by bloodletting, general or local. But not only are the results of practice opposed to Dr. Markham's views, but theory shows their inconsistency. If there be any complication more likely to intensify inflammation and congestion in the lungs, it will be admitted by every pathologist that it must be mitral incompetency of the heart. Yet, says Dr. Markham, a case so complicated, where the whole of one lung and two-thirds of the other are pneumonic, attended with intense dyspnoea (the respirations being 56 in the minute), is just the one which we might expect to get well rapidly by rest, &c., without bleeding. If so, what benefit is to be derived from venesection, in accordance even with those views he wishes to impress upon me?

In the other case, complicated with albuminuria, in which great prostration followed bleeding, Dr. Markham attributes the symptoms of prostration to the kidney disease, rather than to the pneumonia and loss of blood. This theory is opposed by the fact that the man was perfectly healthy and strong, tunnelling on a railway, when he was attacked. On the evening of the same day he was bled, and there came on sudden prostration, so that for three days I momentarily expected dissolution from this cause. He was brought round by the care of the clerks and nurse, under my direction, who, I may say against hope, assiduously nourished him, and avoided everything that could lower his strength. The fact is, he was struck down suddenly, as if by a crushing blow. The albuminuria, though considerable on admission, was slight on his leaving the house. It had never produced dropsy, or any marked symptom, and disappeared spontaneously after his first dismissal, as on his return it was not noticed in the clerk's report. Yet, on contrasting the prostration and prolonged convalescence of this case, which was bled, with the rapid recovery of the severe case with mitral complication, which was not bled, Dr. Markham considers he has a right to say that the bleeding saved the patient's life!

After this, let no one depend on individual cases when reasoning on the effects of treatment. It appeared to me that no two better examples could have been chosen illustrative of bleeding and non-bleeding. But I venture to say, what indeed the history of our profession sufficiently demonstrates, that no individual case or cases will ever convince those who are governed by strong preconceived opinions. Hence, then, the importance of basing our views on a large number of data—of facts well recorded, tabulated on a uniform plan. Looking at the question in this light, I find that, of my 129 cases, the four deaths were caused by severe complications, irrespective of pneumonia, congestion of the lung, or intense pulmonary symptoms. Whereas among those who recovered under a restorative treatment were fifteen cases in which the whole lung, and twenty-six cases in which both lungs were involved.* I shall wait patiently for better results from the influence of venesection.

The idea that every treatment is restorative because the practitioner seeks to restore his patient to health did not occur to me. Various treatments, however, are particularized, not by the object in view, but by the means employed—as when we say a mercurial, a tonic, or a chalybeate treatment. All that is necessary, in order to meet this objection, is to be more particular in defining what I mean by restorative. But when Dr. Markham thinks there is nothing antagonistic between bloodletting and restoratives, I cannot agree with him. The real object of restoratives is to form healthy blood, and thereby renew what is lost by waste; support the system generally, and especially give to the new growths what is necessary for causing resolution of the exuded matter. The removal of that important fluid must more or less defeat the end sought to be accomplished.

I should, perhaps, apologize for occupying so much of your space with this topic; and many of my friends have said to me: the battle is won; antiphlogistics belong to the past; no one bleeds now-a-days. But many cases which even now fall under my attention, this controversy, and the letters it evokes, prove the contrary. In Italy, two years ago, I was struck with the numerous painted signs of the barbers, showing splendid jets of blood coming from the arm and foot; and in the hospitals there I had abundant opportunities of witnessing the same results from antiphlogistics as were formerly produced in this country. The letter of Dr. Eastlake still further shows how much is yet required to force improvements in medical practice into distant lands, while it gives a painful interest to the discussion.

I am, Sir, your obedient servant,

Edinburgh, Feb. 10th, 1866.

J. HUGHES BENNETT, M.D.

* See Restorative Treatment of Pneumonia. 3rd edit. Edin.: Black.

PATHOLOGY OF PNEUMONIA.

To the Editor of THE LANCET.

SIR,—It cannot be denied that most erroneous doctrines upon this subject have been held by some English authors till recently, if not up to the present time. In justice to the greatest physician of this age, I must crave you to insert the proofs that Laennec's teaching on this subject was unequivocal and correct. The following quotations are from Dr. Forbes's fourth edition of his works (London, 1834). I also refer those who may feel special interest in the matter to Laennec's original work (Paris, 1819), paragraphs 185, 206, 209, 474, 477, 490, 515.

"We can distinguish five principal kinds of rhonchi: 1. The moist crepitous rhonchus or crepitation," which "has evidently its site in the substance of the lungs. Besides the sound of crepitation, a sensation of humidity in the part is clearly conveyed. We feel that the pulmonary cells contain a watery fluid as well as air, and that the intermixture of the two fluids produces bubbles of extreme minuteness. This species of rhonchus is one of the most important. It is the pathognomonic sign of the first stage of peripneumony, disappearing on the supervention of hepatization, and reappearing with the resolution of the inflammation. It is also found in oedema of the lungs, and sometimes in pulmonary apoplexy."—p. 49.

"(Edema of the lungs is the infiltration of serum into the substance of this organ" (*tissu pulmonaire*).—p. 163.

Pulmonary apoplexy "is evidently produced by an effusion of blood into the parenchyma of the lungs—in other words, into the air-cells" (p. 172). "The principal symptoms of this disease [are the following: Expectoration of bright and frothy or black and clotted blood, quite pure, or merely intermixed with saliva or some bronchial or guttural mucus."—p. 174.

"The terms 'peripneumonia' and 'pneumonia': with most modern writers, I shall limit their application to the single case of inflammation of the pulmonary substance" (p. 182). In the stage of hepatization "the pulmonary substance presents a granular aspect, as if composed of small red grains, oblong and somewhat flattened. These are evidently the air-cells converted into solid grains by the thickening of their parietes and the obliteration of their cavities by a concrete fluid."—p. 184.

Laennec also points out that "the thin cellular partitions which divide the pulmonary substance into portions or lobules of unequal size frequently seem to be unaffected by the inflammation, or to be affected in a less degree."—p. 183.

These fragmentary quotations sufficiently show, what a perusal of the contexts corroborates, that for Laennec pneumonia was an inflammation of the air-vesicles, with exudation of lymph into their cavities. Whence originated the opposite opinion, which has been combated by Addison, Clark, and Waters? Probably from an inaccurate appreciation of Laennec's meaning when he used the words "parenchyma" and "lung-tissue," or "lung-substance" (he does not use the term, *interstitial*); partly, also, from the views propounded by Dr. C. J. B. Williams in the Cyclopædia of Medicine, who, however, may not have intended them to be pushed so far as they have been. The opinions of Andral, Baillie, Bayle, Louis, and Martenet do not appear to have differed from those of Laennec.

I am, Sir, your obedient servant,

Birmingham, Jan. 22nd, 1866.

W. F. WADE, M.B.

DR. HASSALL ON THE CONCENTRATION AND PRESERVATION OF MEAT.

To the Editor of THE LANCET.

SIR,—Of every four pounds of the flesh of fresh beef or other meat, freed from bone and visible fat, nearly three-fourths, or three pounds, consist of water, the remaining pound containing the whole of the constituents of the meat—viz., the albumen, fibrin, gelatine, interstitial fat, creatine, creatinine, sarcin, the various phosphates, and other salts of the blood, both organic and inorganic, &c.

It long since occurred to me that, if I could succeed in removing the whole of the water of the meat without essentially altering its composition, I should obtain a material but little prone to change or alteration by keeping, and possessing a high dietetic and medicinal value. For some years, but more

especially during the past few months, I have been engaged in conducting a series of experiments with this object, and, I am happy to be enabled to state, with complete success.

Into the details of the process it is unnecessary here to enter at length. I may state, however, that the meat is dried without the loss of a particle of any one of its constituents, for the most part at a temperature below the coagulating point of albumen; and that the product so obtained is then ground and dressed into a very fine powder, constituting, in fact, "*a Flour of Meat*." This powder, when prepared from beef, is of a light-brown colour, of a very agreeable taste, and one pound of it represents about four pounds of the flesh of meat, or six pounds of the leanest joints not deprived of bone and fat; and the purposes for which it is more especially adapted are—

- 1st. For the speedy preparation of beef-tea.
- 2nd. With the requisite vegetables and flavouring substances, for the speedy preparation of soups.
- 3rd. Combined with farinaceous matter, it forms a highly nutritious food, well adapted for children, the dyspeptic, and invalids.
- 4th. Mixed with cocoa, it furnishes a highly nutritious breakfast beverage.
- 5th. With other suitable ingredients, it forms an admirable meat biscuit.

Recent investigations have fully established the fact that clear beef-tea and soups contain exceedingly little solid matter, and that they are, in fact, destitute of all the nitrogenous and protein principles of the flesh, excepting gelatine, which is present chiefly after prolonged boiling, and, consequently, they are capable of affording in themselves, notwithstanding their agreeable flavour, scarcely any nourishment.

The beef-tea and soups prepared with my concentrated meat, beef, veal, a mixture of these, or any other suitable kinds of meat, may be partaken of in two forms, either in the clear state, when they will resemble somewhat closely the clear beef-tea and soups as now prepared, but they will differ from them in their greater strength, and in the rapidity with which they may be prepared; or, as I would more particularly recommend, they may be consumed while still containing the powder of the meat suspended in them.

The saving of time in the preparation of beef-tea is obviously a matter of considerable importance when invalids are concerned, and it is of no less consequence to the cook in the case of soups, the length of time required in their preparation being a very great obstacle in most families to their frequent consumption. The various vegetables and seasonings required for soup are likewise prepared in the same manner as the beef or other meat, and these are added to the meat in certain proportions, so that the cook has nothing to do but to allow the mixture to simmer for a few minutes, when the soup is ready for table, the solid materials being strained away if it should be desired that it should be clear, but allowed to remain if greater nourishment be required.

It is almost impossible to over-estimate the importance of the concentrated meat to invalids. By it they are enabled to receive into the stomach the whole of the constituents of the meat, no mastication being required, and no greater effort at deglutition than is needed for swallowing a liquid; and the material is, moreover, presented to the stomach in the form most easy of digestion. It is not too much to say that it will doubtless be the means of saving many lives; and I am happy now to be able to announce that the several preparations and combinations to which I have so briefly referred in this communication are now being largely manufactured, and that they will shortly be submitted to the profession and the public for their approval and judgment.

I remain, Sir, your obedient servant,
Wimpole-street, Feb. 1866. ARTHUR H. HASSALL, M.D.

SHOCK TO THE NERVOUS SYSTEM.

To the Editor of THE LANCET.

SIR,—I shall be obliged, if you will permit me, to thank, through the medium of your columns, numerous correspondents who have kindly replied to my letter upon the above subject, published in your journal of Jan. 6th. At the same time it will be useful, perhaps, to some who do not quite appreciate the bearing of my inquiry, if I endeavour to make this more clear.

My aim is to bring together, for convenience of reference, a large number of cases in which the opportunity has occurred

to medical practitioners of ascertaining, after some considerable time (several years, if possible), the condition of persons who, shortly after a railway accident, or *violence of analogous character*, have complained of various symptoms of deranged nervous system—incapacity for mental or physical exertion, impaired efficiency of nerves of special sense, restlessness and frightful dreams, &c. This is a condition the very existence of which is denied by some observers, or, if admitted, is sought to be disposed of under the term "*hysteria*"—an explanation which may be convenient, but is certainly not conclusive.

Judging from notes which I have already received, such cases may be broadly divided into the following classes:—

1. In which serious symptoms of organic lesion have speedily supervened, and caused a fatal termination.
2. In which but slight improvement has followed, and the patient has remained for years after the accident incapacitated from following his occupation.
3. In which the lapse of some days, months, or years has resulted in perfect recovery.
4. In which, at a more or less remote period, epilepsy, paralysis, or insanity has occurred.
5. In which, upon compensation being paid, the subjective phenomena have rapidly and entirely subsided.

Those of your readers who may have met with cases illustrating any of these conditions can contribute very much to the value of the record by communicating them. By the collection and comparison of the experience of independent observers an important step will, I think, be taken towards the formation of data by which the prognosis in such cases may eventually be much facilitated.

I find, as indeed I anticipated, the greatest difficulty in obtaining information as regards Class 5. Medical men have naturally an objection to commit themselves to an expression of opinion which in some cases will amount to a charge of deceit against the alleged sufferers. To obviate this difficulty, I propose, in such cases, to omit in the record all mention of names of place or individuals, date of accident, amount of compensation, or other circumstances which could serve to identify any of the persons concerned. Our business as medical men is with the scientific, not with the moral aspects of the case, and these, I believe, can be recorded without any chance of placing the informant in a position of discomfort or insecurity. If correspondents who favour me with such cases will signify by the word "*private*" that the general circumstances only are to be dealt with, omitting names and details, I shall take care to comply with their request.

For reasons of another kind, Class 4 is not so fully represented as it might be. The slow or gradual improvement and eventual recovery of a patient will often, doubtless, appear to a medical attendant to be wanting in those circumstances which are ordinarily considered to make up "*an interesting case*," and he will consequently think it unworthy of record. If, however, I have made myself understood, it will be evident that the history of such cases is at least as important as that of any other class. Moreover, it is through them that much light may be thrown upon a point which is often the most difficult of decision—the *length of time*, namely, during which a patient, whose eventual recovery is probable, may be reasonably expected to be unfit for active occupation.

Permit me, in conclusion, to say that I am still prepared to supply blank forms to gentlemen who may be willing to assist in this inquiry.

I am, Sir, your obedient servant,
THOMAS BUZZARD, M.D.

12, Green-street, Grosvenor-square, Feb. 6th, 1866.

THE CAMBRIDGE SCHOOL OF MEDICINE.

At a meeting of the Senate of the University of Cambridge, on the 10th inst., it was agreed (1) to continue the stipend (£300 per annum) of the present Professor of Anatomy to his successor; (2) to appoint a Demonstrator of Anatomy with a stipend of £100 yearly; (3) to found a Professorship of Zoology and Comparative Anatomy with a stipend of £300 per annum. This cannot fail to give great impulse to the study of anatomy in Cambridge, making, as it will do, a good provision for its teaching; and it is most satisfactory, as evincing that the University is really in earnest, and almost unanimous, about the matter, to find that only seventeen opponents were found