesis, or a tumour, or dissection, has confirmed the prediction.

The grounds, then, of our confidence in the knowledge we possess of the forms of indigestion concerned in the solution of food, are: that the proximate principles of food, and the organs given for their solution, exactly correspond; that we can clearly trace cause and effect between the abnormal fermentations, the distinctive symptoms which distress our patients, and the regimen and remedies required for their relief; and that by the aberrations of the observed phenomena we can discover the existence of other phenomena which acknowledge no subjection to chemical control.

In all functional derangements, connected with the solution of food, which are due to the habits of our patients, or which, in other words, are acquired, we possess that knowledge which is power. We know the cause, and can remove it. Such cases we can cure in the same sense that the surgeon cures a broken leg. That is, it is ordained by infinite goodness that when we do our mechanical and chemical part, all the rest, which is so much above even our comprehension, shall be done for us.

All the similar functional derangements that are due to constitution, *i.e.*, that are inherited, are but symptoms. We can certainly relieve the symptoms, but the treatment in such cases is that of the diathesis. We must avoid all the known causes which take sides with the predisposition. So, when we have indigestion from inflammation, or organic disease, the indigestion is only a symptom, and is altogether secondary in importance. If, then, we make those obvious distinctions, and only seek a chemical effect from a chemical remedy, I again repeat, we shall never be disappointed. But, indeed, we shall often be most agreeably disappointed. It would be difficult to say what functional derangement may not possibly be due to indigestion; and, if health and spirits have followed the restoration of mechanical mastication, by the art of the dentist, may not the chemical physician hope to receive equally great rewards?

In conclusion, gentlemen, it is for you to decide whether, in this paper, each step has been made plain and secure; for all will agree with Dr. Barclay, that "nothing can be more destructive of right reasoning than a foregone conclusion." If each step has not been made secure, let us commence afresh. But if a step in advance has been made, or if our foothold only has been made more sure, we shall have done something to wipe away the reproach that hangs over the topic of indigestion. I refer to general facts, and especially to the quotation from Dr. Chambers by Dr. Aitken, that "there is no part of the body of which we hear so much from our patients, and are able to communicate so little knowledge in return, as about the stomach; and truly it is an ill-used viscus—flattered in metaphor and insulted in fact."

ABOLITION OF CHOLERA QUARANTINE AT MALTA. The board of health has abolished quarantine on arrivals from Alexandria and Marseilles, provided they bring clean bills of health. The board of health of Alexandria has adopted the same course in regard to arrivals from Malta. The board of health in Sicily continues to enforce quarantine on arrivals from Malta, notwithstanding that this island has been free from cholera ever since Nov. 11. Scarletina has manifested itself at Messina in the form of an epidemic, principally among children, proving fatal to many, causing suffocation after forty-eight hours' illness.

Transactions of Branches.

BATH AND BRISTOL BRANCH.

ANÆMIA OF THE OPTIC NERVE OF THE RIGHT EYE, CONSTITUTING EXTRACEREBRAL AMAUROSIS, FOLLOWING ABSCESS OF THE ANTRUM CAUSED BY A DISEASED MOLAR TOOTH.

By CHARLES GAINÉ, Esq., Bath.

[Read October 25th, 1865.]

EMMA BULLEN, aged 22, was admitted an out-patient at the Bath United Hospital, on August 7th, 1863, under the care of Mr. Soden, on account of defective vision of the right eye. On the 28th, Mr. Soden requested me to examine her teeth, which, from the swollen state of her face, he had reason to believe had much to do with the mischief. She had at this time ptosis of the right eyelid. The pupil was greatly dilated, and there was no action of it on exposure to a bright light. I examined her teeth, and found that the swelling was caused by periosteal inflammation of the first upper molar tooth on the right side, the crown of which had been broken off two months before in an effort to extract it. Upon pressing the palatal fang with a probe, pus exuded from the investing alveolus. There was considerable bulging of the anterior wall of the superior maxilla on that side, below the infraorbital foramen, thereby indicating that the disease had implicated the antrum.

I endeavoured to induce her to have the stumps removed, but she refused. She admitted that nothing had been the matter with her eye until after the tooth had been broken.

Sept. 1st. I saw her again. The bulging of the bone had increased, and some pus escaped through the right nostril. There was some conjunctivitis and congestion of the lower eyelid; the sight was much worse, and the pupil remained fixed. Dr. Woods and I examined her eyes with the ophthalmoscope, and discovered that the optic disc of the affected eye was much paler than the other, the tunics and humours appearing healthy. She still refused to have the stumps removed, but continued to attend at the hospital twice weekly till September 16th. On that day, the sight of the right eye was entirely lost. We examined her again with the ophthalmoscope, and I made a drawing of the fundus of each eye. The difference between them, it will be seen, is very marked. She now wished me to extract the stumps, which I did. After removing them, I punctured the antrum and let out a large quantity of pus.

She continued to attend regularly for two months, but no improvement took place in the affected eye.

The treatment adopted was a mild mercurial course, followed by tonics. She then left the city for her home in Gloucestershire, and I did not see her again till May 5th last. At that time the third nerve had resumed its functions, so far as the eyelid was concerned, and there was very fair action of the pupil, but not co-ordinate with that of the sound eye. The right optic nerve shewed the same anæmic condition, and she was still blind in that eye. Whether she will ever regain the sight of it, must, for the present, remain a matter of doubt; but it is my belief that it is hopelessly gone.

REMARKS. This case, in its more practical and important points, bears a close analogy to one which occurred in the practice of Mr. Salter, the Dental Surgeon to Guy's Hospital (in the *Medico-Chirurgical Transactions* of 1862); and though it does