far from usual, and, as a consequence, the probabilities of the case tend towards that of innocency. Should the tumour have gradually assumed a globular form, the question of chronic suppuration may be entertained; and, should fluctuation be detected, though indistinctly, the nature of the disease will have become tolerably certain. In these cases, an exploratory puncture with a grooved needle becomes of incalculable value. Without it, errors in diagnosis will be made; for chronic abscesses have not unfrequently been cut into, and breasts have even been removed, under the mistaken notion that cancerous disease existed. In the following cases, such an error in diagnosis might have been made, had too much confidence been placed in certain symptoms, or too little attention been paid to the history of the disease; and, as such, are deserving of study.

CASE I. Tumour in Breast simulating serious Disease; Chronic Abscess, and Recovery.—E. F., aged 32, came under my care on April 2nd, 1867, with a tumour in her right breast of nine months' growth, of the size of an orange, and enlarged axillary glands. The tumour had been of slow growth for eight months; but for the last few weeks its increase had been rapid. It had given rise to little pain. The nipple was slightly retracted, and had discharged for the early months a watery fluid, but for the last the discharge had ceased. She was a married woman, the mother of four children, the youngest being two. She had never suckled with the affected breast, as the nipple had been too tender.

The diagnosis of this case was not clear. The tumour was somewhat globular and elastic; and thus the cystic nature of the disease was slightly indicated. The history of the case pointed towards a chronic abscess. Under these circumstances, an exploratory puncture was demanded. Pus escaped. The abscess was fairly opened, eight ounces of pus escaping. By June 6th she was declared well.

CASE II. Chronic Induration of Axillary Lobe of Right Breast, with Contracted Nipple and Enlarged Axillary Glands.—Emma G., aged 30, came under my care April 15th, 1867, with a "tumour in the outer half of the right breast of nine years' duration, a retracted nipple, and enlarged axillary glands." The tumour was evidently an infiltrating one, and involved the axillary half of the gland. By the local symptoms alone, the true diagnosis of the case would have been difficult, if not impossible; for the symptoms present were precisely those which are met with in a cancer. The age of the patient (30), and the duration of the disease (nine years), however, militated against this view; and, when we found that she was a married woman, the mother of six children; that she had never suckled from that breast, on account of the contracted nipple; and that the lump in the breast had appeared after her first confinement,—the true nature of the case was revealed. By treatment, all these symptoms subsided; and on June 6th she was well.

(To be concluded.)

OBSTETRIC MEMORANDA.

UNDER this head we shall from time to time, as materials come to hand from correspondents, publish records of cases remarkable in themselves, or illustrating points of interest in obstetric practice, therapeutic or manipulative. We shall probably in this way preserve from oblivion the notes of very many useful and instructive occurrences in private practice, for the great obstetric experience is that—for the most part hitherto unwritten—of the great body of general practitioners throughout Great Britain. We will only ask those who may forward cases for record to relate them with the utmost brevity, and equally to condense any appended remarks.

CASE OF INTRAUTERINE ABSCESS.

By JOHN TAYLOR, Esq., Ticehurst.

H. S., aged 17, a primipara, was delivered of a male child at the full time in the Ticehurst Union Infirmary. The presentation was a face one; the pains being excessively severe, and the progress of three hours *nil*, delivery by forceps was resorted to. The child, when born, was much disfigured; he had a large swelling over the lower part of the neck in front, owing probably to an enlarged thymus; this diminished in size a few days after birth. Below the horizontal ramus of the inferior maxilla on the right side, a cicatrix an inch and a half long was apparent, at the extremities of which was a small opening leading to a short sinus, the intervening part being composed of condensed tissue; a sanious and serous discharge issued from the openings for a few days. Erysipelas appeared and spread over the face on the affected side; the cicatrix sloughed, together with the tissues included between the two sinuses. Several small scattered abscesses, probably of pyæmic origin, formed in different parts of the scalp; and death took place fourteen days after birth.

The mother did well. There was no history of syphilis in her; nor was there any appearance of congenital syphilis in the child.

ON PRISON AND WORKHOUSE DIETARIES.*

By EDWIN LANKESTER, M.D., F.R.S.,

Coroner for Central Middlesex.

MY attention has been drawn more particularly to prison dietaries by the remarks made by Mr. James Blake, member for Waterford, in the House of Commons, during the last session of Parliament. The question raised by his remarks is, whether the Government is justified in punishing criminals by a restricted diet. As such restriction may, either directly or remotely, be attended with consequences which the punishment is not intended to produce, it has been held, that prison authorities have no right to impose a diet which may, directly or indirectly, tend to the shortening of life. My object in this paper is not so much to show where public dietaries, through ignorance or design, have shortened life, as to show on what principle public dietaries should be constructed in order to insure the perfect health of those who consume them. Without inquiring, then, into the results of the prison dietaries of Ireland, it would appear, from the last report of the Inspector-General of the general state of the prisons of Ireland (1866), that, in a large number of the prisons, the daily value of the food supplied to the prisoners did not exceed in cost twopence-halfpenny a day, whilst, in the most costly cases, they did not exceed the cost of fourpence a day. Before examining these dietaries in detail, I may perhaps be permitted to make a few general remarks on the nature of food. Modern chemical and physiological research has placed within our reach the means of arriving at a tolerably accurate estimate of the nature of the constituents of food which ought to be supplied to human beings for the healthy nourishment of their bodies.

In the first place, food must contain constituents containing nitrogen, which have been called flesh-forming substances. These are contained in all forms of vegetable and animal food, and are distinguished by possessing a certain quantity of nitrogen; hence they are called nitrogenous substances. When separated, they are known by the names of fibrine, albumen, and casein. These substances are found in all forms of vegetable and animal food; and their quantity in each kind of food has been ascertained with sufficient accuracy to be available for practical purposes. A changed form of these substances, known by the name of gelatine, is found in animal food; but considerable doubts are at present entertained as to whether it is appropriated as a flesh-forming substance. Hence, the impropriety of estimating the amount of flesh-forming substance which food contains by the quantity of nitrogen afforded on chemical analysis.

Animal flesh differs from vegetable food in not only containing a larger quantity of these flesh-forming matters in proportion to their weight, but in containing certain chemical substances, kreatine, kreatinine, inosine, and others, which exert upon the digestive organs a power of rendering them more able to digest the various other constituents of the food. The way in which these principles contained in flesh exert an influence is seen in the action of the compound known as *Extractum Carnis*, which is the expressed juice of meat, and which renders easily digestible other kinds of food. It is on this account that it is desirable to add to vegetable food a certain quantity of animal flesh, not on account of its more nutritive or digestible qualities on its own account, but because it helps the stomach to dispose of its vegetable constituents.

The next group of alimentary substances which are met with in all food are those called heat-giving substances. I need not here defend this nomenclature against objectors. The fact is well known, that both animal and vegetable food contain three substances, known as starch, sugar, and fat. Starch is largely present in wheat, barley, oats, potatoes, and other vegetable food. It is insoluble in water, and cannot be taken into the system till it is converted, by the saliva of the mouth or some other process, into a soluble matter like sugar. Sugar is extracted from plants, and is abundantly present in milk. It needs no preparation for digestion; and is immediately absorbed into the blood when taken into the stomach. Whilst starch may pass through the alimentary canal unchanged, sugar is always absorbed. Hence it is supplied to the young of all mammalia in the milk. Starch and sugar contain carbon,

* Read at the meeting of the Social Science Association at Belfast, Sept. 1867.

hydrogen, and oxygen. The two latter elements exist in quantities to form water, so that the carbon alone is left free to be acted on by oxygen in the blood. The oxygen, unites with this carbon, forms carbonic acid, and gives out heat. Hence these substances are called heat-giving; and their presence is expressed in food by the symbol C.

In vegetable food, however, there is constantly present a substance called cellulose, which is nothing more nor less than the solid matter of wood, and which, being indigestible, cannot be regarded as supplying materials for the life of the system. A mixture of glue and shavings might be represented by the chemical symbols N and C; but they never could become human food.

Amongst the heat-giving substances is the oil of fat. This substance, which is represented in food by oil, butter, lard, fat, suet, and other names, differs from sugar and starch in containing little or no oxygen. Hence, both its carbon and hydrogen go to forming animal heat. One pound of fat, properly digested and taken into the blood, is equivalent to two pounds and a half of starch. In certain quantities, fat is essential to health; and its necessity in food in certain states of the system is seen in the universal adoption of cod-liver oil as a remedy in many diseased conditions of the system.

In all healthy diet, it is not sufficient that one of these things be present. They must all three be combined to form a healthy diet, and each in sufficient quantity.

There are two other constituents of food which must be regarded in healthy food. These are saline substances and stimulants. The former consist of various salts or mineral matters which, although not constituting more than a twenty-fifth part by weight of our daily food, are nevertheless necessary to health. If these be absent or deficient, bad health, and even death, ensue. Their presence in proper quantities in food is best secured by uncooked fruit or vegetables. Hence the necessity of adding these things to all well considered dietaries.

By stimulants, I mean condiments and spices and alcohol. These things all contain chemical compounds that act upon the nervous system. Their beneficial influence on the system is undeniable; and, without advocating the general use of alcohol in any of its forms, I have the conviction that, both in prisons and in workhouses, amongst the feeble and aged, its use in small quantities would be found to contribute to health and long life.

Having thus determined what are the principal forms of food necessary to the healthy maintenance of human life, it becomes a matter of great practical importance to ascertain what are the quantities of the above matters that ought to be given to persons who are dependent on others for their sustenance. In order to obtain some approximation to this very desirable point, I have put together the result of an enlarged inquiry into the quantities of flesh-forming and heat-giving constituents entering into the dietaries of our soldiers, sailors, pensioners, and persons in private life. The data have been principally derived from inquiries made by Dr. Lyon Playfair, and given in detail in my *Guide to the Food Collection* at the South Kensington Museum.* I have, however, by the aid of private inquiries, obtained a large mass of tabulated information with regard to the quantity of food taken in private families, with which I have corrected the general diagram I now present.

TAKEN IN.				GIVEN OUT.			
GASES.				GASES.			
<i>Oxygen</i>				<i>Carbonic Acid—</i>			
LIQUIDS.				LIQUIDS.			
In beverage	68 oz.			Carbon.	11 oz.		
In food	25 „			Oxygen	24 oz.		
		23				35	0
SOLIDS.				SOLIDS.			
<i>Flesh-forming—</i>				<i>By Kidneys.</i>			
Fibrine	3	oz. gr.		Lungs	31	0	
Albumen	0	300		Skin	16	0	
Casein in cheese	0	137		Bowels	5	237	
		4				103	237
<i>Heat-giving—</i>				<i>SOLIDS.</i>			
Starch	12	0		Urea	1	200	
Fat and butter	5	0		Mineral Matter	1	0	
Sugar	2	0				2	200
		19					
Mineral matter		1					
		141				141	0

* This collection was formed at the expense of the Government, and is now exhibited at South Kensington. It was commenced by Dr Lyon Playfair, and after-

This table will, I think, represent fairly the quantity of food required by an average community. Of course, the quantity of food required by individuals must differ according to age, sex, height, occupation, climate, season, and state of health.

In estimating, however, the value of diets by a table like the above, the relative digestibility of the particular kind of food in which the constituents are contained should be estimated. Thus, taking the flesh-forming substances, it is generally acknowledged that the fibrine, albumen, and casein, of animal food are more easily digested than the same substances in vegetable food. The exact relative digestibility of these substances has not been determined; but it may be laid down as an undisputed principle of dietetics, that fibrine and albumen derived from the animal kingdom are more easily digested than the same substances from vegetable sources. With regard to casein, it is known to be more easily digested in solution in milk than in its separated form of cheese. It is also less easily digested as it exists in leguminous seeds than in milk.

In the heat-giving group of substances, starch is not consumed unless it is previously converted into sugar; and it may constantly be given in vegetable food in larger quantities than can be appropriated by the digestive organs. It appears, from extensive inquiry, that those dietaries are best suited for the purposes of life that contain certain proportions of starch, sugar, and fat. A minute inquiry into the reasons of this would lead me away from the practical object I have in view. I would, therefore, now invite attention to the published dietaries of prisons and workhouses, for the purpose of pointing out what may be regarded as their defects in relation to the purposes of life.

Although many of these dietaries are published with a great appearance of accuracy, they nevertheless elude a scientific investigation by failing to give the exact composition of certain articles of food employed. Thus, in these dietaries, we find such things as "gruel", "soup", "Irish stew", and "stirabout" mentioned without any reference to their composition, and the gruel may be a mere pretence of oatmeal and water, or the soup a compound of bones and water, as far as any information is given. In all cases where dietary tables are published, their whole value as a means of information is frustrated when the quantities of the ingredients of these compound foods are omitted.

In order, however, to judge of the real nutritive value of the dietaries of Irish prisons, I have taken two specimens of dietary not wholly at random, but first because their cost, as given in the Report on Irish Prisons, is about the average; and secondly, because each substance given as an article of diet is weighed, and therefore its value can be estimated. The first dietary I present to you is that of the County Jail of Fermanagh. The cost is estimated at something more than twopence half-penny a day; and it consists, for adult males, of eight ounces of oatmeal, one pint of skimmed milk, one pint of sweet milk, and four pounds of potatoes, or fourteen ounces of bread, a day. Now, if we analyse this dietary, we shall find the following table present its really dietetic value.

Food.	Flesh-forming.		Heat-giving.			Fat.	Accessory.		Ashes.
	oz.	gr.	Starch.	Sugar.	oz.		oz.	gr.	
8 oz. of oatmeal ...	1	164.....	3	73...	385...	385...	2	218 ...	218
1 pt. of butter-milk		350.....		...	315...	...		...	70
1 pint of milk		350.....		...	315...	245...		...	70
4 pounds	...	400.....	2	219...	223...	15...	255	...	64
		<hr/>							
		3 388	5	292	2 362	1 207	3 35		422

Now, if we contrast this table with that of the standard I have given, it will, in the first place, be found deficient in flesh-forming constituents; and not only this, a glance at the dietary shews that there is no animal food—none of those encouragers of appetite which would enable the stomach to digest the flesh-formers given. In the next place, the group of heat-giving foods is very deficient. There are but nine ounces altogether. The Irish undoubtedly like potatoes, and it is a charity to let them have them; but people in custody ought not to be allowed to starve on them, even if people at liberty prefer them. It is true, that fourteen ounces of bread may be substituted for four pounds of potatoes; but this does not improve matters much.

If we now look at the sugar and fat, we shall see that, although a diet consisting of so large a quantity of milk affords an average supply of sugar, it is very deficient in fat. The importance of fat in food is

wards extended under my direction. It contains a careful analysis of all the common foods used by mankind. It has been supported by the Government at considerable expense; but I am not aware that either its contents, or those who have been placed over it, have ever been consulted by the Government or any of its departments when the great question of public dietaries was concerned. In fact, it would appear that almost every dietary constructed for Government purposes has been framed and carried out in defiance of the practical lessons it is destined to teach.

altogether beyond its mere heat-giving value, and cannot for a length of time be systematically omitted without danger to health.

Under the head of accessories, I include cellulose and gelatine. Of course, in this dietary, it is all cellulose; and, although small quantities of this indigestible constituent may really contribute, for mechanical reasons, to the digestion of other things, it should never be reckoned as of dietetical value. The saline matters or ashes are about on an average, and need not be commented on.

I now take another dietary; it is from the Cork County Prison. It consists of six ounces of maize, two ounces of rice, and two pints of milk. The following is an analysis of its ultimate constituents.

Food.	Flesh-forming.		Heat-giving.		Accessory.		Ashes.
	oz. gr.	oz. gr.	oz. gr.	oz. gr.	oz. gr.	oz. gr.	
6 oz. of maize	306.....	3 258...	8...	84...	150 ...	30	
2 oz. of rice.....	47.....	2 211...	3...	6...	40 ...	4	
2 pints of milk.....	1 262.....	1 192...	1 32—			140	
	2 177	5 31	1 203	1 122	190	174	

Although this dietary costs as much as the former, its deficiencies are much more glaring. It is, in spite of its two pints of milk, an eminently starvation dietary, and could not be long continued without producing an impression on the system which might not at once be obvious in any marked form of disease, but which might lead at any time to a state of the body that would invite fatal disease.

Of these and like dietaries the inspectors make constant complaints. In one case, it is said, "the sweet milk is thin, and the butter-milk is bad." Frequent complaints are made that "the stirabout is thin." The inspector says of the Westmeath Gaol, that "in no gaol in Ireland is more care taken to make the *too scanty dietary* in use as nutritious as the scale will permit." In the county of Limerick, the Indian meal was reported as "not pure". In the Queen's County, exceptions were taken "chiefly to the milk". In another instance, "the stirabout is thin", and the loaves "somewhat light in weight." Even with this limited diet and the constant tendency to render it less nutritious, the power given to surgeons to order extra diet is jealously watched; and the Committee of the Richmond Bridewell say "they cannot but feel that the issue of extra diet to prisoners who are not upon the sick-list is a power to be sparingly exercised and carefully watched."

These remarks will, I hope, shew that the question of dietaries in prisons demands attention, and that something more than a mere "rule of thumb" system should be pursued. The remarks I have made apply equally to workhouse dietaries. Most of them are constituted without the least regard to the acknowledged principles of the science of dietetics. As long as no serious disease breaks out, and no great mortality has occurred at the end of the year, they are supposed to have attained their purpose. It is forgotten that an underfed body is often the worst possible machine to operate upon morally, and that one of the first conditions of a sound mind is a sound body. I might quote from my friend Dr. McDonnell's excellent Reports on the Mountjoy Prison, to shew you that a low diet frequently acts most injuriously on the moral temperament of the prisoner; and that, if a good moral effect is to be anticipated by punishment, it ought not to be accompanied with a low diet.

I will not, however, dwell any longer on the quantity of the diet, but proceed to say a few words with regard to its *quality* and *preparation*.

There is no doubt that the same diet every day is unpalatable, and that it should vary as much as possible. The number of things employed in the Irish prison dietaries shew how great a variety might be procured. Although the prisoners naturally vary, yet dietaries might be made much more variable than they are. The introduction of very small quantities of animal matter into "soups", "gruels", and "stirabouts", would render them much more digestible. Especially should condiments of various kinds be added. There is no question that the large consumption of spices and condiments in the world has its foundation in the instincts of humanity, and that they render food not only more agreeable to the taste, but more easily digested.

I have always advocated the addition every day of some form of fresh vegetables or fruit to dietaries, on the ground of their known beneficial effect, especially in scorbutic states of the system, and on the theory that they constitute the most ready form in which saline substances necessary to nutrition may be most easily supplied.*

Under the head of condiments, a few words may be said of alcohol. Although the young and middle-aged in prisons and workhouses may do very well without alcohol, I wish here to express my conviction that, for aged people and persons not in ill health, but nevertheless feeble, small quantities of alcohol, in the form of wine, beer, or spirits, are very beneficial. If the latter be given, they should be diluted; but, if only a small quantity of alcohol, say from half an ounce to an ounce of pure alcohol, it matters little with regard to the form, provided it is sufficiently diluted to prevent any injurious action on the mucous membrane of the stomach. The refusal of alcohol in any form to aged paupers and prisoners is, I am convinced, especially in cases where they have been habituated to it all their lives, a frequent source of disease, and a means of accelerating death.*

The quantity and quality of food having been determined, a most important point is its preparation. It has been truly said "few cooks know how to boil a potatoe." How much more true is this of the food served up in prisons and workhouses. Bread baked too much or too little, gruel with oatmeal mixed with too much or too little water, puddings and dumplings too little or too much boiled, meat overdone or underdone, are so many drawbacks to an already limited dietary. We have no independent observations on this point. The inspector is invited to partake of a bason of gruel or soup, or a piece of bread, specially selected for his inspection, and he pronounces it very good. Mr. Farnall, at a public inquiry into the treatment of paupers at St. Giles's Workhouse, once asked me to taste some bread which he had upon the table, in order to judge of the excellence of the bread with which poor Gibson had been supplied. As well might he have showed me a brick from the wretched room in which the poor man died, in order to demonstrate its dryness and ventilation. If inspection is to be anything more than a delusion, it must be carried on by persons employed in the interests of the prisoner and pauper, and not by those appointed by committees of prisons or boards of guardians.

Not only should food be properly cooked, but cooked food should be served hot. This is a great economy. By instinct man seeks hot food. By introducing food into the stomach at a temperature of 98°, a great saving of the powers of the system is effected.† Hot food is half the battle of life of for weak and impoverished systems. Now in the plan adopted in a large number of prisons and workhouses that I have visited it is hardly possible to secure the tasting of the food whilst it is hot. As a rule at every meal the liquid food should be served up hot. There is another point to which I wish to draw attention, and that is that although in many dietaries "breakfast," "dinner," and "supper," are mentioned, the food is only served twice a day, and this is the case in all the Irish prisons. I wish here to state my conviction without entering into details, that with the same quantity of food, three meals will go much further than two, and four meals than three. Where heavy meals, especially of vegetable food, are taken, a large quantity of the food passes through the bowels undigested. If food is taken in small quantities, the digestive function is more perfectly performed, and a great economy is thus ensured. With aged and infirm persons, death is sometimes found to have taken place from exhaustion, from the practice of leaving them from five or six o'clock in the afternoon of one day till eight o'clock of the morning of the next. When heavy meals of meat and bread have been taken early in the evening by persons out of prison, they may easily go without food into the next morning; but when the dinner consists of poor bread and skim milk, with no supper, the system must suffer from the fast.

These remarks have been made more particularly applicable to Irish prison dietaries, but they apply equally to the dietaries of English prisons and workhouses, where an excessively low scale of allowance has been adopted. I am not now prepared to examine other dietaries, but I have shewn you the principles on which alone they can be regulated. Any mere "rule of thumb" notions about diet adopted by boards of guardians and their officers must lead to failures in the end. Either a flagrant deficiency of one article of diet, or the unnecessary redundancy of another will take place, and the prisoner or the pauper will either rebel, or be taken ill and die. I should be glad if these hasty and imperfect remarks should lead to a discussion, which will direct attention to the necessity of a thorough revision of the dietaries of prisons and workhouses throughout the United Kingdom.

page 52 of my "Lectures on Food". There may be a question as to whether we know the exact forms of the salts which are contained in vegetables, and whether they can advantageously be supplied artificially or independently of plants; but of the fact of their presence being important to health, I think there can be little doubt.

* A medical gentleman at Belfast asked my opinion of allowing the use of tobacco in workhouses and lunatic asylums. I do not think the use of tobacco, in moderate quantities, has been shewn to interfere with health; and I think aged persons in workhouses, and all classes accustomed to it in lunatic asylums, should be allowed its use in obedience to proper restrictions.

† See my "Lectures on Food", p. 301. Hardwicke: 1861.

* In the discussion which followed the reading of this paper, Dr. Redfern stated that he believed fresh vegetables acted on the system in a most beneficial manner; but denied that any proof had been afforded that they supplied saline matters. The evidence of the value of fresh vegetables is very conclusive; and that they supply a larger quantity of the salts of potash than other kinds of food, has been shewn by a series of experiments made by my friend Dr. Noad, and which are referred to at

CASE OF PURPURA HÆMORRHAGICA PRECEDING AND FOLLOWING LABOUR.*

By J. A. BYRNE, A.B., M.B.,

Professor of Midwifery in the Catholic University, Dublin; etc.

I HAD no intention until yesterday of reading any paper before the Obstetrical Section of the Association, as there appeared on the list so many interesting and important papers by many of our distinguished visitors, as well as by some of our residents; and as the discussion upon the several papers of necessity involved a good deal of delay, and was the means of eliciting considerable information. Dr. Barnes, however, happening to speak to me of a recent case in which he had seen purpuric spots make their appearance soon after a labour in which the patient died, I thought that perhaps some of our visitors might have no objection to hear the history of a very rare case which occurred to me a few years since, in which purpura hæmorrhagica made its appearance some time before the termination of pregnancy, and continued up to the end of it, and finally caused the death of the patient.

CASE. Mrs. K., aged 30, married to her second husband, and having had previously, eight years before, one child, became pregnant, and engaged me to attend upon her in her confinement, which she expected to take place in February 1864. She had always enjoyed good health, although belonging to a delicate family, until shortly before she consulted me. She was then between seven and eight months advanced in pregnancy. She now began to suffer from debility, night-perspirations, and an irritating cough. On examination, I could not discover any sign of phthisis; but I remarked some old cicatrices in the neck, evidently the remains of extensive cervical abscesses.

The lady lived about two miles from the city. I ordered her to the sea-side at Dalkey, and she soon recovered from the symptoms which I have mentioned. Contrary to my advice, however, she returned to town; and, on January 3rd, she told me that on the previous day an eruption had made its appearance over the body; that for a few days she had experienced slight febrile symptoms; and that then this eruption had appeared. On examining her, I perceived that all her chest, arms, and legs were covered with the well-known spots of purpura, varying in size from a pin's point to a pea. She had also bleeding from the gums, which were very soft and spongy. I told her the nature of the ailment, and ordered her lime-juice, and put her upon a course of treatment and regimen suitable to this condition.

From this to January 14th, I saw her every day, and each day fresh eruptions of spots continued to appear; and the bleeding from the gums became very profuse. During the night, her mouth would become filled with blood; and this kept her constantly awake, as she feared to become suffocated. At this time, the appearance of the body was truly remarkable, being one mass of spots, of variable size and many shapes. Mr. John Hamilton saw her in consultation with me at this time; and on January 14th she was attacked by violent epistaxis, which reduced her strength so much, that the nares were obliged to be plugged. However, this appeared to turn the stream in another direction; for, on the following day, she began to pass blood from the bladder; and the quantity passed in this manner was enormous; in fact, the chamber utensil appeared to contain nothing but blood.

To restrain the hæmorrhage from the gums and kidneys, local application of gallic acid, ice, Ruspini's styptic, etc., were kept in constant use, whilst at the same time internal styptics and suitable regimen were given. After some days, the alarming hæmorrhage from the kidneys ceased; and, although the gums still were tender and bled and the purpuric spots remained (not to so great an extent, however), she began to recover her strength to a considerable degree, and I ceased to see her for some days.

On February 5th, labour-pains set in, and she was delivered of a female child, after a short and easy labour. I need scarcely say to the gentlemen here assembled, that I took every precaution to guard against hæmorrhage, and was happy in my efforts, as she had none whatever from the commencement of her delivery to its completion. She had no *post partum* hæmorrhage. The uterus contracted well, and remained so. She appeared to be gaining strength daily, and was to all appearance going on very well, when, on the 18th February—viz., on the thirteenth day after delivery—a discharge of blood took place from the vagina. At first, it was small; but soon the quantity increased, and, notwithstanding the administration of ergot, gallic acid, pressure applied to the region of the uterus, cold enemata, the tampon soaked in astringents, solution of permanganate of iron, and ice, it continued; and the urine began at the same time to exhibit a quantity of blood.

On February 23rd, Dr. Lyons saw her in consultation. Her condition

was then the following. She lay in bed, prostrate; some fresh purpuric spots had come out upon the body; her gums discharged constantly and freely quantities of blood. The urine contained some blood, but not to so great an extent; and the discharge from the uterus was nearly abated. It was manifest now, however, that she must succumb to this long continued drain upon her system; she could not eat or drink anything, the taste of the blood secreted by the gums was so disagreeable; and, in fact, at this time she was so low that we were obliged to support her largely by brandy and nutritive enemata. Her pulse was scarcely perceptible; and she, in fact, presented all the symptoms and appearances of a person dying from gradual and continued bleeding.

Drs. Churchill and Lyons and Mr. Hamilton saw her repeatedly with me in consultation; but, notwithstanding all the skill and well directed efforts of these eminent physicians, she finally sank and died on the 29th February, fifty-five days from the first appearance of the purpuric spots.

A CASE OF FEVER IN A PREGNANT WOMAN MARKED BY EXTENSIVE PURPURIC EFFUSION IN THE SKIN.*

By ROBERT BARNES, M.D. Lond.,

Fellow of the Royal College of Physicians; Obstetric Physician and Lecturer on Midwifery at St. Thomas's Hospital; etc.

I BEG leave to lay the following case before the British Medical Association, thinking it may possess some interest in relation to the pathology of the "purpuric fever" lately observed in Ireland.

On the 26th March 1867, I met Dr. Rogers in consultation on the case of Mrs. B., at Old Street, St. Luke's. The house was rather crowded, deficient in light and air, and not cleanly. Mrs. B. was a young woman who had had two children. She was at the time six months gone in pregnancy, when she was taken with pains in her limbs like rheumatism, severe pains in the back, vomiting, fever. She took to her bed; labour set in, and she was delivered of a child, which lived three hours, on the morning of the 25th March. In the course of the day spots of purpura came out very thick on the abdomen, and more scattered on the limbs, chest, and face. On the 26th, at five P.M., she was much prostrated; had been delirious; aspect hippocratic; tongue dry; pulse scarcely perceptible; the hands were dark, with capillary congestion; the abdomen was dark purple from confluent petechial spots; there was ecchymosis under the conjunctiva; there was no swelling in the joints; no tympanitis or abdominal pain or swelling; the bowels were constipated, notwithstanding castor-oil and an enema. She was ordered a turpentine enema, and ammonia, lemon-juice, and wine. The patient died in a few hours after my visit. No *post mortem* examination was obtained. The symptoms pointing to some blood-infection, I made subsequent inquiries, in order to ascertain the probable source and nature of the disease. Two or three days after the death of the woman, her husband manifested an attack of small-pox. No other sickness was discovered in the house. The probability was therefore in favour of the conclusion that the woman had taken the infection of small-pox; but the eruption had no resemblance to that of small-pox. The eruption on the abdomen was so thick, that the original petechial exudations were lost in one uniform dark purple, almost inky, stain. On the limbs, the spots, although very thick, could generally be isolated. Then there was the conjunctival ecchymosis, and, in addition, melæna, to mark the deep degradation of the whole blood-mass. The appearance resembled what I have sometimes seen in scurvy.

A point of interest in the case is the similitude to the purpuric fever that has lately appeared in Ireland; and it is possible that it may throw some light upon the pathology of this affection. I believe it may be affirmed—

1. That pregnant and puerperal women are more than commonly susceptible to the invasion of the so-called zymotic poisons.
2. That any one of these poisons, having invaded a pregnant or puerperal woman, has its usual action modified by the special state of the blood attending her condition.

This is so true, that in many cases the specific zymotic disease is not easily recognised by its peculiar features; and the symptoms resulting from the combination are merged in a state that passes for puerperal fever. This is certainly the case with scarlatina. When this disease attacks a puerperal woman, the rash is often either not present or is overlooked; and there is a greater tendency to diffuse cellular, serous, and joint inflammation. In the case of small-pox, it is true, the characteristic eruption commonly shows itself. But I am of opinion that the variolous poison received into blood, already altered by the puerperal

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state, may be the occasion of such reactions and further changes in the blood as to produce symptoms widely differing from the ordinary course of small-pox.

As a deduction from these views I would submit that the so-called "malignant purpuric fever" may be regarded, not as a new or essential fever, depending upon the fermentation of a poison *sui generis*, but as the result of some known poison, as that of typhoid or typhus, acting upon a person whose blood is at the time in a peculiar condition.

REVIEWS AND NOTICES.

THE INDIGESTIONS; OR, DISEASES OF THE DIGESTIVE ORGANS FUNCTIONALLY TREATED. By THOMAS KING CHAMBERS. Honorary Physician to the Prince of Wales, etc. London: Churchill, 1867.

ON THE DIAGNOSIS AND TREATMENT OF THE VARIETIES OF DYSPEPSIA, CONSIDERED IN RELATION TO THE PATHOLOGICAL ORIGIN OF THE DIFFERENT FORMS OF INDIGESTION. By WILSON FOX, M.D., London, Physician to University College Hospital, etc. London: Macmillan, 1867.

A TREATISE ON THE FUNCTION OF DIGESTION: ITS DISORDERS AND THEIR TREATMENT. By F. W. PAVY, M.D., F.R.S., Senior Assistant-Physician to Guy's Hospital, etc. London: Churchill, 1867.

The man who makes himself master of the contents of these three books ought to know something about digestion, or, what is, at first sight at all events more important, about indigestion. Each of them approaches the subject from a separate point and in a separate way. One is clinical, another pathological, the third physiological; and, as a mixed diet is always held to be wholesome to sound stomachs, we would recommend the study of all three to the sound minds of our readers.

The practitioner, busily engaged in the active duties of his profession, will naturally turn first to Dr. CHAMBERS's work, which possesses all the charms and interest that are necessarily associated with the clinical mode of expressing views and opinions about diseases and their treatment. In saying, however, that the book is a clinical one, we give but a faint idea of its nature. It is a record of no less than two hundred and sixty cases, whose stories are told with clearness, judgment, and point. The author says, "The cases in this volume form a sort of skeleton which I have articulated together by argument, and tried to make muscularly active by practical observations." We may congratulate him on having made his dry bones not only alive, but lively. On such topics as the effects of various articles of food and kinds of diet, and of various social habits in producing the various forms of indigestion and the best means to remove them, and on the various forms and causes of abdominal pain, of vomiting, diarrhoea, and constipation, the reader will find most interesting and instructive details. One class of men will be disappointed, as, indeed, they always are with all clinical books—the men who will refer to it in order to find a case exactly like the one which is at the moment causing them either anxiety or annoyance, in the hope to meet with complete instructions for successful treatment. They will find cases very like, but yet not quite like theirs; and, unless they have by accident read enough of the book to become imbued with some of its spirit, they will be misled by superficial resemblances, and, in the end, will find their patient none the better, but rather the worse for their studies. Nature never meant doctors to work by rule of thumb, and is always careful to give every instance of malady an individuality of its own. It is for this reason that the wise practitioner adds the general, perhaps somewhat abstract, study of principles to concrete clinical observation; and such a study he will find marked out for him in the two other books at the head of our list.

Dr. PAVY's work is essentially a physiological one, and we need hardly say that no English physician has greater right than he has to speak with physiological authority on matters of digestion. To speak of nothing else, his remarkable papers on the immunity of the living stomach would be alone sufficient to give him this position; and one may certainly expect that the man who has so ingeniously explained why the stomach does not digest itself, will have a good deal to say on the question why the stomach often cannot digest its contents. The only fault we have to find with Dr. Pavy's book is, that the author seems afraid to load his reader with too much physiology. Instead of going into any great amount of detail, or of discussing the very remarkable changes of opinion which have recently taken place in the minds of, at least, continental physiologists concerning many various points in the theory of digestion, he is rather content to treat the subject in an approximative and general way. We believe this to be a mistake; and certainly the profession would gladly hear Dr. Pavy's opinions on all these points. We would especially draw attention to the Appendix, on

artificial digestion. We have for a long time wondered that so apparently fruitful an idea was not put into practice, especially when it is remembered how much time and money are spent on pepsine, of which there exists in the emptiest, most starving stomach enough to digest a horse if sufficient water and acid be supplied, and the products of digestion cleared away sufficiently rapidly.

Having read Dr. Pavy's book, the inquirer after dyspeptic truth will miss much if he fail to read Dr. WILSON FOX's work. This is essentially pathological, and is the product of a mind striving to force its way through the crowd of idle words—the *embarras de la langue* with which, thanks more especially to the French, the subject of digestion is encumbered—to clear and stable conceptions. Dr. Wilson Fox's researches on the pathological changes in the gastric membrane made him long ago an authority on such matters; and even the strongest supporters of "functional" theories of disease must admit that the study of the microscopic structure of inactive or wrongly acting stomachs and intestines still promises large results. It is not the hurried searcher for parallel cases, or the rule-of-thumb prescriber for indigestion who will be the only one to profit from this work. No one can read it without feeling that the subject has not only been written on, but thought over; or without being himself made to think about the causes and real nature of, as well as about the names of and prescriptions for, the multitudinous indigestions which afflict mankind, and puzzle the doctors.

NEW INVENTIONS, &c.,

IN

MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

PRESERVED MILK.

WE have lately had an opportunity of examining some specimens of a preparation designated "Preserved Milk, prepared by the Anglo-Swiss Condensed Milk Company". This is a substance of the consistence of thick honey, with a slight yellow tinge, contained in hermetically sealed tin cans; it is prepared at Cham, near Zug, in Switzerland. From a report by Baron Liebig, including one drawn up from actual inspection of the manufacture by Dr. Bolley, Professor of Technical Chemistry in Zurich, we learn that, in its preparation, fresh cow's milk is subjected to evaporation *in vacuo*, a quantity of cane-sugar having first been added. When the milk has reached the required consistence, it is put in tin cans, which are hermetically sealed. Of the milk thus condensed, one part contains as much solid matter as 4.43 parts of fresh milk; hence, when diluted with four and a half or five parts of water, the preserved or condensed milk becomes a liquid which has all the qualities of a perfectly pure milk, made sweet by the addition of sugar. The manufacturers assert that the condensed milk will remain sweet for years in all climates while sealed, and for months when opened, and may, therefore, be used from the tins gradually from day to day. Time alone can test the correctness of the statement as to the capability of the condensed milk to resist change for years in hot climates; but with regard to shorter periods, we can confirm that which the manufacturers have said. We lately kept a can of the milk open, in daily use, in warm weather, for nearly three weeks; and at the end of the time it was as sweet as when first opened. The microscopic examination which we have made of it has shewn the milk-globules to be perfect. The preserved milk is miscible with water in all proportions, and can be used with convenience for addition to tea or coffee, or for any of the purposes to which milk is generally applied. A mixture of the preserved milk with four or five parts of water, on standing, becomes covered with a thick cream; and, on the mixture being allowed to remain for two or three days, it separates into curds and serum. Coagulation is also at once produced, as in ordinary milk, by the addition of an acid.

It is right to state, that the "preserved milk" is a totally different article from "Liebig's artificial milk". The appearance of the name of the distinguished chemist in connection with both these articles has, we believed, caused some misconception.

There can be no question that the "Anglo-Swiss Condensed Milk Company" are furnishing an article of great dietetic value. The condensed milk is, by its purity, its power of resisting chemical change, and its convenience, admirably fitted for the use of families in large towns, as well as during long voyages, and in all other situations where good cow's milk is not readily procurable. It is very palatable to children; and might, we think, be given with success in cases of phthisis and diseased nutrition, where cream is now frequently used. The agent of the company in London is Mr. L. P. Merriam, of 95, Leadenhall Street.