

work. Mr. Tyerman's volumes constitute by far the most exhaustive, as they are certainly the bulkiest, and from many points of view, the most interesting of the lives of Wesley. He has industriously ferreted out and brought together a great deal of unpublished or unconnected material, although much material to which he might have found access still remains unexamined, acquaintance with which would probably have modified some of his judgments. The author does not aim at any remarkable melody of style, philosophic disquisition, or even personal portraiture; his work is simply an *Index Rerum* about Wesley. Mr. Tyerman's judgment is usually characterized by great clearness and good sense; his pen seems to be always governed by the desire to be fair and impartial, and for the first time our libraries receive a full and comprehensive memoir of the great religious teacher and ecclesiastical statesman, of a life as transcendently above ordinary lives in its incessant and immeasurable activity, as it was protracted beyond them in its period of service. We suppose that those readers who desire a philosophy of Methodism, will still turn to the pages of Isaac Taylor; and those who desire to read a charming story, will still find most refreshment in the pages of Robert Southey, or in the more recent glowing collection of anecdotes in Dr. Stevens's '*History of Methodism.*'

ART. VII.—*Mr. Darwin on the Origin of Man.*

- (1.) *The Descent of Man and Selection in relation to Sex.* By CHARLES DARWIN, M.A., F.R.S., &c. 2 vols. John Murray.
- (2.) *On the Genesis of Species.* By ST. GEORGE MIVART, F.R.S. Macmillan.

THE mode of the origin of man is a question of such momentous interest to intelligent men that it is not easy to handle it with calm philosophical indifference, or to discuss it dispassionately. It is true, we have been informed that the conclusions concerning man's evolution which have been lately taught far and wide are not opposed to religion, but we have not been favoured with the tenets of that religion to which an evolutionist may, without inconsistency, subscribe. We have even been assured that evolution presents us with a most noble view of the Great Creator, who endowed living matter with the capacity of change, and subjected it to natural laws; that it admits the necessity of a directing, intelligent will, and refers all the

phenomena of the universe to God. But those who have recorded this remarkable discovery have not been careful to make known to us the attributes of that Deity in whom they trust; and they express themselves in a manner that is rather vague concerning the limits imposed upon His power, His will, and His government by what they call natural law.

The hypothesis of evolution, it has been said, does not touch the question of the origin of life, for evolution is supposed to begin to operate only after that mysterious, if not miraculous phenomenon has been completed. Our readers should, however, remember that quite recently Sir W. Thomson has relegated to a sphere long since shattered, the birth of the first living spark which peopled this earth, and thus we are released from the difficulty of framing an hypothesis to account for the first particle that lived. But a third class of evolutionists professes to be able to trace the actual origin of the living from non-living matter, and even maintains that a series of insensible gradations has been established between the inanimate and the living.

These are some of the considerations which are agitating men's minds in the days in which we live; and Mr. Darwin, in his last work, has clearly defined the conclusions concerning man's origin which, as he maintains, we are compelled by the facts of nature to accept, though he does not indicate, and indeed seems supremely unconscious of the tremendous nature of the issues raised by his philosophic teaching. 'I am aware,' says Mr. Darwin, 'that the conclusions arrived at in this work will be denounced by some as highly irreligious;' but he himself has failed to discover anything irreligious in the view he has taken. It is, however, very difficult to form a correct estimate of this opinion in the absence of any explanation of the meaning which Mr. Darwin attaches to the terms, religion and irreligion. The religious views of those who regard man as a being distinct and altogether apart from brute animals must needs be different from the religious views of those who look upon him as a mere animal, though it is possible that the latter conclusion may not conflict with religious beliefs of some kind or other.

We should not have ventured to offer these remarks upon the religious aspect of the question had it not been adverted to, and, as we think, quite unnecessarily, by Mr. Darwin himself; our main object in this article being to consider the scientific question from the scientific side.

That man began to be in a very remote past is now freely admitted by all; but this is perhaps the only one of the many propositions advanced in connection with man's origin that will be

accepted by different authorities who have considered the question from different points of view.

Not a few persons still accept the ancient tradition, and up to this very time maintain, that the idea that man sprang as man direct from the hands of his God remains unshaken, and that the evidence advanced in favour of more recent interferences is not only incomplete, but vague, fragmentary, uncertain, and unconvincing. But while it must be admitted that the majority of scientific men who have studied the subject are agreed in the conclusion, that science can point to no fact at all conclusive in favour of the idea of the direct creation of man from the dust of the ground; it is by no means so certain that the scientific evidence advanced in favour of very different inferences is more convincing, or as worthy of acceptance as their enthusiastic advocates would have us believe. It cannot be too often clearly stated that the whole spirit of science demands that scientific conclusions should rest upon the evidence of facts, and upon facts alone. Evidence advanced by the scientific observer must be evidence which can be adduced over and over again; evidence which will bear to be examined and re-examined in its minutest particulars and with the utmost care. Nothing is to be taken on trust by the man who would advance real knowledge, and he who endeavours to convince an audience of the truth of some new scientific conjecture, by telling it that no other explanation can be advanced than the particular one that he offers, is true neither to science nor to himself. It is his business to produce evidence, not to try to force his own conviction on other minds, and he should most scrupulously avoid phrases which partake more of the character of threats than arguments. 'Accept this view, or I shall regard you as unreasonable, and consider you a savage,' is the language of a member of an intellectual prize-ring rather than that of a calm, dispassionate investigator of nature, searching after the truth for truth's sake.

Into recent discussions concerning the origin of man, much extraneous matter has been imported, and in many articles acrimonious remarks have unfortunately been introduced for which little excuse can be offered; but it appears to us impossible to deny that the conclusion we arrive at concerning the origin of man, may, and probably must seriously affect our views concerning the nature of our relation to Deity, and our belief in a future state; but it is surely premature to allow our convictions to be greatly disturbed by such considerations, for it is doubtful whether we are yet in possession of sufficient knowledge to enable us to deduce any definite conclusion upon this most

difficult question: Men who call themselves philosophical and scientific may laugh at what they call the legends concerning man's origin, which are received as truths by the unscientific; but much will have to be added to the evidence already existing in favour of the arboreal habits of our ancestors, before the notion will be generally accepted as worthy of serious belief, or as entirely freed from ludicrousness. The reader of science in these days must be careful not to mistake conjectural propositions, however ingeniously expressed, for established scientific demonstrations.

Our acceptance or rejection of Mr. Darwin's views regarding the descent of *man* will be mainly determined by the conclusions we have been led to adopt concerning his doctrine of the formation of different species of animals by natural selection. The writer of this article, disagreeing, as he does, entirely, with the views adopted by Mr. Darwin's opponents, would be quite ready to concede the doctrine of the descent of man from a lower form if he felt convinced that the evidence adduced was sufficient to prove that even a few of the lower animals and plants had resulted by development from lower forms. He is well aware that, both here and on the Continent, many scientific authorities accept the doctrine of natural selection as applied to plants and animals, but hold that as regards man the evidence is altogether inconclusive. Mr. Darwin evidently wishes his readers to accept upon faith the dictum that it has really been positively demonstrated that all species of the inferior animals have been evolved from some lower beings, for he uses this as an inferential argument in favour of the doctrine that man, '*like every other species,*' has descended from pre-existing forms.

We shall not therefore argue, as has often been done, that although natural selection may be true as applied to animals, it is not correct as regards man, but shall concede this point, and admit that, if it could be proved that dissimilar animals had descended from a common progenitor, we might believe that man's body has been formed in the same way. But we dispute the evidence hitherto advanced to prove that even plants as much alike or unlike as the rose and the thistle have descended from a common plant; and we doubt if sufficient time has elapsed for effecting the requisite changes in the very gradual manner in which the hypothesis assumes that they have occurred.

A great array of facts are marshalled before the reader, in order to produce the impression that the foregone conclusion really rests upon a very firm foundation; but it is remarkable how frequently hypothetical inferences are made to do duty for inductive arguments. Thus Mr. Darwin assumes that because man, like the lower animals, is subject to malconformations,

arrested development, or reduplication of parts, his origin *must have been* like theirs. It is, however, obvious that such an argument begs the question at issue. It is clearly possible that man's body might agree with the bodies of the lower animals in these and many other points, and yet be formed upon altogether different principles; while man and animals might be alike in these points, without either having been derived as Mr. Darwin supposes. Again, it seemed scarcely necessary to repeat the affirmation that there was much in common between the bodily structure of man and animals, because everyone who has studied the matter ever so carelessly freely admits that there is, and every child would acknowledge the fact from his own observation. What Mr. Darwin desires us to believe is, that this similarity in structure is due to community of origin; but this is a very different thing. The fact must be accepted, but the proposed explanation of the fact is, after all, only an assertion. It has been audaciously said that Mr. Darwin's explanation ought to be accepted as true if no more probable explanation be advanced; but surely this is to mistake altogether the object of scientific inquiry; for it by no means follows that an improbable hypothesis ought to be accepted and taught as true, because its opponents are unable or unwilling to propose a new hypothesis several degrees less improbable. The question for us to determine, is simply how far the arguments advanced by Mr. Darwin justify the conclusion at which he has arrived; and it is not good reasoning to argue that, because the bodily structure of man resembles that of animals, and the bodily structures of animals resemble one another, therefore all have community of origin; for it is clear that there may be some very different explanation of these facts which cannot be discovered, nor will be until we possess more knowledge of them. We may accept as a fact the well-known general resemblance between the tissues of different animals and the tissues of man and animals, but we may deny that this resemblance is sufficiently close to ground upon it the doctrine that all tissues have been derived from a common ancestral tissue-forming substance. We quite agree with Mr. Darwin, that 'man is constructed on the same general type or model with other mammals,' but we fail to see in this an argument for the doctrine that he and they have a common origin.

If, however, the tissues, blood, and secretions of man were like those of animals, that is, if they could not be distinguished from the latter in ultimate structure and chemical composition and properties, we should be quite ready to accept Mr. Darwin's conclusion; and not a few of Mr. Darwin's readers will imagine that such

is really the case, for the language employed almost implies that a very exact likeness has been proved to exist. Mr. Darwin has, however, been careful so to express himself as to lead his readers to adopt the inference he desires, without laying himself open to the charge of undue persuasion, while professing only to be laying facts before their unbiassed judgment. In truth, such enthusiasm has been stirred up in favour of Mr. Darwin's doctrines that the task of criticism has become unpleasant, and it requires some courage even to offer a hint that after all they *may* not turn out to be true. And yet it is not possible for anyone who has studied anatomical structure to assent to many of the statements in the very first chapter of Mr. Darwin's book. As regards bodily structure and chemical composition, and also minute structure of tissues, there are points of difference between man and animals more striking and remarkable than the points in which resemblance may be traced. So, too, with reference to embryonic development, resemblance increases the further we go back, and much more may be proved than Mr. Darwin requires for the support of his hypothesis. An embryo man is not more like an embryo ape than either is like an embryo fish. The mode of origin and the development of every tissue in nature are indeed alike in many particulars, but this fact, so far from being an argument in favour of the common parentage of any or all, seems to indicate that all are formed according to some general law, which nevertheless permits the most remarkable variations, not solely dependent upon either external conditions or internal powers.

It has been shown that certain structural characteristics observable to the unaided eye are common to man and the lower animals, and this fact has been urged in favour of the conclusion adopted by Mr. Darwin. Thus, great stress is laid upon the presence of 'the little blunt point projecting from the inwardly folded margin or helix of the ear of man.' This is decided to be the vestige of the formerly pointed ears of the progenitors of our predecessors with arboreal habits, but nothing is said in explanation of the complete absence of rudiments of parts which we should expect to find. And surely there may be differences of opinion as to the bearing of many of the facts advanced, although Mr. Darwin affirms that their bearing is unmistakeable. The observation that, 'on any other view, the similarity of 'pattern between the hand of a man or monkey, the foot of a horse, the flipper of a seal, the wing of a bat, &c., is utterly 'inexplicable,' is not complimentary to the ingenuity or conjectural capacity of those who are to succeed Mr. Darwin; but to assert that these parts have been formed on the same ideal

plan is not a scientific explanation; it is merely to express an opinion in a very arbitrary and rather abrupt manner. It may be 'natural prejudice' and it may be 'arrogance' which leads some to demur to the conclusions deduced by Mr. Darwin and his friends, and the prophecy* at the end of his chapter may be fulfilled, but it is at any rate premature; while it is by no means fair to imply that every naturalist who refuses to accept Mr. Darwin's hypothesis believes that each mammal and man 'was the work of a separate act of creation.'

As is well known, there are certain diseases which may be communicated from man to the lower animals, or from the lower animals to man, and Mr. Darwin tells us that the fact 'proves (!) the close similarity of their tissues and blood, 'both in minute structure and composition.' Here, again, in what he regards as his proof, Mr. Darwin begs the question. Such premises afford no justification whatever for the conclusion arrived at, while the force of the remark depends entirely upon the meaning attached to the phrase 'close similarity.' We may assert with truth that there is a *very close similarity* between the blood of a rat and the blood of a Guinea pig, and also that the blood of the rat *differs widely* from that of the Guinea pig. In the first assertion, 'close similarity' is used in a sense which does not imply that 'widely different' is not equally true of the statement to which it relates. The argument adopted by Mr. Darwin is not an argument in favour of his conclusion. He might urge with equal force that since bacteria grow and multiply in many different fluids and solids, these fluids and solids exhibit a close similarity in structure and composition; or, conversely, it might be held, that because certain poisons produce very different effects upon the nerve-tissues of different animals, therefore the nerve-tissues of these animals must differ widely in minute structure and chemical composition.

As regards the statements that man and animals alike die of apoplexy, suffer from fever, are subject to cataract, take tea, are fond of tobacco, and the like, it is simply astounding that Mr. Darwin should have advanced them with the view of strengthening his case. The circumstance almost leads us to infer that he was not altogether unconscious of the weakness of his own cause. He has been over-sanguine regarding his powers of convincing his readers of the truth of any proposition he might think fit to

* 'But the time will, *before long*, come when it will be thought wonderful 'that naturalists, who were well acquainted with the comparative structure and development of man and other mammals, should have believed that 'each was the work of a separate act of creation.'—Vol. i. page 33.

advance. It would have been more to the purpose to have maintained that, since all mammals have blood and blood-vessels, brains, and nerves, it is certain that all mammals must have had a common origin, since it is not possible to account for the close similarity between these tissues in any other way.

Nor is it easy to understand how the community-of-origin hypothesis is assisted by the fact that man and animals are infested by parasites, seeing that the parasites are as different from one another as are the species which they infest, and, like the latter, are incapable of interbreeding, and exhibit specific distinctions of the most striking kind.

That reproduction and gestation are carried out upon the same general plan in all mammals is universally known, but it is straining argument with a vengeance to advance this in favour of their community of origin, considering the marvellous variations in detail which are observed in respect of these processes in different and even in very closely allied mammals.

The fact that man arrives at maturity more slowly than other animals is met by Mr. Darwin with the cautious observation that 'the orang is believed not to be adult till the age of from ten to fifteen years.' This is by no means a solitary example of the very vague observations which Mr. Darwin admits as data upon which to ground his conclusions. For want of more demonstrative evidence, he is constrained to accept the loose statement to which we have alluded; and it must be admitted that he has displayed considerable ingenuity in making the most of the utterly inconclusive and sometimes unreliable material at his disposal; but it is indeed very remarkable that he should consider himself in any way justified by the facts and arguments to which he has adverted, in summing up so very definitely and so very decidedly as he has done on the sixth page of the first chapter of his book. The italics in the following sentence are our own: 'It is, in short, *scarcely possible to exaggerate the close correspondence* in general structure, in the minute structure of the tissues, in chemical composition, and in constitution, between man and the higher animals, especially the anthropomorphous apes!'

Mr. Darwin adduces another argument in his favour from embryonic development, and proceeds to show that at a certain period the human embryo is very like that of the dog. He quotes with approval the remark of Mr. Huxley, that as regards development man is 'far nearer to apes than the apes are to the dog;' but if we suppose the resemblance to be far greater than is really the case, it is difficult to see how the fact would strengthen the hypothesis in favour of which it is advanced.

Because the embryo of a dog resembles that of a man, therefore both were derived from a common progenitor, seems a very curious specimen of reasoning, and implies the acceptance of a number of other propositions which have been and will continue to be disputed. We are assured that no other explanation than the one advanced by Mr. Darwin 'has ever been given of the marvellous fact that the embryos of a man, dog, seal, bat, reptile, &c., can not at first be distinguished from each other;' but as needs scarcely be said, this circumstance adds no weight to the particular explanation in question, and does not increase the probability of its being proved to be true at some future day. According to Mr. Darwin, we *ought* frankly to admit the force of every argument he thinks fit to advance; but surely, before doing so, there is no harm in examining the facts a little more closely. And, first, it would have been desirable to inquire whether the resemblance was really as great as a superficial examination by the unaided eye seemed to indicate; next, it should have been ascertained whether the *differences* between the animal and the human embryo were not also very considerable; in which case it would have been necessary to inquire further concerning the bearing of the differences demonstrated, upon the hypothesis of the community of origin of the several embryos, grounded upon the likeness.

But Mr. Darwin does not tell us why he selected one particular period of development for demonstrating the resemblance between the human embryo and that of the dog. The likeness was in truth much greater at a period still earlier than the one selected. Nay, the fact must be known to Mr. Darwin, that at a very early stage in development we fail to discover, after the most careful scrutiny, any difference between the matter which, under certain conditions, will become man, and that which, under certain other conditions, will become dog, or cat, or bird, or frog, or jelly-fish, or plant; yet it would be monstrous to assert that apparent likeness was real identity. It is only during the later stages of development, as Mr. Huxley affirms, and as has been well known for fifty years or more, that 'the young human being presents *marked* differences from the young ape.' But why is the reader not told that at a very early period of development these embryos are not only like one another, but could not by any means at our disposal be distinguished from each other or from any other form of embryo matter in nature? The results of the act of living in the two cases are very different, but the living matter itself seems to be nearly identical. The material out of which man is evolved is perhaps exactly like that from which every other vertebrate living being proceeds, and it does not differ

in any ascertained points from that from which the most destructive morbid growths may be developed. Here, then, is an argument for the community of origin of everything in nature. Not only is man's brain developed like the dog's brain, but the matter in which every one of his organs originates is like that from which every other tissue in nature is evolved.

But when we come to examine more minutely the tissues of the embryo man and the embryo dog at about the period of development selected by Mr. Darwin for comparison, we find very remarkable points of difference in their minute structure. If we examine particular tissues by the aid of high microscopic powers, we shall discover points of difference as well as points in which they agree, and this at every stage of growth subsequent to the time when the tissues have acquired their special characters. If, then, from the fact of general resemblance we are to argue in favour of a common origin, what explanation have we to offer of the peculiar and constant, though definite differences between the corresponding tissues of different animals at corresponding periods of development? Mr. Darwin's explanation may account for the resemblance between the different embryos at a particular period of development, but it does not help us in the least to understand why there should be differences in the ultimate structure of the tissues at this same period, any more than it explains the still more remarkable resemblance between different forms of embryonic matter at every period of life, in health and in disease.

It is difficult to understand how ‘natural selection’ can work, unless we admit that the matter of the germ possesses the property of undergoing modification. But if modifying power determines the changes, this must itself be referred to something *inherent* in the matter of the germ itself—a primary power of the organism transmitted from pre-existing organisms. Such a power is, however, inadmissible in any evolutionary hypothesis, and so far from being explained by natural selection, explains the facts grouped under that head. It is true that Mr. Darwin does admit the operation of ‘unknown agencies’ influencing the nature and constitution of the organism, but he adduces no reason for supposing that these unknown agencies will be discovered at some future time, or that they are in any way dependent on natural selection. If we require ‘unknown agencies’ at all, we may surely dispense with natural selection altogether, and attribute the formation of species to these unknown agencies directly, instead of attributing it to natural selection and referring natural selection to the unknown agencies.

It certainly would be an argument of the very highest im-

portance, and indeed most convincing, if it could be shown that, in their minute structure, the corresponding tissues of man and animals very closely agreed. Mr. Darwin affirms that this is indeed the case, and says that the correspondence in minute structure is so close, especially in the case of man and the anthropomorphous apes, that it is *impossible to exaggerate it*. But, strange to say, he adduces no evidence whatever in support of the assertion, although he does not hesitate to make use of the assumed close correspondence as if it had been demonstrated in the most unequivocal manner. Mr. Darwin is unquestionably correct in attaching the very highest importance to this part of the evidence. As the question of correspondence in minute structure of tissues between man and animals has scarcely been touched upon in any of the numerous critiques which have been written upon Mr. Darwin's hypothesis, we propose to direct the reader's attention to a few details of considerable interest, affecting not only the validity of views concerning the descent of man, but affecting also the hypothesis of evolution. It has been already stated that we are ready to admit the full force of the fact of the close correspondence if this can be proved; but, on the other hand, if constant differential characters can be distinctly demonstrated, especially in corresponding tissues of closely allied species, it must be conceded that the circumstance will be very damaging to the hypothesis of evolution; for it is very doubtful if even the very great ingenuity displayed by Mr. Darwin and his followers would enable them to offer an explanation which would be considered plausible. It is somewhat significant that the subject of minute structure, in spite of its great importance having been freely admitted, has been very lightly touched upon. So far, evolutionists have fought rather shy of the evidence to be obtained by a very minute and careful examination of the tissues; though strongly advocating careful investigations of a general character, they have been very reticent on the question of microscopic investigation, and in not a few instances there are indications of an indisposition to study minute details, as if they feared observation might be pushed too far, or too much into detail to serve their purpose. Attention is constantly directed to the general points in which different species resemble each other, and the reader becomes fully impressed with the great importance of the argument resting upon the fact of the strong similarity between man and apes, but no direct comparison in minute structure between any human and simian tissue is instituted, nor are any results of such comparisons anywhere referred to. But if, for example, it could be shown that in their minute anatomy the tissues of an ape so

closely resembled those of a dog on the one hand, and of a man on the other, as that they could not be distinguished by the microscope, the fact would be of the highest importance, and would add enormously to the evidence already adduced by Mr. Darwin, who lays much stress upon the close correspondence between the tissues of man and animals in minute structure, but never tells us that such comparison has been actually made by himself or by others. It is certainly remarkable that a fact which Mr. Darwin evidently considers of vast importance, and which is capable of being easily put to the test of observation, should be stated without the results of a single observation being recorded. Surely an appeal to actual experiment should have been made in at least a few instances, which would illustrate not only the close correspondence, but the absence of differences between corresponding tissues in different species. This having been done, it should then have been clearly stated in what manner this correspondence in minute structure favours the idea of the common origin of distinct species. But Mr. Darwin is content here, as in many other cases, with asserting the fact as a fact, and then stating that it helps in an important manner to establish the truth of the doctrine he advocates.

As this supposed correspondence in minute structure has never, so far as we are aware, been called in question, we shall occupy some portion of the space allotted to us in adverting to certain facts of interest, and shall supplement our observations by some remarks upon the supposed correspondence, or divergence, in chemical composition between representative solids and fluids in allied but distinct species. We must admit, with many other scientific writers, that if but a very moderate proportion of the arguments advanced by Mr. Darwin in favour of his conclusions rested upon a really firm basis of fact, the formation of species by natural selection would be established; but we have found that in many cases the arguments advanced do not bear the test of careful analysis, and some assertions crumble into dust as soon as they are exposed to investigation. We shall find reason to doubt the validity of Mr. Darwin's inferences concerning chemical composition, as well as concerning minute structure. Although undoubtedly we do discern a general correspondence, the exceptions are so remarkable, and so far inexplicable upon Mr. Darwin's view, that we are disposed to think that the argument from it must be rejected altogether. If we study carefully the minute structure of corresponding tissues, we shall find that in many instances we are confronted with the most striking and peculiar differences, which tend to establish the idea of individuality and distinctness of origin, rather than

that of the community of origin of creatures closely allied in zoological characters.

The differences in minute details in the case of creatures much alike are often very remarkable, and well worthy of attentive consideration. It may be possible to explain some of them by natural selection, but the way in which this can be done has to be pointed out. Nor is it easy to see why many individual peculiarities, that could easily be specified, should exist at all. They are certainly not required by their possessors, they do not seem either of advantage or disadvantage, and it is at least conceivable that in minute structure the tissues of all closely allied animals might exactly resemble one another. But is it not remarkable that, for instance, almost every tissue of the newt, frog, toad, and green tree-frog, has individual characteristics of its own, which could be distinguished by one who was thoroughly familiar with the microscopic characters of the textures? In many cases the differences are so wide that they could not be passed over.* In the newt, as would be anticipated, the elementary parts of the tissues are formed altogether upon a much larger scale than in the other animals, and there are individual differences which are most interesting. The disciples of evolution might gain some facts in support of their theory by comparing in minute structure the tissues of the newt and proteus, in which latter animal everything is on a larger and coarser (?) scale than in the newt. But would the evolutionary hypothesis gain by the application of such a test?

The nerve-fibres in every part of the body of the newt differ in many minute particulars from those of the frog, and the muscular fibres of either animal could be recognised if they were successfully prepared in precisely the same manner, so that a comparison might be instituted with fairness. But in these animals not only do corresponding tissues exhibit peculiarities, but entire organs are totally different. The kidney of the frog diverges in so many points of structure from that of the newt, that the two organs could not be mistaken the one for the other, even if examined in the most cursory manner. Each individual tube of the newt's kidney is lined by ciliated epithelium from one end to the other, while that of the frog is so lined only at

* An evolutionist who reads these lines may, perhaps, exclaim, 'What, then, do you maintain that the frog, toad, newt, and green tree-frog, were each the work of a separate creative act?' To which question we reply, 'By no means; but, nevertheless, the minute structure of the tissues does not permit the inference that these creatures have community of descent.' It is very curious that Mr. Darwin and many of his supporters seem to think that all men who do not support evolution must believe in separate creations.

the neck. The Malpighian bodies of the two animals are different, and we believe that corresponding tissues taken from these organs could be distinguished from one another. It may be answered, 'This very instance is in favour of evolution, for 'the kidney tube gradually loses its ciliated lining, as we 'pass from the lower towards the higher batrachian form. 'In the latter, only the neck of the tube is ciliated, while 'in animals higher in the scale than the batrachia, the uriferous tube is perfectly destitute of cilia.' Will the evolutionist be satisfied with this explanation, or will he suggest some other ?

Again, if we take the skin of the four animals mentioned above—although it will be seen that there is a certain general agreement in structure to be recognised, there is not a texture of the skin which is alike in them all. The cuticle is different, the glands of the skin are differently arranged, the pigment-cells present the most marked differences; and individual characteristics are to be detected in great number by anyone who will study the subject in detail with sufficient care. We do not, however, suppose for an instant that Mr. Darwin would be unable upon his hypothesis to offer a plausible explanation of all these minute points. We are well aware that this can be done, and in a manner that to some minds may seem convincing. What we wish to press upon our readers, however, is, that so far as at this time the argument rests upon a close correspondence in minute structure, it must be given up, because the asserted close correspondence in minute structure is not based upon evidence. On the other hand, actual investigation into the structure of certain corresponding tissues demonstrates remarkable individual peculiarities, and these seem to increase in number the more thoroughly and the more minutely the tissues are explored. What if, in the case of closely allied species, such structural differences be demonstrated in every part of the body? Will the fact be urged in support of a common parentage, or in favour of some different view? It may be fairly asked, if two closely allied forms have descended from a common progenitor not far removed from either, why should almost every tissue and organ in the body exhibit individual peculiarities, not one of which can be regarded as of advantage to the creature, or as contributing in any way to its survival? The sensitive fungiform papillæ of the tongue of the common frog and of the hyla differ from one another in minute structure, and specimens could be readily distinguished. Again, it might be asked, why are the hairs of the shrew different from those of the mole, and why is the disposition of the nerve-fibres around the hair-bulb

even to their minutest fibrils different in different creatures, all of which possess the particular hairs called *tactile*, which act as delicate organs of touch? One would have supposed that the apparatus at the side of the base of a tactile hair of a shrew would be very like that upon which the tactile hair of a mole operates, and that the mechanism in both animals would not differ much from that at the base of the tactile hairs of the mouse. But the structure of the hair is different in all three, and the arrangement of the nerves is so different that there would be no difficulty in distinguishing them from the hair-sac alone. In short, there are probably very many different forms of tactile organs, in all of which a hair is the external part, but which organs exhibit important differences of structure.

If close correspondence in minute structure is to be accepted as an argument in Mr. Darwin's favour, he will surely hardly venture to assert that differences in minute structure point to a similar conclusion, though both sets of facts might be ingeniously used in support of this eminently elastic hypothesis. If the supposed correspondence was established, the evolutionist would of course point to the fact in proof of a common parentage; but if, on the other hand, the supposed correspondence should be proved to be a fiction, he might retort triumphantly, 'Only see in what infinitely minute structural particulars the law of variation by natural selection manifests its operation!'

How are we to explain the varying form and size of the red blood-corpuscles in different animals which have been so carefully examined and measured by Mr. Gulliver? The corpuscles do not vary according to the size of the animal, nor, unless our views of classification are utterly erroneous, can any constant relation be demonstrated between the size and form of the blood-disks of the creature and its position in the zoological scale. Again, in some cases, the colourless corpuscles are much larger than the coloured ones, while in others, the very reverse obtains. Moreover, in many important characters, the blood-corpuscles of animals of the same class differ remarkably. The writer of this article could multiply such facts to a great extent from the observations he has been led to make incidentally, without reference to any hypothesis whatever; but he feels almost sure that, if a series of observations were made, the distinctive characters of corresponding textures taken from closely allied animals would be enormously multiplied. Such minute anatomical investigation will doubtless be instituted, but at present the leaders of scientific thought in this country seem to consider

that general observations extending over a wide range of knowledge are preferable. Mr. Darwin even supposes, or, at any rate, leads his readers to infer that he supposes, that the investigation of the structural character of man and animals has been completed or is nearly completed. It is evident he would have us believe such to be the case, for he says that, to take any view of man's origin different from his own is to admit that our own structural characteristic and those of animals are a mere snare laid to entrap our judgment—as if all our tissues and organs had been thoroughly and finally explored. We know neither our own structure nor that of any plant or animal in the world. Mr. Darwin must surely be aware that the minute anatomy of the body of man or of animals is not yet in any part fully ascertained. It is possible that, as Mr. Darwin himself has not worked much at this subject, he may have been misled by his anatomical friends; but every investigator who goes into details with due care, and with sufficient accuracy, soon finds himself compelled not only to correct the facts advanced by those who have preceded him, but is able to add to known facts many new ones. There is no reason for thinking that there is any limit to this discovery of new facts. We may go on discovering for ever, but our anatomical observations will never be complete; nor must it be supposed that, even with our present means, our present knowledge of minute structure is as far advanced as is possible.

Mr. Darwin admits in many instances the existence of certain facts which he cannot explain by his hypothesis, and in this difficulty he appeals to our 'belief in the general principle of evolution,' and suggests that, 'unless we wilfully close our eyes,' we must assent to a doctrine which he confesses is not proved by the evidence he has adduced in its support. It is, however, only by wilfully closing our eyes, and very tightly indeed, and for a long period of time, that we can hope to force the understanding to accept a belief in the 'general principles in question.'

The *differences* observed in the minute structure of corresponding tissues in closely allied species ought to have more closely engaged the attention of Mr. Darwin, but he is evidently quite unaware of either their extent or their number. Had he been alive to these, he would scarcely have committed himself so fully, or have left so exposed to attack his argument based on the supposition of close correspondence in structure. Structural variations in detail are indeed infinite, and it is extraordinary that Mr. Darwin's assertion of close correspondence should so long have remained unchallenged. Whatever may ultimately be

accepted as the true explanation of the fact, it must be admitted that it does not support Mr. Darwin's hypothesis in its present form.

Structural difference in the tissues and organs of allied species are not, however, limited to microscopic characters. There are many broad anatomical distinctions which have never been explained, such as the absence of a part or organ in an animal very closely related to numerous other species, in every one of which not only does it exist, but is largely developed. Such cases may be regarded by the evolutionist as exceptional, and he may invent some new hypothesis to account for them. Such facts may be treated as anomalies, and referred to laws yet to be discovered, upon which correlation of growth depends. By this old method of overcoming a difficulty, facts which really tell against the favourite conclusion are made to appear to tell in its favour; but in science the exception does not prove the rule. It is clear that very much is thought of the argument from agreement in general structure between more recent forms and the ancestral forms from which they are supposed to have descended, for it has been very pointedly referred to by those who support the hypothesis of natural selection. If, however, it is proved on more minute and careful examination that, although there are some points of resemblance between species, which would render plausible the idea of a common parentage, there are also striking differences, which increase in number and importance the more they are sought for, it will be admitted that the force of this argument is much weakened; and although, after making allowance for exaggerated expression, we may admit with Mr. Huxley 'that in every single visible character man differs less 'from the higher apes than these do from the lower members of 'the same order of primates,' we are nevertheless compelled by the facts to maintain that there are so very many points in which man differs from every ape, that the argument in favour of close relationship based upon correspondence in structure completely breaks down. In fact, the differences that cannot be accounted for upon the hypothesis are more important and more numerous than the resemblances which it is advanced to explain. Of what worth is an argument resting on the fact of hundreds of representative muscles, tendons, bones, and eminences on bones, in closely allied species, if the very muscles, tendons, and bones themselves exhibit minute and constant structural differences? And if, besides these anatomical differences, we meet with differences as regards the rate of development—differences in the order of development of certain tissues and organs—differences in the struc-

tural changes going on after development is complete, what shall we infer?

It is all very well to explain the presence of muscular variations in man by the tendency to reversion to an earlier condition of existence, but it is of the utmost importance in the first place to be sure that our evidence justifies us in concluding that particular and exceptional muscles in man representing muscles highly developed in some of the lower animals owe their origin to descent. This is the very question upon which proof is wanting. The variations *may* be due to descent, but it by no means follows that they *must* be due to descent, and it is still more difficult to be certain that they are not due to the operation of some *undiscovered factor*.

For many years past, naturalists, in their desire to discover the relationship between the many divergent forms of living things, appear to have closed their eyes to the remarkable differences which establish distinct characteristics between very closely allied forms, and which tend to show that the latter are not so closely related as the hypothesis of Darwin concludes. What, for instance, is the explanation of the fact that in no two animals or men are the branches of the arteries or nerves given off from the larger trunks at precisely the same points or in precisely the same manner, and why are variations in the muscles to be detected in each individual subject?—we cannot call them *accidental*. Will descent account for the hundreds of variations we meet with, as well as for those particular kinds which have been minutely described by Mr. Wood and others, and of which the evolutionists have made so much? Here, as in many other instances, we find inferences based on a very one-sided, if not a very imperfect statement of the facts. In order to account for all the anatomical varieties, it will be necessary again to call in the help of that 'unknown law' which the advocates of natural selection invoke when they find themselves in a difficulty.

But we come now to consider whether Mr. Darwin is more correct in his assertion concerning the close correspondence in the chemical composition of the tissues and fluids of the different species, than he is upon the question of minute structure. How is it that we find specific characters in the blood, bile, milk, saliva, gastric juice, urine, and other fluids and secretions of nearly related animals? The blood of the Guinea pig differs in important characteristics from that of the rat, mouse, rabbit, and squirrel. The most important constituent of the blood undergoes crystallization, and the form of the blood crystal is very different in the several members of the rodent class. By some

undiscovered law of correlation of growth, perhaps, may be explained the curious fact that the blood-corpuscles of the tailless Guinea pig crystallize very readily in beautiful tetrahedra, while those of another rodent in which the tail is remarkably developed take the form of six-sided plates, and in yet another which possesses only a faint apology for a caudal appendage, we find blood crystals taking the form of the most beautiful rhomboids.

The blood of one species will not efficiently nourish the tissues of another; and in cases in which life is temporarily supported by alien blood artificially introduced into the vessels, it is probable that the foreign fluid is gradually destroyed and eliminated, and at last, entirely replaced by blood which is slowly formed anew in the animal's own vessels. Not only does the blood of man differ from that of the lower animals, but the blood of every species of animal differs from that of every other species.

But if we submit any of the other fluids mentioned above to careful chemical and physical analysis, we shall find each endowed with special characteristic properties, and distinguished from the rest by well-marked and constant characters; and we have reason to believe that the more minutely such investigation is carried out, the larger will be the number of divergent characters and properties established.

Mr. Sorby has lately been examining, by the aid of the spectroscope, many of the colouring matters of the leaves and petals of flowers and plants, and has demonstrated the presence of a large number of new substances which can be most positively distinguished from one another by spectrum analysis. Substances belonging to different plants which appear to the eye of nearly the same tint, often exhibit very different characters when submitted to spectroscopic examination.* There seems to be, in fact, no limit to divergence in essential particulars in cases in which the correspondence is only to be found in most general and superficial characters. We will recur for a moment to the question of minute structure as illustrated by plants. If the reader will be at the trouble of placing under his microscope, one after another, the petals of any half-dozen flowers of a red or blue colour, he will soon be able to discover anatomical differences by which each of them could be re-

* 'Proceedings of the Royal Society,' vol. xv., p. 433 (*Philosophical Magazine*, vol. xxxiv., 1867, p. 144); *Quarterly Journal of Microscopical Science*, vol. ix., 1869, pp. 43 and 358; *Monthly Microscopical Journal*, vol. iii., 1870, p. 229; *Quarterly Journal of Science*, new ser., vol. i., 1870, p. 64.

cognised independently of its colour. Moreover, if he studies the subject with sufficient care, he will find that new structural peculiarities will be demonstrated, of the existence of which he had no idea when the investigation was commenced.

Series of facts like those adduced above not only seem to militate against the acceptance of the doctrine of natural selection in its present form, but they cannot be contemplated without exciting in the mind a desire to entertain the hypothesis of fixity of species, or some derivative hypothesis not opposed to that idea.

Although of late much attention has been given to variation, the inheritance of variability, and progressive hereditary changes in the structure of the body, the advocates of evolution have only advanced statements of the most general kind. They have not entered into details; they have not suggested at what particular period in the life of the individual the change in structure occurs. They are silent as to the precise nature of the change, and the several steps by which it is brought about; and they say nothing concerning the characters and properties of the matter, which is the actual seat of the change. It is not sufficient to show us the bone or muscle, the structure of which is modified, and to assure us that the modification in question is due to the law of variability; for the hypothesis deals with the change itself, and we should be informed concerning the phenomena which are antecedent to the change, and the exact circumstances which determine any particular modification advanced in illustration of the working of the supposed law. Further, it should be definitely determined what degree of change suffices to affect the fully-formed bone and muscle, and whether structural changes occurring at or after the period of full development of the body are inherited or not. The reader is probably aware that Mr. Darwin has invented an hypothesis specially to meet this part of the question—the hypothesis of Pangenesis. But he has recently remarked that it has not yet received its ‘death-blow’—an observation which excites a doubt whether its author is not ready to abandon it. This hypothesis was only advanced tentatively from the first. It is incompatible with a number of facts, and appears more and more improbable as the phenomena it comprises are carefully investigated. Many observers well qualified to form a correct judgment felt almost certain from the very first that Pangenesis could not be maintained.

Seeing that, at every period of life, matter exists in every part of the body in at least two very different states, in each of which different classes of phenomena occur, Mr. Darwin should have informed us in what particular matter of the body in his opinion

the metabolic property probably resided, and he should have explained at what period of life the change which was to result in the production of a new variety or species occurred. He does not, of course, suppose that fully-formed bone, or muscle, or nerve, changes its characters; nor would he maintain that in old age, or indeed long after adult life had been attained, any great alteration of structural form was possible. If, then, it is only in the plastic state during the early period of development that the changes surmised to take place can occur, the author of the hypothesis should either have given more information upon the details, or he should at the least have shown that microscopical observation had yielded no facts adverse to his doctrine; and something surely should have been suggested concerning the nature and origin of the inherent metabolic property, or tendency, or capacity, which is assumed by the terms of the hypothesis.

It should, however, be stated here that many evolutionists repudiate entirely the idea of any peculiar property under any circumstances influencing matter in the living state which does not influence it in the non-living condition, for the acceptance of the idea of such property would involve an answer to the inquiry as to the nature and origin of the property assumed, and it would have to be shown when and under what circumstances it was acquired by the matter. The evolutionist believes only in the properties which belong to matter as matter, and which are coexistent with the matter itself. The admission of an inherent property peculiar to the living state of matter, almost amounts to the admission of a vital power; but such an hypothesis, it need scarcely be said, would be incompatible with the doctrine of evolution. But physical evolutionists who persist in attributing all the phenomena of living beings to physical agencies only, ignore the most important changes occurring in every form of living matter. Again and again, they repeat the statement that the changes in living matter are molecular; but this is merely a word which is perfectly meaningless as applied to the changes in question, since the 'molecule' is undefined, has not been described, and is quite unknown. The very same authorities acknowledge that conclusions not based upon evidence cannot advance science, or be looked upon as scientific, and yet, with an inconsistency that is extraordinary, they state with confidence that they understand the nature of these changes. But they have not been able to learn anything of them whatever by experiment, nor can they discover any means of imitating them in matter in the laboratory. The changes

in question are quite peculiar to living matter; they occur in all living matter, but in living matter only. These changes differ entirely from any other changes of which we have any cognizance. Nothing surely can be more illogical or unscientific than to assert that actions about which we know nothing are of the same kind or nature as actions which are understood, and can be brought about whenever we will. Yet physicists, chemists, and indeed most scientific men, have fully committed themselves to the dogmatic creed that the phenomena of living matter are, like all the other phenomena of nature, due to antecedent physical change. There are no physical phenomena to which they can point, that in the remotest degree resemble the actions peculiar to living matter.

Variation itself is quite peculiar, and as far removed from any physical change as is possible to conceive. The extent of variation, and of variations inherited from ancestors, is perfectly marvellous. Such variations are carried out during that plastic period of life when the body consists almost entirely of living matter, and occur in every individual of every species of animal and plant that is known. Each is *like* its predecessors, but not one is in any part *exactly like* the corresponding part of any predecessor. No two individuals were ever formed exactly alike in all particulars. Nay, it is doubtful if any two vital actions that have taken place in nature have been perfectly alike in all points.

That variation occurs in the plastic matter of the organism, while the formative process is taking place, is a truism, for no two noses or fingers, or other parts, have been seen so much alike as not to be distinguishable from one another; nay, it is not supposable that any two should be found precisely similar. Perfect identity in structures of such complexity is indeed hardly conceivable, unless many facts known in connection with tissue formation are utterly ignored. But, on the other hand, it is equally inconceivable that capacity for variability should be manifested in such a manner and to such an extent as to lead to the production of a proboscis in place of a nose, or of a talon in lieu of a finger. Hence, therefore, we must admit that this capacity works within certain, though at this time not to be accurately defined, limits. When, therefore, Mr. Darwin maintains that similarity of pattern between the flipper of the seal, the wing of the bat, the hand of the man, &c., is due to divergence in structure during gradual descent from a common progenitor, does he not beg the question at issue, and by implication assume an extent of variation far exceeding that which is possible within the period of time which he is disposed to think

may have elapsed during which the hundreds or thousands of transitional forms have been slowly progressing towards perfection of type? Undoubtedly, if he could show one or two gradations between the paw of the bear and the flipper of the seal, or between the foot of the mole and the wing of the bat, he would have a powerful argument indeed, but the mind fails to realize the possibility of the transitional forms whose existence is assumed by the hypothesis. A thing half bear and half seal, or half mole and half bat, would be an incongruity which we have no right to assume ever existed in the flesh, if indeed it is not absurd to suppose it possible. If such a creature were born, it would die, and the very law of natural selection supposed to operate in favour of its development would render certain its destruction without offspring.

Variation in the living world seems to be indeed infinite, but nevertheless, so to say, restrained within limits. When we come to study variation in any particular species, we marvel at the extraordinary extent of change to be observed without any approach being recognised towards the nearest allied species. The human face may vary, we may say infinitely, but without in the slightest degree approximating the face of a monkey or any other animal. The animal face and features may vary infinitely within the animal limits without manifesting the slightest approach to the human countenance, or even to that of any other species of animal. Any species of monkey might become modified in many different directions without making any approach to the human form. The ass might change for ages, and yet be something very different from a horse, and so on in other cases. The most degraded savage exhibits no approach to the ape, any more than the most highly developed species of monkey exhibits any nearer approach to man than the very lowest member of its class. There are human variations, monkey variations, ass variations, &c., without end, but there is no evidence of any variations occurring in one species which tend to show that it possesses any intimate relationship with any different species. The facts hitherto discovered, and considered by Mr. Darwin to support the view that we have descended or ascended from monkeys, appear to us, therefore, to be very inconclusive and unsatisfactory. We are quite ready to consider patiently every argument that evolutionists can adduce, and if we think the case proved, we are fully prepared to admit it, but when told that we *must* accept the doctrine, we distrust our would-be teachers. In the suggestion of the alternative, 'accept this hypothesis or none,' there is the suspicion of a threat which ought to be received with indignation. The world may be

wanting in scientific knowledge and acumen, but it will never submit to dictatorial science. The world is quite ready to be taught, and to learn, but it will not endure a tyranny enforced by persons who choose to call themselves philosophers, and who claim to be scientifically infallible. The world knows something of the history of scientific controversies, and will listen with caution, but it rejects upon principle the application of scientific tests, and refuses point blank to subscribe to any articles of scientific belief, or to acknowledge an infallible scientific head.

After all that can be said against evolution has been uttered, there remains the defence that the hypothesis *rests upon a vast array of facts*—anatomical, physiological, geological—and ‘it is ‘scarcely fair,’ it may be urged, ‘to expect that a generalization ‘which explains so much, should fully account for every slight ‘divergence of structure that can be rendered evident by exquisitely minute and careful investigation.’ But surely a view of such wide general application as this is held to be by its supporters ought not to fail when tested by particular facts of general observation. Unfortunately, Mr. Darwin’s hypothesis is not adequately supported by the very facts upon which he relies for proof; for out of the multitudes of living beings now existing upon the earth, he cannot select any two species whose differences and resemblances can be fully accounted for by the hypothesis which he holds to be universally applicable, and to account for the origin of every species from the monad to man. What must be the ultimate verdict passed upon a doctrine aspiring to universal application, which seems satisfactory only when vaguely applied, and which utterly fails when tested by the individual particulars that are comprised in the generalities? We may be like the savage, as Mr. Darwin suggests, but we are by no means convinced by the arguments adduced by him that man is the co-descendant, with other mammals, of a common progenitor, nor can we admit that certain structural peculiarities of man’s bodily frame are to be looked upon as ‘the indelible stamp of his lowly origin.’

All naturalists will agree in believing that there is some truth in the doctrine which Mr. Darwin has so thoroughly espoused, but there will be the greatest difference of opinion concerning the acceptance of many of his propositions; while it must be confessed that the more minutely and carefully we analyze the data upon which some of his conclusions rest, the less satisfied are we that they should be relied upon. Indeed, there is reason to think that at least one of his subordinate hypotheses, Pangenesis, will certainly have to be abandoned as untenable. As we have before remarked in this article, neither

Mr. Darwin nor those who think with him appear to realize the illimitable additions possible to scientific knowledge, and consequently the continued change in scientific opinion, the abandonment of old hypotheses, and the development of new ones. Never in the history of science have such startling hypotheses been successively advanced as during the last twenty years. Few have stood the test of one quinquennial period, and not one has been retained in its original form. The sentiment, as expressed by Mr. Darwin, 'We are not concerned with hopes or fears, only with the truth,' is a favourite one with scientific men, but the truth has not yet been arrived at. Is scientific truth ever to be reached? The nearer we seem to get to actual scientific truth, the more quickly does it recede from us; and it has happened but too often that when we thought to have grasped it, we find it far away, and that what in youth we thought to be scientific truth, afterwards, but long before we have reached old age, is proved to be scientific error.

In conclusion, therefore, we must remark, that while the hypothesis fails in individual cases to which it has been applied, it is incompetent to explain numerous facts known in connection with every particular plant or animal in existence. But, further, the general facts ascertained by careful and more minute investigation into the anatomy and physiology of any two closely allied species, such, for example, as the hare and the rabbit, the rat and the squirrel, the Guinea pig, or the hyla and common frog, are inexplicable upon the doctrine of natural selection, even if the time were extended far beyond the limits which upon other grounds it is not permissible to suppose it to stretch. Nay, the series of changes believed to occur during the formation of species by natural selection cannot be conceived by the imagination, unless multitudes of facts which have been demonstrated and can be confirmed by anyone who will take the trouble to do so are completely ignored. That man is like an ape, bone for bone, muscle for muscle, &c., is only a flourish of rhetoric unworthy of anyone who professes himself to be an observer of nature.

The remarks which have been made in respect to animals apply with marvellously greater force to man himself, for no matter how the evolutionists may strain the force of the analogies existing between man and animals, there are transcendent differences which no sophistry can explain away. We may allow Mr. Darwin and his friends to draw on time as largely as they may desire; we will permit them to strain to any extent they like the argument that the ape differs in far greater degree from the lower animals than he does from man himself, and we could yet

succeed in exposing the improbability of the favoured hypothesis by discussing with its advocates its insufficiency to account for one single characteristic, such, for example, as the possession by man of the power of expressing his ideas. It is surely not likely that the attempt to ground a general argument on the nature, mode of origin, and formation of all living beings, upon the points in which they exhibit some resemblance to one another, without showing in what manner the argument in question would be affected by the characters in which these same beings differ from one another, will much longer be regarded as a triumph of inductive reasoning, or considered to be in accordance with the spirit of science or true philosophy.

ART. VIII.—*The Session.*

THE wearisome assertion that the last session of Parliament has been a 'barren' one, has become a sort of political axiom among a large section of the community. Writers and speakers innumerable assume it as a self-evident fact, which no sane person would dream of disputing. It is, nevertheless, our serious intention to dispute it, and, moreover, to prove that the session, so far from being utterly barren, has produced a legislative harvest of more than average fruitfulness. Putting aside the last two sessions, and that which witnessed the triumph of free trade, we have no hesitation in saying that no session since the first Reform Bill has produced so many measures of equal importance as the last session. It would not be difficult to point to session after session during that period which, for any good the country has derived from their labours, might as well have never been. But no one can say that with truth of the session that has just gone by. On the contrary, we believe that it will be regarded a few years hence as one of the most important sessions of this century. To those who choose to echo an unreasoning cry, rather than take the trouble to think for themselves, this will, no doubt, appear a wild assertion. But what are the facts? The present Parliament was elected chiefly for the purpose of settling the Irish question, and the sessions of 1869-1870 were devoted almost exclusively to the affairs of Ireland. The Irish Church Bill and the Land Bill, however, having been settled, there seemed to be a kind of general under-