CRITICAL ANALYSIS
OF THE
RECENT PUBLICATIONS
ON THE DIFFERENT BRANCHES OF
PHYSIC, SURGERY, & MEDICAL PHILOSOPHY.

Lectures on Comparative Anatomy, translated from the French of G. Cuvier, Member of the National Institute, Professor in the College of France, and in the Central School of the Pantheon, &c. by William Ross, under the inspection of James Mcartney, Lecturer on Comparative Anatomy in St. Bartholomew's Hospital. 2 vol. 8vo. 1802. London.

The first and most obvious use of the science of Anatomy is to give man such a knowledge of his own structure, as to lay a foundation for the sciences of curing internal disease and relieving the effects of external accident. Hence the anatomy of the human body has engaged in a peculiar manner the attention of enquirers; and this subject has been so thoroughly investigated in those parts that appear accessible to mere industry of research, that a new field must be opened to the ardour of discovery. This has been done by the admirable labours of Haller, Monro, Hunter, Blumenbach, and many other illustrious contributors to this interesting science; and Comparative Anatomy, (which indeed has at no time been entirely neglected) is every day rising into importance from the boundless field which it opens to investigation.

Considered as the ground-work of Physiology and Natural History, Anatomy may truly be regarded as a sublime science, and peculiarly so, that branch of anatomy which compares the organs and structure of the human animal with those of the animated world that surrounds him.

An extensive pursuit of comparative anatomy is however within the compass of but a few; it requires more considerable opportunities for collecting subjects than most persons can command; it must be elucidated by numerous specimens and vast museums, and it must summon contributions from the most distant parts of the globe. Such however have been the means of information enjoyed by the author of the valuable work before us; the immense Museum of Natural History at Paris, which supplied such copious materials to the labours of the illustrious Buffon and his worthy coadjutor Daubenton, has liberally opened its treasures to one whose name stands among the very highest of the anatomists of Europe, and whose justly acquired celebrity has attracted a most numerous and well
well-informed class of pupils that will not fail to support the reputation of the School of Paris.

The work of which the present is a faithful translation, was drawn up by Cit. Dumeril from the oral demonstrations of the author, Prof. Cuvier, who honors the editor with the appellation of one of his dearest pupils and best friends, and has given his full and entire sanction to all that it contains, in the following terms: "Having attended my course during four years he has collected all my observations with so much accuracy that it would have been difficult for me to have performed the task better. I have revised his manuscript with the greatest care. I have everywhere supplied details which could not be conveniently introduced in public lectures. I have rectified such statements as I had advanced too rashly. I have added every information connected with these lectures that I have obtained since their delivery, by my dissections and reading. I therefore do not hesitate to acknowledge this work as my own, and to avow all the assertions it contains." We cannot refuse therefore to consider the present publication as an accurate abstrac of the lectures delivered by the learned author, containing the outline of his plan of instruction, and the heads of all the valuable information which is delivered by him from the chair.

Prof. Cuvier has prefixed to the work an interesting letter to J. C. Mertaud, Professor of the Anatomy of Animals in the Museum of Natural History at Paris, in which he owns his high obligation to this Museum and its conductors, and introduces several remarks on the study of Comparative Anatomy, and the design of the present work. He mentions it as a circumstance peculiarly fortunate to him that the invaluable opportunities afforded him by his situation prevented the necessity of constantly recurring to written authorities; and certainly, as the present work is not a history of the Science, but a summary of facts, and a view of its actual state of improvement, the author's excuse for not distinguishing in every place the claims of each discoverer, will readily be admitted. The character of the several writers on these subjects, in Germany, and in our own country, is sketched in the following free and (may we not say) candid terms. "The greater number of these authors are found among a people, who, though celebrated for their inventive genius and indefatigable patience in every kind of research, have not always been able to confine within due bounds their desire to display erudition, a desire which perhaps proceeds from too much modesty, and a mistaken deference for others."

Another people, no less admirable for their bold views and vigorous prosecution of the sciences, seem to have fallen into the opposite excess of that which I have just blamed, by contemning the labours of foreigners, and esteeming, and even consulting, almost exclusively, the works of their own countrymen. This kind of pride, which is perhaps useful in politics, when carried into the sciences, and, above all, in the sciences which depend on facts, tends only to produce contracted ideas, and leads to a barrenness which forms the character of some of these authors in Natural History,
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...ary and Comparative Anatomy. I believe I have made use of the principal discoveries of the modern authors who have treated Anatomy in a physiological manner. Stenon, Swammerdam, Collins, Duverney, Petit, Lyonnct, Haller, Monro, Hunter, Geoffroy, Vicq d'Azyr, Camper, Blumenbach, Scarpa, Comparotti, Kielmeyer, Poli, Harwood, Barthez, have furnished the data with which I commenced my career; and though I have myself reviewed a considerable part of these data, the glory of discovering them is not the least due to the celebrated men I have mentioned."

We shall now proceed to give a summary view of the different chapters of this work, in which, though the real value of each division may be nearly the same, there are many that contain only a simple anatomical description of parts, which the student with his subjects before him will peruse with minute attention, and the general reader will be much inclined to turn aside.

The first chapter (or Lecture, as the author terms it, though much too copious for a single lecture to a class) contains a very clear and excellent summary of the general laws of the Animal Economy, divided into the heads of, the Organic Functions; the Structure of the Organs; the Differences of the Organs; the Relations of the Organs; and the Division of Animals founded on the whole of their Organization.

The chapter opens with a view of the simple phenomena of life deduced from the decomposition of organized matter by the laws of common chemical action after the vital principle has ceased; but the author acknowledges the insuperable difficulties that attend a research of this intricate nature, as, however near to the origin of life we carry our inquiries, the subject has already enjoyed vital force, and possesses the germ of the phenomena which life may afterwards develop.

We are soon therefore compelled to abandon this hopeless path of research, and must limit our inquiries into the texture and composition of living bodies, and the actual phenomena which distinguish animate from inanimate substances; phenomena which the author characterizes by these three circumstances: "origin by generation; growth by nutrition; and termination by death;" a concise and accurate definition!

This, however, applies to every thing that has life; but there are other less general faculties which indicate organization, but are not the necessary consequences of it, and of these the faculty of sensation, and that of voluntary motion, are the most remarkable. We are conscious that these faculties exist in ourselves, and we attribute them by analogy, and from their apparent existence, to a number of other beings, whom, with ourselves, we include under the general term — animals.

The author then proceeds to shew in what manner these two faculties of senation and voluntary motion are connected with each other, and how they allow of a greater complication of organs than the vegetable kingdom, and this leads directly to the consideration of the functions of living bodies. The
The second head or article of this Lecture, contains an interesting general idea of the structure of the animal organs, and the processes which they are intended to carry on. These are described as they take place in the most perfect animals, but in proportion as the scale of beings sinks, they successively disappear; and in the lowest classes of animals we find nothing but what is necessarily connected with the idea of an animal, namely, a fac
tensible, moveable, and capable of digesting.

The third and fourth articles contain a review of the differences that subsist between the corresponding organs of different animals, and their relations with the other organs of the same animal; and it is here that the more immediate object of the present work, Comparative Anatomy, commences.

The fifth article completes the subject of the first Lecture, or general head, by giving a summary view of the actual division which the author adopts in the classification of animals. As these three articles will give the reader an idea of the plan and manner of the work, we shall give a short abstract of their contents.

Two important distinctions subsist in the organs of motion, forming a division of all animals; in the first, the bones form an internal skeleton, articulated and covered by the muscles, and in these the body is supported by a strong pillar formed of several bony pieces placed one above the other, and called the spine of the back. Animals possessing this kind of structure are termed Vertebral Animals, a class which includes all the Mammalia, Birds, Reptiles, and Fishes. In the second class there are no internal bones, but either merely scales or shells which cover the skin, within which are the muscles, or else there is no hard part that can serve as a lever or point of support for the motions of the animal's body. These are the Invertebral Animals, including the Soft Worms, Insects, and Testacea, and they are either entirely soft, or have their bodies and members enveloped in scales articulated on one another, or are enclosed in shells.

The organs of sensation present considerable variety. Some animals have no apparent nervous system, such as the Zoophytes and Polyps; others, such as the Mollusca, the Crustacea, Insects, and a part of the Articulated Worms, have only the brain above the alimentary canal, and have all the remainder of the common bundle of nerves situated underneath, and contained in the same cavity with the other viscera; and lastly, in the Vertebral Animals, the common fasciculus of the nerves is situated entirely in the back, above the alimentary tube, and enclosed in a canal which passes through the vertebral column.

All the vertebral animals possess the same senses as man, and taste, touch, and perhaps smell, appear never to be wanting; but the zoophytes and some other classes, want the sense of sight, and no organs of hearing have been discovered in some mollusca and in insects.

The organs of digestion exhibit likewise very important differences; one of the most striking of which is, that in the greater number
number of the zoophytes the intestines form a sac with only one aperture, which serves both for the admission of aliment and the expulsion of the faces; whereas, in all other animals, the alimentary sac has distinct orifices for these different offices. The chyle is determined to the body in two different ways; in the zoophytes, and (as the Author thinks) in common insects, the chyle simply transudes through the parieties of the intestinal canal, and bathes all the interior of the body; but in other animals it is taken up and conveyed by its peculiar absorbent vessels. In these latter too, the colour of the contents of the several vessels differs, for the vertebral animals have the blood red, and the lymph colourless; but the mollusca have all the fluids nearly as transparent and colourless as lymph.

The very important differences in the circulation of different animals is next noticed, and the distinction between the single and double circulation; and in connection with this subject the corresponding differences in the organs of respiration are considered, and the apparent total want of them in the zoophytes.

Finally, the varieties in the mode of generation are described; the generation with or without copulation, and the natural hermaphrodite animals; and several circumstances relating to growth and secretion.

The interesting observations on the relation of the different organs and functions to each other, and their fitness for the circumstances and habits of the respective animals, are next pointed out, but in so concise and consequent a manner that they are incapable of abridgment.

The division, or method of arrangement, follows next, a subject of considerable importance; for though in some of the singular forms and varieties of animal organization which Nature displays, she seems to sport with the rules of the mere pains-taking classifier, the man of genius and enlightened observation will often be able to seize on some of the grand and leading features of the admirable mechanism of the animated creation, and open the door to the most interesting and the sublimest speculations.

The arrangement which the Author follows is founded principally upon the leading anatomical features that distinguish the several parts of the animal world. It appears to be clear, elegant, and as free from perplexing anomalies as the nature of the subject will admit of. We cannot enter into the minutiae of this classification, but shall only observe, that the first grand division is that of vertebral and invertebral animals; the former of which subdivides, more regularly than the latter, into the warm-blooded, containing the mammalia and birds, and the cold-blooded, which embraces the genera of reptiles and fishes. The invertebral animals break into five genera, anatomically considered, each of which has its distinguishing marks laid down with considerable precision; they are, the mollusca, crustacea, insects, the terrestrial worms, and the zoophyta.

Each of these genera is again divided into its several species.
which we shall not here follow: in fact, for the general purposes of arranging facts and ascertaining observations, almost any classification of the animal kingdom, hitherto given, will answer the purpose with tolerable ease; and perhaps the study of comparative anatomy is not yet sufficiently advanced to allow of a complete, luminous, and unexceptionable arrangement. This subject is further illustrated by very ample tables given at the end of the volume, which will immediately exhibit the division of animals adopted by the author.

The second Lecture is employed in a full general description of the organs of motion; that is to say, the bones and muscles, and is divided into the several articles of, the intimate nature of muscular fibre; the structure, composition, and growth of bone; the articulation of bone; the mechanical structure of tendons and muscles; and general remarks on the skeleton.

The characteristic chemical property of pure muscular fibre is well known to be its perfect resemblance with the crassaflamentum after the colouring matter has been washed away, and this has been termed fibrine by the French chemists. The author notices the large proportion of azote which it contains, and the singular difficulty which occurs in accounting for its formation in herbivorous animals, whose food contains no sensible proportion of this principle. We do not think the author at all approaches to an explanation of this difficulty by referring it to the action of respiration in removing the hydrogen and carbon from the blood, and thereby augmenting the proportion of azote. With regard to the property of irritability, which resides in muscular fibre, the author adopts the opinion, now so generally received, that this is owing to the minute ramification of nervous filaments, which penetrate muscle beyond the reach of sight; and he observes, that the animals which have not distinct and separate nerves, have no visible fleshy fibres, and in them irritability and sensibility do not appear to belong exclusively to any particular system of organs. Muscles do not necessarily require the presence of vessels and cellular substance, for the muscles of insects contain neither, and are only bundles of unadhesive, parallel, and simply contiguous fibres; and yet they act with great strength. Colour is not necessary to muscles, as these organs are the same in the white as in the red-blooded animals. Several remarks on irritability are added; and the following ingenious method, given by Humbolt, for distinguishing a nervous from a muscular filament, is mentioned. He employs two needles, one of gold and the other of silver, and applies the point of one to the muscles, and the other to the filament to be examined; on bringing the other extremities of the needles in contact, the muscle will contract if the filament be a nerve, but not otherwise.

The description of the growth of the bones is clear and precise. On the progress of ossification, he remarks, that it is unequal both in different animals, and in different parts of the same animal. In man, and all the mammalia, the bones of the internal ear are not
only first ossified, but they surpass all others in density and in the proportion of calcareous phosphat. The bone of the cavity of the tympanum in the cetacea, particularly the whale and the cachalot, is superior in density and hardness to marble, and appears quite uniform in its section, shewing no vestige of fibres, cancelli, or vesfels. In many animals the ossification is never complete, as in the large class of fishes, which from this circumstance are called the cartilaginous fishes, or chondropterygii.

Several interesting remarks on horns, shells, and the indurated coverings of various animals conclude this article. Shells, he observes, are composed like bones of calcareous matter, intimately connected with gelatinous matter, but not constantly disposed in lamina. In some species, however, there are strata agglutinated to each other like leaves of palteboard, which certainly increase with the growth of the animal, for these strata do not all exist in the young animal, but only the outermost, which is also the smallest. This is the case with the mufcle, in which, when young, the shell is only a single stratum, and therefore is thin and brittle, but is, bulk for bulk, equally firm with the adult shell. During growth a succession of strata are added on the inner surface of the shell, each of which extends beyond the edges of the preceding strata, so that each operation of this kind adds to the length, breadth, and thickness of the shell.

Examples of most of the kinds of articulation are to be found in human anatomy, and the same may be observed of the mechanical structure of tendons and muscles. The tendons of the crustacea, however, in the muscles of the thighs and limbs, differ from those of the red-blooded animals in being hard, elastic, and not apparently fibrous. This tendon is often articulated with the scaly case which it has to move, in the same manner as one bone is articulated with another, and is then connected by a membranous ligament. The great claws of the cray-fish afford an example of this kind. The tendons of the mollufca are not apparent. This chapter concludes with general remarks on the skeleton, and an enumeration of principal points of resemblance and difference which are found in the various subjects of Comparative Anatomy.

Having thus prepared his Readers by a view of the most important general features of the interesting subject before him, the author proceeds to the individual description of parts, and the minutiae of Comparative Anatomy.

This may truly be considered as the most valuable part of the work; but the very nature of it renders it impossible for us to do more than give the contents of the several chapters, and a specimen of the mode in which this part is executed; for, a regular series of concise condensed description, of all things, the leafl admits of an abftract.

In the third Lecture the author describes the organs of motion (that is, the bones and muscles) of the trunk; in the fourth lecture, those of the anterior extremity or pectoral member; and in the fifth, the posterior extremity or abdominal member. The plan pursued in these chapters is truly comparative, as the author first describes the
the parts as they exist in man, and then proceeds to the same or similar parts in the other mammalia, in birds, and in reptiles; and the corresponding anatomy of fishes is subjoined. Besides the common form of anatomical description, the author takes occasion to introduce several comparative tables illustrative of the subject, such as, of the number of vertebrae in different animals, of the comparative length of the spine in the mammalia, &c. &c.; and he at times increases the interest of the description by observations on the peculiar uses of parts, and their adaptation to the mode of life which the animal is destined to pursue.

In the sixth Lecture, the comparison with the human subject is necessarily dropped, as in it the organs of motion in animals without vertebrae are described. This part is, perhaps, more curious than the other, as it is somewhat less familiar to general students, and includes several of those singularities of structure, which, from their novelty, excite surprise and wonder; at the same time it should be remembered, that as it is the most imperfectly known, and the most remote from analogy with our own species, its utility to the common student of anatomy is less than the former part, whatever it may be to him who pursues this difficult path with a view of discovery.

The mollusca are divided into the Cephalopoda, in which the head is furnished with tentacula that serve the purpose of feet, as is seen in the sepia or cuttle fish; the Gastropoda, which have the head free and crawl upon the belly, of which the snail is a familiar example; and the Acephala, such as the oyster, in which there is no distinct head. It is only the organs of motion in the animals that are here described, those of sense being referred to another part of this work. We shall give part of the author's description of the organs of the cuttle fish, one of the cephalopoda.

"The cephalopoda have eight conical feet; of different lengths, arranged in a circle at the top of the head round the mouth. The animal can turn and bend them in every direction, and fasten itself to bodies by help of the cups or suckers with which they are furnished. The muscles which perform these motions are very numerous. — Below the skin we find a very thin muscle, the fibres of which are united by a loose cellular substance. It accompanies the skin in all its different shapes, and may, perhaps, be regarded as a musculus subcutaneus, employed to corrugate the skin, and give greater force to the muscle situated within it, and upon which it acts as a girdle." After describing the other muscles of the foot with its terminating sucker, he adds, "When an animal of this kind approaches any body with its suckers, in order to apply them more intimately, it presents them in a flat or plain state; and when the suckers are thus fixed by the harmony of surfaces, the animal contracts the sphincter, and forms a cavity in the centre which becomes a vacuum. By this contrivance the sucker adheres to the surface with a force proportioned to its area and the weight of the column of air and water of which it constitutes the base. This force multiplied by the number of suckers, gives that by which all
or a part of the feet adhere to any body. This power of adhesion is such, that it is easier to tear off the feet than to separate them from the substance to which the animal chooses to attach itself.

This chapter concludes with the curious organs of motion of the insects, vermes, and zoophytes.

In the seventh and last Lecture of the first volume, the subject of the organs of motion is properly concluded, by a view of the effects resulting from the united action of these organs, whereby the circumstances of standing, walking, seizing and climbing, leaping, swimming, and flying, are produced. Some of the peculiarities in each of these actions possessed by certain classes of animals are also pointed out. Thus, in standing, the structure of birds that enables some of them to remain so long on one leg unfatigued is explained in the following manner: "There are some animals in which certain articulations are maintained in a state of extension, in consequence of their particular form, and the ligaments attached to them. The fock affords an example of this. The surface of the femur that articulates with the tibia, has in its middle a depression which receives a projection of the latter bone. In bending the leg, this process is lifted out of the depression and removed to its posterior edge. By this motion the ligaments are necessarily more stretched than during the extension of the leg in which the process remains in its socket. These ligaments, therefore, preserve the leg extended in the manner of some springs, without receiving any assistance from the muscles."

The method in which the active muscular exertions of different animals are performed is described with equal clearness, and terminates the volume.

[To be concluded in our next number.]

Practical Observations on the Inoculation of Cow-Pox, pointing out a Tilt of a Constitutional Affection in those Cases in which the local Inflammation is slight, and in which no Fever is perceptible: Illustrated by cases and plates. By James Bryce, Member of

The greater part of this work is a compendium of the principal facts that have been observed on this interesting topic, selected principally from the several publications of Dr. Jenner, to whom the author gives the eulogium which the inventor of Vaccine Inoculation so well merits. After the numerous publications on Cow-pox which have been laid before the world, it would be needless to recapitulate the contents of the present work; it will be sufficient to observe, that the selection is made with elegance and judgment, and that the relative importance of each circumstance is preserved by receiving a proportional share of notice, so that, as a compendium, this publication yields in value to none.

The author, however, does not appear before the public as a mere compiler, but gives some observations which assume a claim to originality. These we shall briefly notice.
Those who have attended to the history of this disease, will doubtless recollect the event of the first experiments made by Dr. Woodville, in the Small-pox Hospital, and the number of severe pustular eruptions that occurred in this place, which seemed at first to give a very different character to the disease from that which Dr. Jenner had represented. They will also remember, that in subsequent observations, Dr. Woodville made it fully appear from numerous experiments, which it is needless to recapitulate, that the matter of small-pox does not hybridize with that of cow-pox; but that the occurrence of variolous-like eruptions during vaccine inoculation is in all human probability, owing to the effect of a variolous atmosphere operating on the patient, who, in the earlier stages of vaccine inoculation, is still unprotected from the effect of variolous contagion. These observations Dr. W. published in 1800, in a separate pamphlet; and subsequent remarks by different medical observers have pursued this idea a little further, and have shewn, in a very decided manner, that these eruptions are truly variolous, whilst the inoculated pustule remains vaccine. We think, therefore, it was hardly necessary for the author of the publication before us, after giving the result of Dr. Woodville's first experiments, to announce his own explanation of them in the following terms. "I am of opinion, that on attentively considering the circumstances under which it was formed, and comparing those with what has occurred to myself and others employed in cow-pox inoculation, I shall be able to evince, that the severity of the symptoms was entirely owing to causes quite unconnected with cow-pox;" when we find the explanation to be simply, that the eruptive pustules were variolous, whilst the inoculated pustule remained vaccine.

On the subject of preserving vaccine matter, which has so often disappointed medical practitioners, the author proposes, as a new method, "To have a small phial made for the purpose, having a long stopper which reaches nearly to the bottom. This stopper is ground at the upper part, so as to fit the mouth of the phial as exactly as possible, and that part of it which is within the phial is formed into square surfaces which are numbered. Upon these squares the virus is lodged, and when dry, is, with the stopper, put into the phial, where it is very compleatly secured from the action of the external air."

This method is ingenious, and probably as efficacious as any other. We have already seen it practised with success.

The title page of the present work promises a test of constitutional affection, a desideratum of the utmost consequence, and to this part we shall particularly direct our reader's attention. Cases will unquestionably occur, in which, after the whole progress of the inoculation is gone through, it still remains a doubtful point, whether the security against future small-pox contagion is compleat. The author observes, with great force and justness, that the conducting of inoculation for the cow-pox has been considered as of so trifling a nature as scarcely to deserve the attention of medical men, and hence has arisen much disappointment and
want of success: for though, as a disease, the inoculated cow-pox may be regarded as trifling, yet as a certain preventive of one of the most loathsome and fatal distempers that affects the human race, it deserves the most minute attention. But here it unfortunately happens, that it is much more difficult to ascertain a constitutional affection in this disease than in inoculated small-pox, so that the very mildness of the vaccine disease, in this point of view, may be considered as a disadvantage.

In order, therefore, to ascertain this important point, on which rests the whole of the efficacy of the inoculation, the author has applied to the present instance, some experiments which have been at times made during variolous inoculation. It is well known that if during this process, the same person is inoculated every day until the fever induced by the first inoculation supervenes, all the other punctures will advance with increased rapidity in their progress; so that the puncture which has been made only for twenty-four hours, will, at this period, equal in maturity the original one which had been made eight days before.

Pursuing this idea, the author applied it to the vaccine inoculation, and by a series of accurate, and, in this view, very curious experiments, (for the detail of which we must refer to the work itself) he found that in cow-pox, in which the characteristic areola takes place about the eighth day, if a second inoculation be performed as late as the fifth or sixth day, it will be so much accelerated in its progress as to have an areola formed within a few hours after the first, increasing with its increase, and fading as it fades.

This second inoculation he also found would run a parallel course with the first, whether there was general fever or not, and this is precisely the case in which a criterion for determining constitutional affection is the most wanted.

The author gives the particulars of fourteen cases, in which the second inoculation was performed; and by varying the time of performing it, a series of perfectly conclusive and satisfactory experiments is presented to the reader, which are also illustrated by two very well executed plates. From these it is concluded, "that the most proper time for performing the second inoculation, is about the end of the fifth or beginning of the sixth day from the first inoculation. If the second inoculation be delayed beyond the sixth day, the affection produced by it will be very indistinct, and of short duration; and, if performed at an earlier period than the fifth day, the contrast between the progress of the two affections, with regard to duration, will not be so great as may be thought necessary. So that, in order to obtain the proposed criterion in the greatest perfection, the second inoculation should be performed between thirty-six and forty-eight hours before the areola of the first inoculation is expected to appear.

"Where the first inoculation is accelerated or retarded one or two days, as frequently happens, then the second inoculation should be performed at a more early or late period accordingly."
The author adds, that if the second inoculation is not accelerated, but proceeds in the usual course, it will prove that the first was not necessary to produce the constitutional effect, and therefore that a third should be performed, as a counter proof of the efficacy of the second.

We have thus given the particulars of the author's proposed plan, as it certainly deserves the attention of medical men who practice vaccine inoculation. We hardly think, however, that it is fitted for general use; partly, because it increases the trouble of the operation, insomuch, as it would require, in many cases, a second supply of vaccine matter to be procured four or five days after the first, which in private practice and country situations is not always easy to be insured. Likewise, if the second inoculation should fail altogether, whilst the first went through its regular progress in the most satisfactory manner, the author would probably ascribe this failure to a defect in the virus, which unfortunately so often disappoints the expectations of all parties concerned; but would he then suggest a doubt on the mind of the parents or friends of the patient of the validity of the first operation, on account of the failure of the counterproof? or though he should not hesitate to pronounce the security of his patient from future variolous infection, would they remain perfectly satisfied after they had seen the experiment fail, which he had himself instituted for his and their satisfaction?

Lastly, we may add, that in delicate irritable children, where already one, or perhaps two pustules are approaching to their state of highest inflammation, it might not be altogether safe to increase the only part of the vaccine disorder in which any risk is incurred, namely, the local inflammation.

However, the plan merits every attention, and the author certainly deserves well of the benevolent cause in which he is so actively engaged.

An Historical Account of the Discovery and Education of a Savage Man, or of the first Developments, physical and moral, of the young Savage, caught in the Woods near Aveyron, in the Year 1798; by E. M. Itard, Physician to the National Institution of Deaf and Dumb, &c. Translated by Dr. John Reid, 1802, price 3s. 6d.

We have little to learn concerning the manners, the habits, and the faculties of a man in every state of Society from the rudest to the most polished; the indefatigable zeal of travellers has introduced us to the kraals of the Hottentot, and the subterranean huts of the Esquimaux; and the manners of savage society have long afforded food for reflection to the civilized philosopher. But to complete our knowledge of the powers and resources of the human animal, we must take a solitary individual of the species, deserted by, or deprived of, his natural protectors at an early age, seeking the same shelter as the wild animals of the forest, procuring his subsistence by the unassisted powers of his body, and thus following only his natural instincts, forlorn, friendless, and self-dependent. What
What speculative philosopher could ever venture to propose such an experiment, and how great must be the chances against a child, thus situated, struggling through the helpless years of infancy!

Such an interesting subject for the moralist, the physiologist, and the man of reflection, has, however, actually occurred; and the instance which we have just supposed, is not hypothetical, for all these circumstances appear, on the strongest presumptive evidence, to unite in the person of the boy who was brought to Paris about three years ago, under the name of the Savage of Aveyron.

The narration which begins this little work, is perfectly simple.

"A child about eleven or twelve years of age, who had been seen some time before in the woods of Caune in France, looking after acorns and roots, upon which he subsisted, was met in the same place, towards the close of the year 1798, by three sportsmen, who seized upon him as the instant he was climbing a tree to evade their pursuit. They conducted him to a neighbouring village, and put him under the care of an aged matron, from whom, however, before the end of a week, he contrived to escape, and fled to the mountains, where he wandered about during the severity of a most rigorous winter, clad only in a tattered shirt. At night he retired into solitary places, approaching, as the day advanced, the neighbouring villages; and in this manner he passed a vagrant kind of life, till the time in which, of his own accord, he sought refuge in a dwelling-house in the canton of St. Semin." From hence, we are informed, he was removed to two or three different places, during which time he appeared wild, capricious, and impatient of restraint, till at last he was sent to Paris, and finally placed under the care of the Author, who is the Superintendent of the Hospital for the Deaf and Dumb, one of the most excellent and benevolent institutions for its extent in that large metropolis.

Here then begins the subject of the interesting history before us, which is, to relate the manners, habits, bodily constitution, and above all, the degree of reason shewn by this unfortunate foundling, of whom we may say, with the Poet,—

Earth was his bed, the boughs his roof did frame,
He knew no beverage but the flowing stream:
His food the fruit with which the woodlands teem,

The fame to him glad Summer or the Winter breme.
So passed his youthful morning, void of care,

Wild as the colts that through the commons run.

The expectations that were first formed on his arrival at Paris, were such as strongly to awaken public curiosity; even persons of superior understanding seemed to have expected to find in him a lively, intelligent child, full of activity and observation; and they anticipated the pleasure of observing his astonishment at the splendour of the capital.

What was their disappointment at finding only "a disgusting, slovenly boy, affected with spasmodic, and frequently with convulsive motions, continually balancing himself like some of the animals in the menageries, biting and scratching those who contradicted
transfixed him, expressing no kind of affection for those who attended upon him; and, in short, indifferent to every body, and paying no regard to any thing."

Hence it was that, though many people of all denominations, at first flocked to see such a novelty as a wild boy, the public curiosity was soon satisfied; it presently ceased to be the fashion to visit the savage of Aveyron, and he might have been abandoned to neglect, if, fortunately for him, he had not found in Mr. Itard, a patient, kind, and truly paternal guardian, who appears to have devoted much of his valuable time to the laborious and almost hopeless task of softening the untractable spirit, and rousing the dormant faculties of this wild and uncouth child of Nature.

The Author proceeds to explain the plan which he laid down, in order to begin the education, civil and moral, of his singular pupil. The plan is truly philosophical: the success resulting from the labour of two years has been but partial; enough, however, as it should seem, to encourage his kind guardian to persevere in a course, every step of which affords so much matter for interesting reflection.

We shall not, however, pursue further our account of this little volume, as it will doubtless be perused with eagerness by all who can feel the interest arising from such a curious subject. We cannot help remarking, however, how strongly the love of natural objects, and the force of early impressions recurred at various times to this untaught youth. Who can read without emotion the following paragraph! — "I took him, not long ago, to the Vale of Montmorency. It was a very curious and exceedingly interesting spectacle to observe the joy which was painted in his eyes, in all the motions and postures of his body, at the view of the hills and woods of this charming valley. He spent two days at a rural mansion; such here was the influence of his mind, arising from the exterior agency of these woods and these hills, with which he could not satiate his sight, that he appeared more than ever restless and savage; and in spite of the most assiduous attention that was paid to his wishes, and the most affectionate regard that was expressed for him, he seemed to be occupied only with an anxious desire of taking his flight,—rising from table every minute, he ran to the window with a view of escaping into the park."

It has been supposed that this boy is naturally deficient in his understanding, and that he can never be made more sagacious than an idiot, who may be trusted to his own guidance in common things. No pains have hitherto succeeded in giving him the use of language, excepting in the pronunciation of one or two simple sounds; however, Mr. Itard alleges with some force, that he expresses his simple wants so completely by signs, as to render speech unnecessary. One or two of these may entertain the reader. "Is he impatient to dine? He himself lays the cloth on the table, and presents Madame Guerin (his governante) the plates, that she may go into. the kitchen to fill them. When he dines with me in town, all his wishes are
expressed to the lady who does the honour of the table. It is always to her that he addresses himself to be served with what he wants. If he pretend not to understand him, he puts the plate by the side of the dish of which he desires to partake. If this do not produce any effect, he takes a fork and strikes it two or three times on the edge of the dish. If he still neglect him, he loses all patience, he plunges a spoon, or even his hand into the dish, and in the twinkling of an eye he empties it all into his plate."

It seems, likewise, that he has not yet learned politeness, for "a great number of the curious know how, with more natural frankness than politeness, he dismissed them when fatigued with the length of their visits; he presents to each of them, and yet without a countenance of contempt, their cane, gloves, and hat, pushes them gently towards the door, which afterwards he violently shuts upon them."

The author concludes the work by remarking, that the important period of puberty is just approaching by the most unequivocal signs. The physiologist will probably expect, that if any material advance is ever to be made in raising the intellect of this youth to the level of that of his fellow men, it will be effected along with the growth of his bodily powers.

A Practical Synopsis of the Materia Medica, by the Author of The-saurus Medicaminum, Vol. I. containing Part I. Materia Alimentaria, and the First Class of Part II. viz. Evacuantia. Svo. pp. 323. London, 1797.

We have introduced the mention of this work, though published so long ago, for the sake of correcting an error at page 564 of our 7th volume. We there mentioned the 2d vol. of this work, as being a Continuation of The-saurus Medicaminum, which is a distinct Treatise. The commendation we bestowed on the other parts, may, with propriety, be applied to the present.

An Historical Sketch of the Controversy upon Apoplexy, &c. by R. Langslow, M. D. Svo. pp. 52, 1802. London.

As the subject of this work has been very fully laid before the public in our Journal, and even a great part of the work itself, (for several letters, &c. are here reprinted from the Journal) our Readers will not expect us to give extracts. And as we observe among our correspondents, a much greater diversity of opinion respecting the pathology of apoplexy than we expected, we avoid giving any other opinion on the present work, than that it appears to be as fair a sketch of the Controversy, as could be expected from a writer who had been so warmly engaged on one side.

A Synopsis
A Synopsis, and an Explanation of the Synopsis, of Chemical Nomenclature and Arrangement; containing several important Alterations of the Plan originally reported by the French Academicians; by Samuel Mitchill, M.D. Professor of Chemistry in Columbia College, &c. pp. 44. New-York, 1801. London.

It is an evil common to all revolutions which overturn established principles, to go too far. When the French chemists thought it right to revolutionize chemistry, they created a new language, so adapted to the new principles, that the one cannot vary without the other. Now, if chemistry had arrived at perfection when the new language was made for it, there would be no other cause for regret, than its rendering all previous works obsolete. But when every day presents us with some new discovery, or the correction of some error that affects the elementary bodies, or the first principles, it is to be lamented that an entire new language should have been proposed so early. We think the temperate reformation adopted by the admirable Kirwan, would have been preferable to a revolution. The revolution, however, has been received in Europe, and the new Nomenclature is become familiar to us; but Dr. Mitchill is not entirely satisfied with it; and in the work before us, proposes a few new terms. We think that the progress of Science is retarded by frequently changing the language of it; and we shall think it a cause of regret, if America and England should use different languages in the science of chemistry. As we can give no intelligible account of this work, without giving the Synopsis itself, we shall content ourselves with mentioning a few of the names proposed to be used instead of the current ones. For Caloric, Anticrouon; Hydrogen, Phlogiston; Azote, Septon. The other terms differ little from those in general use.

The Medical Querist and Investigator, by W. P. Russell. 8vo. pp. 13. London, 1802.

The design of this short pamphlet is to instruct the young student in medicine how to make the inquiries necessary to inform him of the true nature and danger of any disease. It will also much assist any patient in the country to draw up his own case for the purpose of consulting a practitioner at a distance. As the price is small, we shall be surprised if every medical student does not possess himself of it.