

1. The water and solids of the urine are probably not increased; are indeed in some instances decidedly lessened.
2. The acidity is increased (Wiesbaden) or unaffected (Oeyenhausen).
3. The solids of the urine are lessened in amount.
4. The "insensible perspiration" is greatly augmented.
5. The intestinal excretion is increased.

These baths check urinary, but augment cutaneous and intestinal, excretions.

Medicinal Baths :—

1. The substances dissolved in the baths are not absorbed through the skin.
2. The acidity of the urine is lessened as a rule; often, complete alkalinity is produced; and this is not apparently attributable to the alkalinity of the baths.
3. The effect on the constituent parts of the various excreta is not known.

The chief point which seems to flow from these general conclusions is, the antagonism between warm baths of simple water, and the natural saline (chloride of sodium) water baths. The former are probably diuretic, and moderately only diaphoretic. The latter (if Lehmann's experiments may be received as the rule, and Neubauer's experiments be considered exceptional) are especially diaphoretic, and not at all diuretic, but even the reverse. As far, therefore, as the experiments enable us to see, the simple warm water baths are chiefly eliminative by the urine, the saline baths by the skin; and the effect of the former is sufficient to cause for the time increased wasting of the body, while that of the latter may, in spite of the diaphoresis, check urinary excretion sufficiently to arrest permanently a loss of weight going on in the system. The one set of baths are, therefore, weakening; the others strengthening. Farther than this, facts do not warrant our proceeding, and we must leave for future and more rigorous investigation an exact determination of the effect produced on the individual ingredients of the various excreta.

In conclusion, we would direct the attention of all those engaged in these inquiries to Professor Radiche's most important paper. Unless calculations are properly made, the most accurate experiments will only lead to fallacies. We can perhaps never reach mathematical certainty in such inquiries, but we can give to them a much higher degree of probability than they have yet possessed, by a rigid analysis of the numerical results.

REVIEW XII.

Nutrition in Health and Disease. By JAMES HENRY BENNET, M.D., Licentiate of the Royal College of Physicians, Physician Accoucheur to the Royal Free Hospital, &c.—London. 8vo, pp. 220.

THERE is a class of publications, very numerous in the present day, in which physicians take occasion to edify the laity with a little phy-

siology and a few pathological and practical views not usually of a very original kind—the real practical view being that the said laity, struck with what appears to them as a very clever performance, should consult the writer whenever they think that their own cases come within the scope of his observations. We should have been inclined to refer the book before us to this department of medical literature, had not the author announced what he seems to consider as an especial and important object of its publication. At the beginning of the preface he says:—

“My object in writing the following work has been forcibly to draw attention to the fact, often overlooked, that the imperfect performance of the digestive and nutritive functions leads slowly, but surely, to ill health, to disease, and to death.”

Further on, he adds :

“I trust that I shall not be considered presumptuous if I express the hope that this little work may contribute to convince my medical brethren of the imperative necessity of studying dietetics in connexion with chemistry and physiology.”

Now, if Dr. Bennet could keep his countenance while he was writing these passages, it was more than we have been able to do while reading them.

We should have supposed that no person, whether of the medical profession or not, who was sufficiently educated to understand the general meaning of the words “digestion” and “nutrition,” could be so stupid as not to perceive the consequences here ascribed to the imperfect performance of these functions. Again, what benighted portion of our fraternity are studying dietetics otherwise than in connexion with chemistry and physiology?

Our author seems to have a wonderful propensity to create errors for the purpose of demolishing them. Thus he tells us :

“The general impression, not only with the public, but with many members of the medical profession, appears to be that nitrogenous food and stimulants are synonymous with assimilation and strength. The undeniable fact that between the two lies a gulph, occupied by all the varied digestive processes, the imperfection of any one of which neutralizes the result—healthy nutrition—is thus overlooked.” (pp. 60, 61.)

We submit that this is not the impression with many members of the medical profession, nor with any members of the same who have not taken leave of their wits. Neither is it the impression with the public. Did Dr. Bennet never hear the popular allusion to food going into an “ill skin,” where the recipient remained lean, and poor in condition, notwithstanding the ingestion of all manner of good things? Now this “ill skin” is merely a homely kind of metaphor, expressive of defect in the digestive and assimilative functions.

We may now proceed to some general notice of the contents of Dr. Bennet's book. The first chapter is on “Digestion and Nutrition in Health,” and contains a fair view of the commonplaces of the subject; but neither this nor the following, “on Nutrition, considered generally,” presents anything requiring especial comment. Chapter III. is on the “Nutritive Requirements in Man, considered with reference to Temperature, Climate, and Social Occupation.” Here also the scientific

physiologist will not meet with much to detain him, though the popular reader may find some information. There is one passage of startling interest to ladies who have attained to "what certain people call a certain age," with an accompanying degree of *embonpoint*. In their case the fat

"Stretches the yielding skin, and thus conceals the ravages of time, the results of diminishing nutritive power. To many women this change constitutes a second youth, and may even impart to them a charm and loveliness which they never presented in their earlier age." (p. 66.)

So far, so good—but evil days are to come :

"The deposit of fat often continues, especially when the tendency is constitutional, or the diet liberal, and the habits of life indolent. In such cases it may increase by degrees, until the abdomen becomes protuberant, the hips massive, and until the chin, neck, and shoulders blend into one." (p. 66.)

A sad state of affairs indeed, in which the human shows an alarming tendency to retrograde into the arachnoid type!

Chapter IV. is on "Defective Nutrition," and the section of it which most claims our attention is that on *Urinary Deposits*. On this subject Dr. Bennet's views are rather peculiar in more ways than one; and we shall here notice them as they occur throughout the work, without confining ourselves to this particular chapter and section. He has arrived, it appears, at a general conclusion, which may, perhaps, be best enunciated by an extract from the preface :

"There is one point on which I join issue with many who have specially treated of urinary deposits. I believe that too much importance has been attached to the *differential diagnosis* of the different morbid salts which are found in the urine as a result of disordered digestion and nutrition. I attribute even more importance to the presence of these deposits, as evidences of perturbation of the digestive and nutritive processes, than is usually attributed to them; but after many years' research, I have not been able to establish to my own satisfaction that the different morbid salts have always, or indeed generally, a different pathological meaning. It appears to me that, in disordered nutritive states, all, or nearly all, may occur, and constantly do occur, under the same circumstances."

Our author here speaks of "many years of research," and in other places he alludes to his own "experiments" and "observations" on this subject; but he has nowhere condescended to enter into any particulars respecting these researches, experiments, and observations: and really, when a man differs on such very general grounds, from high authorities, who are backed by elaborate and detailed experiments and observations, we must be excused from attaching any importance to his opinions. There is a way of simplifying any subject, by denying all that has been said upon it; but such a procedure would soon reduce all science to a negation.

Another important point on which Dr. Bennet entertains peculiar views is the amount of scientific knowledge requisite for the examination of the urine in reference to pathological inquiries; and here also his tendencies are in the negative direction.—"Divested of minute scientific development, that examination, as we have seen, is a most simple matter, and does not require any very extensive knowledge either of chemistry or of the microscope." (p. 126.)

But, as if startled at his own assertion, he endeavours to modify it in some degree by the following truism—"The greater the knowledge possessed, however, the more certain are the results obtained; and there is therefore every inducement to the student and the practitioner to pursue their researches."

At page 117, he has the temerity to affirm that a practical acquaintance with the principal salts and morbid products revealed by the microscope may be acquired in a few hours!

We have always regarded the analysis of urinary deposits as requiring extensive and accurate chemical knowledge. Again, we believe that the very first requisite for *any* effective use of the microscope is a thorough practical acquaintance with the instrument—its construction, powers, and management; and we are convinced that, in the absence of such knowledge, the results obtained are very likely to be a series of blunders, often of a ludicrous description. We must therefore express our entire mistrust of all examinations of the urine "divested of minute scientific development;" and we cannot help thinking that if Dr. Bennet will bring to his aid a little more chemical and microscopical science, he may arrive at conclusions more satisfactory (to the profession, at least) than the generalities with which he appears at present to be so well contented.

Such, however, being the small amount of scientific acquirement which our author deems essential to the investigation of urinary deposits, we do not wonder at his being occasionally disposed to delegate the inquiry into the patient's own hands. After occupying some pages with remarks on the variety of constitution in different individuals, respecting the kinds of food which agree best, the frequency of meals, and the time of day at which these may be most advantageously taken, and after stating that the inspection of the urine will throw important light on such points, and that the presence or absence of urate of ammonia in this fluid is the most delicate test of good or bad digestion, he proceeds as follows:—

"The above facts, which are deduced from the careful investigation, during many years, of the urine of large numbers of dyspeptic patients, show clearly that it is impossible to lay down general dietetic rules: each case must be studied by itself, and the advice given must be modified according to the results of the study of each individual. The existence of urate of ammonia in the urine a few hours after the ingestion of food, presents, however, in most cases of disordered digestion, an easy means of arriving at the required knowledge. The circumstance of this salt rendering the urine turbid when it cools, makes it quite possible for the patient himself to carry on the investigation, once the physician has ascertained that the turbidity is owing to the presence of a lithatic deposit, and not to pus, &c. Thus an Ariadne thread is placed in the hands of the dyspeptic patient, which may enable him, with some slight assistance from his medical attendant, in the way of explanation and direction, to guide his own path through the dietetic labyrinth. He may thus learn to a certain extent what kind of food suits him individually, what amount he can take, and at what intervals and hours it is required in his own particular case: should, however, uric acid, oxalate of lime, or the triple phosphates be present without the urate of ammonia, this information could of course only be obtained by microscopic examination. The same mode of study may be applied to beverages, and their influence on digestion. If alcoholic stimulants are beneficial, they will not dis-

turb digestion, and the urine will remain as clear, as free from morbid deposits, as if they had not been taken; but if, on the contrary—as sometimes occurs, even with the healthy and very frequently with the weak and dyspeptic—beer or spirits, even when taken in moderation, render the urine turbid and lithatic, evidently disturbing digestion, they assuredly can do no good: indeed, far from doing good, they are a snare and a delusion, owing to the temporary feelings of strength and comfort which they give rise to at the very time that they are in reality poisoning the economy.” (pp. 153—155.)

We consider this as a very first-rate specimen of *ad captandum* writing. We fancy we see some elderly gentlewoman anxiously poring over the oracular fluid—calling in the aid of the microscope, the management of which has been represented as so simple and easy—and, when she has puzzled and frightened herself nearly into fits, sending for her medical attendant to give some slight assistance. Of course, such assistance in making out the urinary deposits will be accompanied with the deposit of a fee in the palm of the obliging gentleman who renders it.

By the way, a Greek motto is an imposing sort of thing; we will suggest one to our author for the title-page of his next edition, which aptly associates the pleasures of the table with the means of inquiry into their effects on the system:

Ἐγχεί πειῖν μοι· καὶ τὸ πέρδικος σκέλος,
Ἄμῖδα δότω τις*.

Jesting apart, we would earnestly recommend Dr. Bennet, and all who profess to have the honour of the profession and the welfare of the public at heart, neither to instigate nor to encourage the laity to dabble in medicine, always excepting that useful common-sense kind of medicine which every good housewife knows how to administer without any lessons from the doctor.

The extract just made, though germane to the matter of the fourth chapter, is taken from the fifth, which is headed “Practical Deductions.” On the contents of this chapter we have no particular remarks to make; neither does the sixth and concluding chapter, on “Confirmed Dyspepsia,” demand any especial notice; the topics commented on are those to be found in most treatises of a similar character to that now before us, and the views inculcated do not differ from those generally received.

In some parts of this book the writer falls into inaccuracies from which a moment’s reflection would have preserved him, and makes statements which are at variance with common observation. For example, at p. 33, we are told that “The animal creation are satisfied with water; indeed they show dislike and repugnance to all other beverages.” Whereas many horses will drink wine and malt liquors with avidity, some monkeys delight in strong drinks, and a cat will seldom take water when it can get milk. The work abounds also with defects of style—the misuse of some words, and the employment of others which have no existence save in the writer’s own vocabulary. Thus, at page 64, we meet with “*media* obtained by *acting* on numbers.”

* Athenæus Deipnosophist, lib. i.

These words, as they stand, are entirely destitute of meaning; but the writer evidently intends to express "averages obtained by the use of numbers." In several places he calls starch *amydon* instead of *amylum*—a mistake which shows an entire unacquaintance with the derivation of the word. The word *dietary* is continually used in the sense of *diet*. Nor do we approve of the employment of so obsolete and certainly strange-sounding a word as "activate," for which the author has a special penchant. We wonder the more at the occurrence of such strange mistakes as these, because many passages in the book are written in a correct, easy, and agreeable style.

On the whole, Dr. Bennet's work may afford some interesting information to the general reader, for whom it appears to be chiefly intended. If we have treated it for the most part in rather a jocose manner, this has been in order to avoid the censure which a graver criticism might have called upon us to pronounce.

REVIEW XIII.

1. *A Treatise on the Pathology of the Urine, including a Complete Guide to its Analysis.* By J. L. W. THUDICHUM, M.D.—London, 1858.
2. *Urinary Deposits—their Diagnosis, Pathology, and Therapeutical Indications.* By GOLDING BIRD, M.D., F.R.S. Fifth Edition. Edited by EDMUND LLOYD BIRKETT, M.D., Fellow of the Royal College of Physicians, &c.—London, 1857.

SOME months ago we purposed drawing up a notice of several theses which had recently been published on various points connected with the physiology and pathology of the urine, and we had begun to arrange our scattered materials when we received the volume which stands first at the head of the present article. A perusal of Dr. Thudichum's volume at once showed us that he had been so carefully over the ground that we had intended to occupy, that there were little, if any, gleanings left us, and we have consequently abandoned our original intention, and shall content ourselves with the easier task of culling freely from his rich harvest.

His work, which extends over considerably more than four hundred pages, is divided into no less than forty-six chapters, the headings of which we shall briefly give, for the sake of affording our readers some idea of the extensive plan which the author has proposed for himself.

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| 1. General characters of urine. | 11. Free acid of the urine. |
| 2. Quantity of urine and ingredients. | 12. Potash and soda. |
| 3. Urea. | 13. Lime and magnesia. |
| 4. Uric acid. | 14. Iron. |
| 5. Creatine and creatinine. | 15. Ammonia. |
| 6. Colouring matter. | 16. Carbonic acid. |
| 7. Hippuric acid. | 17. Blood and its anatomical elements. |
| 8. Chlorine and chlorides. | 18. Hæmatine or hæmato-globuline. |
| 9. Sulphuric acid and sulphates. | 19. Fibrine. Chylous urine. |
| 10. Phosphoric acid and phosphates. | |