

evident excess of food in some and defect in other scales, the difference in the punishments, and the absence of any relation between the effects of various punishments upon the body and the dietaries provided, were submitted to careful investigation by the examination of many witnesses, but more particularly of Dr. GUY and Dr. EDWARD SMITH. Dr. SMITH'S evidence included the long-extended experimental inquiries which he has made on the part of the British Association and otherwise on the exact influence of each prison punishment upon the body, and his investigations into numerous questions of dietary. Dr. GUY adduced his experience as medical officer of Millbank Penitentiary, the observations recorded by Dr. BALY on the value of the potato as a preventive of scurvy, and certain dietary tables. The Committee was manifestly desirous to obtain well-founded tables of dietary in which meat should be reduced to a minimum; but Dr. SMITH asserted that in the present state of knowledge it was impossible to prepare such tables which could be regarded as universally acceptable and as finally settling the question. He affirmed that as a first question it must be ascertained by experiment what is the true effect of seclusion over the digestion and assimilation of food; whether meat may be partly or wholly supplanted by other nitrogenous but cheaper food; and whether fat is necessary in a dietary where starch is abundantly supplied. He further explained the nature of the suggested inquiry to be the determination of the degree of assimilation of the ordinary food of a farm labourer by the amount of nitrogen passing off by the fæces, on the basis of his previous researches, which have shown that the weight of the fæces in farmers is twice that observed in ordinary life; and that as the quantity of food eaten by the farmers is not greater than that under the circumstances last referred to, a large proportion of it remains unused, and is wasted by the bowels.

Dr. SMITH also propounded a principle which is very worthy of attention. It is this: Food is assimilable, other things being equal, in proportion to the vital stimulus acting in its transformation. This vital stimulus may be given to the body either by the nitrogen which is contained in the food or by the temperature of the season and bodily exertion; as is proved by the facts that with inactivity of body food of an animal nature is more needed, whilst with cold weather and exertion the desire for food and the consumption of food are greater. Hence exertion, whilst increasing the requirement for food, enables the body to digest and assimilate farinaceous and the less nitrogenized foods, and so far may be regarded as rendering the administration of so large a quantity of nitrogen unnecessary. In fact, he would compel the digestion of bread and the cheaper foods by a proper amount of exertion rather than by an increase in the nitrogenized and dearer foods. The principle is one admitted in ordinary life; for the labourer can eat his crust and drink his water with relish and keep in health upon it, whilst the idle man needs savoury dishes, nitrogenous foods, and perhaps alcoholic stimulants to give appetite to digestion. Dr. SMITH would make such an amount of exertion a normal part of every sentence as shall ensure the digestion of the cheaper foods, and increase the dietary with the further increase of exertion which the punishments to be selected should be proved on experiment to demand. He was of opinion that the treadmill could be regulated as to be of uniform action everywhere, and that in the course of two years sufficient experimental work could be done to ensure uniformity of punishment and

dietary everywhere, and a proper adjustment of them to the wants of the system without causing waste or calling for expensive foods. This view has been accepted by the Committee, and one of the most important results of the inquiry is the recommendation that a Commission be appointed to make the requisite experiments, and with power to determine finally all the questions now demanding attention.

## Medical Annotations.

"Ne quid nimis."

### THE FOUNDATION OF A GOOD WORK.

WHEN the proposal was first made to erect at Guildford a general hospital for the county of Surrey, the project was at once warmly taken up by all who knew from practical experience the great necessity for such an institution in such a position. In recommending the earnest prosecution of the undertaking, we took occasion to point out its excellence, and the great deficiency of proper hospital accommodation in the large and wealthy county of Surrey. For the rural population, very numerous, very widely scattered, and very liable, on account of the high cultivation of the land, to injuries from steam machinery &c., had no accessible resort in case of sickness or accident; whilst the two large hospitals of Guy and St. Thomas were actually within a stone's throw of each other, and were only intended originally to minister to the exigencies of the poor of Southwark. The removal of St. Thomas's, and the erection of a country hospital at Guildford, were determined on about the same time. When both arrangements are carried out it will prove very advantageous to the poor of Surrey, by distributing the accommodation for the sick in accordance with the local requirements of the population. But it is a relief to turn from the endless bickerings and blunderings which have characterized the proceedings of the authorities of St. Thomas's Hospital, who possess more money than they know what to do with, and trace the Christian unanimity in good work and earnest sympathy with the sick poor which have marked the efforts of the promoters of the new hospital at Guildford. They had to collect every shilling by appealing to the charitable. When they had so gathered some £3000, they wisely determined to at once proceed with the work; although some £4000 was still required to make up the sum necessary for the erection of the hospital. And so, with fitting pomp and ceremony, the foundation stone was laid at Guildford last week, and we trust that there were present some members of that precious "Grand Committee" of St. Thomas's, and that some part of the £800 contributed during the ceremony was given as conscience money in extenuation of the great wrong which their self-conceit and negligence of duty have inflicted on the poor of the south of London.

We have already mentioned the chief characteristics of the hospital about to be erected at Guildford. The most earnest endeavour has been made to combine the latest improvements in hospital construction, and very many of the arrangements are equally novel and excellent. It is a point yet to be decided, whether very large wards, each containing twenty-two beds, and ventilated by windows on both sides, are as suitable for a civil hospital in a rural district as they have undoubtedly proved for military purposes.

It was towards the end of the year 1861 that it was first determined to make a strenuous effort for the establishment of an hospital at Guildford, and about the time when there fell upon the nation the heavy loss sustained in the death of the Prince Consort. So it was resolved that the institution should be as a local memorial for the town of Guildford of the veneration and dear remembrance entertained by all for the illustrious and beloved Prince. This decision was commendable,

in so far that such a memorial was more in consonance with his noble character and useful life than any mere pile of masonry or marble, whether pillar, tower, or statue, such as elsewhere has been erected. English people arrange and support charitable institutions in a way that strikes foreigners with astonishment and admiration. But our attempts at ornamental or artistic memorials certainly elicit little admiration, however much they may astonish.

No site could have been chosen more suitable than that selected for the new hospital, both as regards accessibility and purity of air. For the building is to be erected within two hundred yards of the junction railway station at Guildford, where lines from different parts of the country converge. The position of the building is on the crupper, as it were, of the "Hog's Back"—that long hill which stretches from Guildford to Farnham, and is so well known to every lover of beautiful scenery. As the Earl of Onslow presented an acre of ground, it was wisely determined that the building should stand on this bit of freehold; the out-buildings, exercising grounds, &c., occupying land held by lease.

It was quite an event for the steady dull old town of Guildford when the foundation stone was laid on Friday, the 31st of July, in the presence of a large concourse numbering nearly two thousand persons. The clergy of the district mustered strong, and indeed have throughout divided with the local medical practitioners the onerous work of obtaining contributions and establishing the hospital. Especial tribute is due to the indefatigable zeal and skilful management of the honorary secretary, the Rev. C. Dallas, Rector of Farncombe.

The building &c. is to cost £14,000, and is intended to accommodate fifty-eight patients at the outset; but the domestic arrangements have been contrived so as to be available for a larger number as additional wards are added. The hospital will consist of two large wards (each 92 + 25 ft.) on the first floor, and six small wards for patients after operation, &c. As yet only £9000 has been subscribed or promised conditionally; but £1200 has been obtained within the last three weeks. We can hardly suppose that at this busy harvest time any decent farmer in the county of Surrey would refrain from sending in his contribution towards a charity of which he must daily see the need amongst his own workpeople. It is as much an insurance as if he took out a policy for his ricks; and one much more satisfactory to think about when making up other and much more important accounts than those which involve merely pounds, shillings, and pence. Indeed it has hitherto been a reproach to a county so rich and populous as Surrey that no general hospital existed for the poor who make it populous, and, being populous, enable it to be rich. Now that the good work has been so well begun, it will be a lasting disgrace if it be stayed for want of funds. The wealthy man who holds his wealth on the tenure only of his own life will do well to take stock of his own deservings and of the necessities of others, and consider the meaning of the text engraved on the foundation stone laid at the base of the Surrey County Hospital—"Blessed be the man that provideth for the sick and needy: the Lord shall deliver him in the time of trouble."

#### THE COAGULATION OF THE BLOOD.

THERE is no subject which has been more fruitful in honour to British physiologists and surgeons than the study of the functions and changes of the blood and bloodvessels in health and disease. The main contributions to that knowledge which the world possesses on this subject have been made by our countrymen. Since the day when Harvey immortalized his name by his researches on the circulation we have learned much that was unknown to that great discoverer: they are chiefly British names that adorn the roll. Hunter, Hewson, Scudamore, Gulliver, Quekett, Paget, Richardson, Bennett, and Lister, these are the men who have done much to explain the

secrets of the constitution and vital qualities of the blood: Hunter, Hodgson, Cooper, Travers, Hutton, Bellingham, are names attached to those great successive advances in the surgery of the bloodvessels which have made that department of surgery remarkable in the professional history of this century. Hence great interest surrounds the subject of Professor Lister's recent Croonian Lecture before the Royal Society, which, by the consent of the lecturer and through the kind courtesy of the Secretary of the Society, we are able to place before our readers to-day. There is no question in physiology at the present time of greater importance than the determination of the cause of the coagulation of the blood. It has always been a problem of great attraction to physiologists. It is unnecessary for us here to recite theories which have held possession of the schools, based chiefly on the conclusion of John Hunter that "coagulation is an operation of life" due to the organization of its fibrin. Until the labours of Dr. Richardson it was felt that our knowledge was excessively deficient as to the changes which took place in the blood when coagulating, and their efficient cause. His researches brought out prominently and confidently a definite result—the evolution of ammonia: and to this he ascribed, with great clearness, the phenomenon of coagulation. This ammonia theory was supported by so many ingeniously-devised experiments, and, moreover, squared so well with the majority of observed phenomena in the coagulation of the blood, that it was eminently satisfactory to the minds of those who read the essay, and who rested content with its statements and conclusions. Since its publication, however, some competent observers have renewed their investigations, and directed especial attention to the ammonia theory. Amongst these counts Mr. Lister, one of the most acute and competent physiologists of the day, and especially known for his researches on inflammatory and other changes in the blood. The results at which Mr. Lister has arrived are, it should be observed, singularly opposed to the conclusions which Dr. Richardson has put forth as the fruit of his labours. Dr. Richardson, for instance, taught that blood shed into a vessel coagulated by virtue of throwing off its ammonia, and that the more rapid coagulation on agitation was in consequence of the more rapid loss of ammonia. Mr. Lister finds that agitation of the blood within its vessels, and without loss of ammonia, produces identical effects. Dr. Richardson attributed the acceleration of the coagulation of blood under heat to the volatilization of ammonia, and its retardation by cold to the imprisonment of that volatile alkali. Mr. Lister finds heat and cold produce those relative effects equally when means are taken to place the blood in an ammonia bath.

The lecture of Professor Lister presents, in short, a series of experiments and conclusions totally adverse to the theory which Dr. Richardson propounded on the strength of his laborious research, and supports a physical explanation of the phenomena. The oration is one which must command attention by its singular lucidity and the logical power with which many most ingenious and delicate experiments have been employed to furnish materials for a continuous argument which seems to carry conviction. Dr. Richardson may find replies to the objections of Professor Lister; but the value of the investigation must in any case be very great, for it produces irrefragable evidence of physical relations of the blood which are of the highest importance to the pathology of inflammation, the formation of emboli and clots, and which will form the basis for advance in blood-physiology and pathology.

#### BREATHING NOT LIVING.

THE difficulty of procuring conviction for infanticide, under the present ruling of the judges as to the necessity of proving that the violence which has destroyed the child was applied after separation, was very clearly shown this week in the case of Jane Byers, tried before Mr. Justice Blackburn. The body was found apparently about three weeks after delivery. Round

the neck of the child was tied tightly in a knot behind the sleeves of a child's gown—so tightly as almost to sever the head from the body; and if the child had been alive, this must have suffocated it. A post-mortem examination of the body elicited that the lungs floated in water, were florid and crepitated on the touch, from which signs the medical man examined came to the conclusion that the child had been alive and had respired. The body of the child was found to be wrapped up in various pieces of old clothes, some of which were spoken to as having been in her father's house. It was elicited on the cross-examination of Dr. Johnson, the medical man called, that the floating of the lungs was no certain test of the child having lived. Putrefaction might have evolved gases which might have partially inflated the lungs; from this cause they would float, and might crepitate, although the child had been born dead. He did not think that air thus admitted to the lungs would give them the florid colour which they derived from inspiration. But inspiration might have taken place before the complete birth of the child, and before it had a separate existence from its mother, although it had died before it was completely born. For the defence, the medical testimony was relied upon as establishing that there was no satisfactory proof that the child was ever born alive. The tests relied on as tending to show that failed, as they were explainable from the decomposed state in which the body was found, which alone might account for the lungs floating and crepitating, and probably also for their florid colour. But it was unnecessary to establish this, for all the appearances were consistent with the child having breathed during parturition, and yet with its never having been born alive. The sleeve round the neck of the child might have been used by the mother in her agony and distress during parturition to assist the labour, or to carry the dead body of the child afterwards when made into a bundle. The evidence pointed clearly only to the concealing of the dead body of the child in order to conceal its birth, for which offence the prisoner might be found guilty on this indictment, and the learned counsel was sure that the jury would feel greatly relieved in the exercise of the responsible duty cast upon them to arrive at such a conclusion fairly upon the evidence. His Lordship having carefully summed up the evidence, the jury retired, and on their return found the prisoner guilty of concealment of birth.

This certainly looks like a defeat of justice. We do not quarrel with the verdict, nor do we challenge the conduct of the judge, jury, or counsel. But if the old doctrine be regarded, that a child on breathing becomes a living soul, whether separated or not from the mother, then we cannot but think with Mr. Hunt, who referred to this subject in the recent parliamentary discussion on Mr. Cox's motion, that some legislation is necessary to provide a penalty specially for the destruction of a child after it has breathed, and before it has attained to an entirely separate condition by the severance of the cord. The matter is really one of great importance, and we hope that in the Legislature next session an attempt will be made to amend the state of the law which at present favours the growing evil of infanticide.

#### "A VERY SORRY SITE."

WE extract the following paragraph from the City article of *The Times*:—

"The Governors of St. Thomas's Hospital have definitively arranged for the purchase of the proposed site at Stangate, on the bank of the Thames, adjoining Westminster Bridge, for £95,000."

It is possibly only a straw thrown up to see which way the wind of public opinion sets. If there be no more foundation for the report than there exists at present for the building at Stangate, we may treat the matter as a *canard*. But if the "Grand Committee" of St. Thomas's Hospital have made any such disgraceful appropriation of the money that belongs of

right to the sick poor, we warn them that so gross and shameless an abuse of a trust will bring a storm of indignation about their ears that will compel even their obstinacy to succumb.

## Correspondence.

"Audi alteram partem."

### THE CASE OF CANCEROUS TUMOUR IN THE COLON AT TUNBRIDGE.

To the Editor of THE LANCET.

SIR,—I cannot allow the report sent by Dr. Bell of the fatal illness of my dear friend, William Condell, to pass unnoticed and uncontradicted.

My name is there introduced as though I had been merely anxious to perform an unnecessary and unjustifiable operation, and all mention is omitted of the fact that the patient was a medical man, one of my oldest and most intimate friends. He had occasionally consulted me for some years, and my opinion was the deliberate result of long and careful consideration. Within a month of the first date given by Dr. Bell, a detailed account by Mr. Condell of his symptoms led me to the conclusion that a stricture existed at the lower part of the intestinal canal. No mention whatever was made of Dr. Bell, and I expressed a wish to consult on the case with another hospital surgeon. A week later I received a more cheerful letter from him; but in a fortnight I received a hasty telegraphic summons from his wife, saying he was dangerously ill. Then I first met Dr. Bell, whose name I had not heard before from my patient. Dr. Bell's account of my proposal to operate is simply and entirely untrue, as will be seen from the enclosed letter of the patient's father-in-law, himself a retired medical man, and Mr. Andrew, a solicitor at Tunbridge Wells:—

"7, Bennett-street, July 31st, 1863.

"MY DEAR SIR,—I have just seen in THE LANCET, with extreme surprise and regret, a report sent by Dr. Bell, of Tunbridge Wells, of the case of my dear son-in-law, Mr. Condell. The report is so inaccurate, as well as unjust towards you, that you may if you think fit make use of my name in contradiction of Dr. Bell's statement with regard to the operation. After having seen our patient, you stated distinctly (so far from urging immediate operation) that it was then inadmissible; but that you hoped and believed the time might come when surgical interference would be of immediate service. I know how grieved poor Condell would have been at this attack upon one whose skill as well as regard he valued so highly as yours.

"Believe me to be, my dear Sir,

"Yours faithfully and truly,

"ROBERT HICKS."

"1, Calverley Mount, Tunbridge Wells, 31st July, 1863.

"MY DEAR SIR,—I hasten to reply to your note just received, and in reference to my late friend's (Mr. Condell's) case, I remember well that when you left his house on the night of the first visit, you were of opinion that the colon was not sufficiently distended to admit or justify an operation, and I so informed Mr. Trustram the same evening.

"Yours very truly,

"R. ANDREW.

"P.S.—I have not seen THE LANCET, and therefore write this without knowing what the question is. "R. A.

"S. Solly, Esq."

On this occasion I communicated my knowledge of the case to Dr. Bell, as also my fears that an operation alone would relieve him; but, wishing to give the subject every consideration, suggested that Dr. Wardell should join our consultation, and expressed the same wish with regard to Mr. Trustram. Dr. Bell, who has only lately arrived from Edinburgh, may not be aware that the latter gentleman is one of our best provincial surgeons, whose opinion I sought because I valued it, and because I feared lest deep anxiety at the critical condition of a personal friend might unconsciously bias my judgment.

It appeared on examination of the patient that there was so much tenderness, and so many signs of enteritis, (with the impossibility of ascertaining how much the colon was distended in the loins,) as to render an operation that night undesirable. But I intimated a hope that at a future time such interference might prolong his life, and held myself in readiness to perform it at any moment.