IV.

The Elements of Medical Logic, illustrated by Practical Proofs and Examples, including a Statement of the Evidence respecting the Contagious Nature of the Yellow Fever. By Sir Gilbert Blane, Bart. Physician to the Prince Regent, &c. &c. &c. pp. 216. Svo. London, 1819.

The title of this work seems highly appropriate and significant: logic being defined by Dr. Watts to be "the art of using reason in our inquiries after truth, and of communicating it to others;” and physic being beset with fallacies, and false reasonings, much more than any other art or science, logical precision is more called for. This is the first and only work in which an attempt has been made to lay the foundation of medical reasoning on the most profound principles of philosophy and metaphysics; and to those who may find this part dry and abstruse, it is amply made up by the variety and utility of the practical illustrations, which are throughout equally familiar and instructive. Much, indeed, has been done to open and enlarge the views of our brethren, particularly the younger part of them; and the whole liberal part of the profession must hail it with gratitude and applause. The style is uniformly clear, forcible, and elegant.

The light of logic, in its best form, that is, the logic of Bacon, not of Aristotle, has been here carried into the darkest corners of medical science, with plainness, perspicuity, and brevity; and we trust it will open new practical views to all intelligent members of the profession, by the originality and felicity with which the author has illustrated the subject.

The enumeration of the principles peculiar to life is new and striking, being the elements of those organic and functional distinctions upon which other systems have been built, and seems founded on a close and accurate analysis of the ultimate and simple powers which actuate these functions and organs, and through which they operate.

The arrangement of these powers, principles, faculties, or by whatever name they are called, argues a vigorous exercise of reason, under the guidance of chaste observation, and an invariable appeal to fact, and not to hypothesis, with the salutary cautions of avoiding what lies beyond the grasp of the human understanding. This arrangement of Sir Gilbert Blane establishes on a sure basis the hitherto loose and incoherent language of systematic writers, and may serve as a future text-
book for defining certain terms which have led to endless confusion and ambiguity.

The peculiar principles of life above alluded to are the Generative, Conservative, Temperative, Assimilative, Formative, Restorative, Motive, Sensitive, Sympathetic; to which the author seems inclined to add another, the Determinative. These are all defined and illustrated with great clearness and conciseness, and the object of the author in enumerating them is, to shew that animal life is of such a complicated structure, that it is hopeless to think of operating upon it *a priori* with practical effect; and he states the attempt of doing so, as one of the great causes of retarding and obstructing the progress of practical medicine. But though he states observation and legitimate induction from facts as the great principle of improvement, he is desirous of not disparaging the value of anatomy, physiology, and pathology, the advantages of which he amply and clearly enunciates.

The following passage will shew the author's estimate of the comparative merits of the dogmatical and empirical methods of cultivating medicine. At page 89, he says,

"It must be obvious to every reflecting mind, that those who have made themselves acquainted with the various organs and functions engaged in the animal economy, must have a great advantage in practice over the unlearned empiric, in discriminating the morbid affections from each other, and in varying accordingly the respective means of relief. For instance, a physiologist and anatomist, from his knowledge of the intimate nature of morbid affections, the difference of their seat, and other circumstances, is able to distinguish spasmodic from inflammatory pains; a distinction which would not readily occur to an uncultivated observer, but of the most vital importance in practice, for the remedies required for the relief and cure of a spasmodic pain in the stomach and bowels, demands a treatment not only different, but opposite to that which proceeds from inflammation. It is only *anatomical* and *physiological* science that can give a practitioner a clear vivid conception of these and other distinctions, essential to the safe and efficient treatment of diseases."

At page 93, "We have already more than once adverted to the profound wisdom displayed in the constitution of our mental faculties, whereby they are made responsive to the constitution of external nature, in the same manner as our senses, and that this is strikingly exemplified by the susceptibility of the human mind to durable associations and habits, from the frequent repetition of connected events, arising out of the constancy of the laws of nature. Unless these were indelibly imprinted or recorded, as it were, in the early stage of our existence, life could not be maintained; all those instincts by which we pursue what is salutary, and eschew what is noxious and dangerous, being founded on this principle. The avoid-
ing of fire, of precipices, the collision of hard and pointed bodies, may be quoted as examples of this. And what is called sagacity, in the adult stages of life, is a sort of approach to, or imitation of, this intuitive faculty; but, instead of being the immediate suggestion of nature, is founded on cultivation, which, by practice, learns to connect cause and effect, means and ends, an operation which, in well turned minds, is performed with promptitude and precision, by interpreting fairly the appearances of nature, and stripping them of those adventitious fallacies which mislead ordinary minds. In order to attain this, there are required an appropriate natural capacity, the good fortune of not being beset with prejudices in early life; an habitual exercise in the observation of nature; a candid and ingenuous disposition; an ardent love of truth; an exalted sense of duty; a large store of facts in a correct and tenacious memory; the power of combining, comparing, and discriminating these, by an intuitive glance in the moment of applying them to the practical end in view. This is what is understood by the term tact in English and French, and suστοξια, in Greek, being the faculty by which practical facts are decided on, and is performed by an instantaneous, silent, and almost unconscious calculation and induction, to be met with only in minds, at once happily constituted and highly cultivated."

And at page 96, he sums up the whole thus:

"From all that has been said, we ought to be, in some measure, qualified to come to a decision, on the celebrated question of the comparative merits of the empirical and dogmatical methods of cultivating physic. It seems pretty evident, that if either method were employed exclusively, or carried to an extreme, the art of physic would suffer, both in its efficiency, and its prospects of future improvement. It has clearly appeared, that, under such a complication of causes, influencing the operations of life, it would be utterly hopeless to decide any point purely and strictly a priori, and that it is absolutely necessary, that experience be called in as an aid and a test to the inferences of theory. On the other hand, a blind empiricism would be found deficient, without that discriminative judgment, founded on an acquaintance with the laws of life, and without those enlarged and correct views of general nature, by which the excess of credulity and scepticism is equally repressed. This question was much agitated in antiquity, and is most ingeniously, eloquently, and judiciously discussed by Celsus, in the preface to his valuable work. He evidently leans to the side of empiricism, which, in the very crude state of anatomy and physiology in that age, certainly argues his good sense; but he by no means explodes the study of the structure and functions of the body, as of no practical utility, and concludes with the following recommendation, or rather apology, for dogmatism: 'Ista naturae rerum contemplatio, quamvis non faciat medicum, aptiorem tamen medicinæ reddat:"

"The conclusion, therefore, upon the whole, is, that those two methods ought not to be regarded as adversaries, but as allies; and
that good sense will consist in excluding neither, but in fairly appreciating what is due to each."

"In the course of the preceding discussions, it has appeared, that, from the dark and complicated nature of the animal economy, there is the utmost risk of error in drawing inferences a priori, and that crude and hasty hypothesis has been a source of much false reasoning, and therefore of dangerous error in its practical application. In the following enumeration, therefore, of the several obstacles which have obstructed and retarded the improvement of medicine, this stands foremost," &c.

The most leading principle of the work is to inculcate impressively on physiologists, pathologists, and practitioners, that the living frame is guided by laws of its own, distinct from those of inanimate matter. A large portion of the work is also taken up in pointing out the various sources of error, as might be expected in a treatise of which the title is the Elements of Medical Logic.

Besides the abuses of hypothetical reasoning arising out of the occasional perversion of physiology, he enumerates, as sources of error, the diversity observable in the constitutions of individuals; the difficulty of appreciating the efforts of nature, and in discriminating them from those of art; superstition; the ambiguity of language; the fallacy of testimony; preconceived opinions; and the excessive deference to authority. Some of these have been separately treated by the late Dr J. Gregory, Dr G. Fordyce, M. Cabanis, and Richerand; but the whole has never before been reduced into a body of doctrine; and it is none of the least recommendations of this work, that a vast extent of general knowledge has been brought to bear upon the subject of it.

But perhaps the most useful parts of the work are those in which practical illustrations are introduced. In the course of the author's remarks on the use of purgatives, so universally recommended by Dr Hamilton, after adverting to their indiscriminate use in fever, he says, concerning the unqualified use of them in Chorea St. Viti, page 110:

"The qualified adoption of this practice, I am so far from disputing, that I lately imitated it with success in the case of a young female from the East Indies, in which the vitiated quality, incredible quantity, and long continuance of alvine sordes, were such, as to bid defiance to all the principles of physiology and pathology to account for. But in a young English female, under my care, about the same time, for the same complaint, nothing preternatural being observed in the alvine discharges, after the first clearance of the intestines, she was successfully treated by the cold bath, and metallic tonics, chiefly the sulphate and oxyde of zinc, and the recovery was effected in a shorter time than in the other case. I found, that in St Thomas's
hospital, the like success attended the latter treatment of this disease. Opium, hyoscyamus, and leeches to the temples, were found good auxiliaries."

And in combating what Dr Hamilton says concerning the indifferent employment of all species of purgatives, Sir Gilbert thus illustrates the specific operation of certain medicines, page 111:

"What, for instance, can be more different than the operation of aloes acting as a mere eccoprotick on the muscular fibres of the intestines, and only in a particular portion of them, namely, the descending colon and rectum, and expelling only solid feces, from that of elaterium, of which half a grain, taken three or four times at the intervals of half an hour, evacuates immense quantities of serous fluid, exhibiting an example of the wonderful power of sympathy; for an impression made on the internal surface of the stomach, by a few particles of matter, conveys by magic, as it were, an impulse to the most remote extremities, rousing their absorbents to action; and in case of edema there, awakening the sleeping energies of these vessels, which, like millions of pumps at work, transmit the morbid fluid to the intestines and urinary passages, affecting a detumescence of the hydropic limbs in the course of a few hours, and affording a striking illustration of the operation of sorbefacient medicines."

He in like manner compares the action of calomel, neutral salts, and other articles.

Let not the reader suppose that the writer of these remarks does not see the blemishes as well as beauties in the work under consideration. He entertains, for instance, great doubts of the propriety of arranging sleep with the vis medicatrix naturae. It is true, the epithet restorative is strictly applicable to both; but they lie so wide in other points, that we should recommend the author to split them, if possible, into two heads. On the subject of sleep, however, the reader will find some new remarks and interesting anecdotes.

We are also of opinion that he has handled Dr Bancroft too roughly; for, though there be not an intemperate nor abusive expression in the whole, the strictures are too cutting and severe; and the author ought to have considered, that it is as cruel to heap coals of fire on the head, as to pierce or lacerate with a weapon. We hope the author will soften some of his expressions in another edition.

We are farther of opinion, that the author has affected too much brevity: Brevis esse laboro obscurus fio. Some of the subjects, that of Temperative, for instance, is so concise, that, considering the novelty and importance of it, more expansion of illustration seems to be required to render the ideas familiar to the bulk of readers. Lastly, we have rarely met with a work in which the press has been so carelessly corrected, for it abounds with typographical errors.