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JOURNAL OF
THE TRANSACTIONS
OF
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OR
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ORDINARY MEETING, FEBRUARY 19TH, 1877.

THE REV. R. THORNTON, D.D., VICE-PRESIDENT, IN THE CHAIR.

The Minutes of the last Meeting were read and confirmed, and the following elections were announced :—

ASSOCIATES :—Rev. E. Male, M.A., Oxford ; G. P. Yeats, Esq., Malvern.

Also the presentation of the following Works for the Library :—

“The Boyle Lectures.” By Professor H. Wace, M.A. *From the Author.*

“Science the Handmaid of Religion.” By Rev. J. Coxhead, M.A. *Ditto.*

The following Paper was then read by Mr. HATHAWAY, the Author being unavoidably absent :—

ON COMPARATIVE PSYCHOLOGY. BY E. J. MORSHEAD, Esq.

THE objections to the theory of a distinction in kind between the human psychology and that of the lower animals may be divided into two classes ; firstly, those which are founded on the observation in the actions of the brute of apparent indications of intellectual processes ; and secondly, those resulting inferentially from the fatalistic view which invests even the most rational actions of man with the automatic * characteristics of instinct. The first class of objections allows a certain amount of reason to the brute, while the second class allows man himself nothing more than instinct, that is, instinct according to the broader definition laid down in a former paper on this subject.† Before considering the second class of objections, or rather the principles on which these

* A difficulty having been raised on a former occasion as to the meaning of the term “automatic,” I give a definition of Dr. Carpenter’s, which expresses the meaning in which I have employed it. He defines an automaton as “a machine which has within itself the power of motion, under conditions fixed *for* it, but not *by* it.”

I have used the word ‘desire’ in a broader sense than is strictly admissible, as including fear, &c., it being necessary to employ one term to express all the emotions which tend to produce action.

The word “image” has been frequently used instead of “idea,” as the latter term conveys to many minds a notion of complexity.

† 2nd May, 1870.

objections rest, I will briefly summarize my former conclusions as to the nature of instinct; which principle I held to be the sole source of the actions of the brute, and the partial source of the actions of man. It will be necessary to revert to three points on which I insisted with regard to instinct.

2. The first point respected the definition. The commonly accepted definition of instinct is, that it is a power which produces actions "prior to experience";* and this definition would be unexceptionable, were it not that it tends to beget the idea that all actions which are performed *subsequently* to experience are not instinctive actions, an idea which radically vitiates our conception of the true nature of instinct. However various may be the manifestations of instinct, they nevertheless possess certain common characteristics, which furnish a sufficient basis of generalization. The general characteristic of instinct is a *desire* resulting in, or tending to result in, an action; the general characteristic of such actions is that they are beneficial to the agent; while the general characteristic of the desire is that it is excited to an action independently of any knowledge on the part of the agent as to whether the action is likely to be beneficial to him or not. The psychological process which produces the action is therefore clearly automatic; for, as the desire does not result from the knowledge of the agent, we can only explain it on the assumption that the agent is a machine possessing an inherent liability to be moved to action by the presentation to his consciousness of particular phenomena; and we can only explain the action on the assumption that it is the natural outcome of the desire. The existence, and to a great extent the nature, of the automatic process which intervenes between the sensual impression of the exciting cause and the action which results therefrom may be readily ascertained by an examination of our own mental states when we are under the influence of any of the more clearly-marked forms of the instinct, such as rage, fear, &c.: † and we can transfer the result of this self-examination by an almost certain analogy to the instincts of brutes, so far as regards those instincts which the brute possesses in common with ourselves. And although we lose the benefit of this analogy in regard to the instincts which are peculiar to the brute, yet we perceive in these latter instincts such a strong resemblance in the mode of their manifestation to those instincts which are common to man, and the nature of which we can ascertain by self-examination,

* Paley.

† It is unimportant whether we consider the instinct as exhibiting itself in different forms, or whether we speak of separate instincts.

that we are compelled to include them in the same category, and to invest them with whatever attributes we may have deduced from an examination of the general principle in our own natures. If, for example, I wish to ascertain how far the action of a dog who flies at my throat under the influence of anger is automatic, I may, by examining the corresponding passion in my own nature, plainly discern a feeling which tends to produce an action immediately beneficial to myself, in that it conduces to the injury and consequent incapacitating of the individual from whom I have received, or from whom I anticipate the reception of, an injury; and I perceive further that the passion is excited and leads to the action independently of the reason; for my reason, founded on my own knowledge, may approve or disapprove of the action according to circumstances; and, generally speaking, we may conclude from the phenomena of its external manifestation that the passion of anger in the dog is as automatic as the same passion in ourselves, and that it is excited irrespectively of any conviction in the mind of the animal of the benefit accruing from the action which it produces. The same analogy may be applied to the other passions and appetites which the animal possesses in common with man.

3. And although we cannot employ this analogy, at least so fully, in determining the nature of those instincts which are peculiar to different species of animal, and which are apparently wanting in the human psychology, yet we may detect, even in these instincts, certain features which we have ascertained by observation to be generally characteristic of instinct, *i.e.* by observing the phenomena of that principle in ourselves. Thus, the nest-building instinct of birds has no parallel in the human psychology; but we may safely assume that the bird *does* build its nest in obedience to an internal impulse; because we see that it will build the nest even when it cannot know by experience, or from information imparted to it by other birds, the object for which the nest is intended. And, besides the fact of this action being prior to experience, it presents another characteristic of instinct, *viz.*, *uniformity*. A man, who is not impelled to build his house by an innate desire, will employ his intellect in considering what sort of house is suitable to his wants; and the style of his house will be further determined by the means at his disposal,* or his desire to imitate others,

* The brute is sometimes compelled by circumstances to depart from his usual line of conduct. The beaver, who has been known to construct a dam out of the furniture of a drawing-room, modifies his actions somewhat in consequence of the absence of trees and water. But this does not prove his intelligence.

or his individual taste, or by fifty other influences the operation of which argues freedom in the agent to the extent that it shows him to be unimpelled by an innate desire; for an innate desire works uniformly; and produces uniform results. Hence, although we have no internal evidence of the nature of the nest-building instinct, yet we perceive that in its external phenomena it presents two features which we know to be characteristic of our own instincts, that is, the production of actions prior to experience, and uniformity of operation.

4. These illustrations will serve to exemplify the method which we may adopt in examining the nature of instinct in the lower animals, and by which we are enabled to discover in the brute the existence of an automatic principle sufficient to produce those actions which are necessary to the preservation of his existence. It is to this automatic principle that I apply the term "instinct"; and I include under this term not only the desire which impels the bird to the building of his nest, or the bee to the construction of his cell, but all the passions, feelings, desires, or whatever else we may choose to call them,—whether they are excited by particular circumstances, or whether they originate in a peculiar bodily condition, whether they are permanent or recur periodically; and the common elements on which this generalization rests, are the automatic characteristics specified above, and more particularly the tendency to produce actions in cases where the benefit and manifest object of such actions is beyond the cognizance of the agent.

5. The second point which I insisted upon was the automatic character of memory. Few persons will question this fact; as it must be apparent to everyone who has reflected on the matter, that he cannot recollect or forget things by the mere fiat of the rational will, but that facts and persons are recalled by an involuntary operation of the memory, and that the images of these facts or persons are accompanied on their reproduction by associated ideas and impressions, which again produce the feelings of attraction or repulsion which they excited when they were originally presented to his consciousness. I dwell on the phenomenon because it is important to my argument as accounting automatically for those cases in which the lower animals act from experience. The duckling which runs to the water almost immediately after it has emerged from the egg acts, as every one will admit, under the influence of what we call *blind* instinct; that is to say, it acts from an innate impulse, and not because it has learned, either from experience or from *à priori* reasoning on the subject, that the water is its natural element. But the case of the rook which is alarmed by the sight

of a gun is somewhat different. The fear of guns is not innate in the rook, and it does not fly from the gun until it has learned the dangerous properties of that weapon by experience; and on a superficial view the action might seem to be a rational one. Arguing, however, from the automatic nature of the human memory, we can explain the action of the rook without assuming the intervention of a rational process. A friend of mine once informed me that in middle life he settled in the same city with his former schoolmaster, and that he never met the old gentleman, who was then in an advanced stage of decrepitude, without experiencing an unconquerable sensation of terror: instances of this kind are of such common occurrence that one will be quite sufficient for the purpose of illustration. The terror was produced by a process precisely analogous to that which awakens the instinct of fear in the rook. There was no innate fear in my friend's mind of a person presenting the particular aspect of his schoolmaster; but the appearance of the schoolmaster having been once associated with the idea of danger, a sensation of fear was ever afterwards excited by his presence; although the slightest exercise of the reason was sufficient to show that the fear was absurd. No one will dispute the fact that my friend's feeling was instinctive, and that it was checked by the reason before it passed into action. But we must consider the action of the rook to be instinctive also. The automatic association of impressions in the memory, which we learn from our own consciousness, sufficiently explains such instances and enables us to establish the principle, that the causes which awaken the desires are capable of extension without the operation of a rational process.

6. The third point is more open to objection; and yet it is indispensable to a true apprehension of the distinction between man and brute. It is, that what are called *intellectual* processes are in themselves automatic, just as memory is automatic. I mean that generalization and abstraction, for instance, are, in their simpler forms, merely a part of the psychological mechanism of the animal, by means of which the impressions received by the senses are duly modified before they act upon the desires, and by which the motive power of the desires is directed into its proper channels. To requote an instance adduced in a former paper on this subject, the bull who is irritated by a red colour really *abstracts* the colour from the object of which it is an attribute. The dog who singles out his master from a crowd of indifferent persons *abstracts* likewise; but the process is mechanical, and is another way of expressing the fact that the

sight of his master attracts his attention to the exclusion of the other persons composing the crowd, and who are equally perceptible to his senses; and the same is true of generalization. The animal, having learned by experience that a certain object is prejudicial to it, will *generalize* from that object, and avoid for the future all objects which present the same appearance; if, for example, a dog has been injured by a bull, it will afterwards avoid not only the bull which has injured it, but *all* bulls; and thus it plainly both remembers and generalizes. I am not, of course, speaking here of these intellectual processes in their higher forms, nor do I mean to say that the animal has any rational control over them; in fact, it is not, perhaps, so correct to say that the animal generalizes and abstracts as it is to say that the objects which he encounters, or rather their appearances, abstract and generalize themselves in his brain. There are, as it is needless for me to state, generalizations and abstractions of which only the highest minds are capable; but these processes do not differ except in degree from the analogous processes which we observe in the psychology of the brute. Hence Locke's ground of distinction between men and brutes—that the latter do not possess general ideas or the power of abstraction—is insufficient; for the brute generalizes whatever impressions may be capable of awakening his desires, whether we choose to term those impressions *ideas* or not.

“This I think I may be positive in, that the power of abstracting is not at all in them, and that the having of general ideas is that which puts a perfect distinction betwixt man and brutes, and is an excellency which the faculties of brutes do by no means attain to, for it is evident we observe no footsteps in them of making use of general signs for universal ideas, from which we have reason to imagine that they have not the faculty of abstracting or making general ideas, since they have no use of words or any other general signs.”*

The fact that the brute does not possess the degree of generalization required by Locke's illustration does not, however, prove that the process is never found in brutes. The real distinction between men and brutes in this respect is, apart from the question of degree, that generalization and abstraction are, if I may be allowed the term, *mechanical* in the brute, whereas in man the same processes, although essentially auto-

* Locke, *Essay concerning Human Understanding*. Locke's estimate of abstraction and generalization is evidently formed on his conception of these processes as he perceived them in his own mind.

matic, *may* be utilized by the rational will. It is not necessary to suppose that these intellectual processes exist in the brute to any great extent; and it is sufficient if we allow that he possesses intellectual faculties, or the analogues of intellectual faculties, which serve the purpose of his preservation.

7. The first point was the enlargement of the usual definition of instinct; and, if we allow the second and third points, that is, the automatic character of memory and the intellectual processes,* we are able to explain those actions the benefit of which has been learned by experience; and we thus arrive at the existence of an automatic principle, which is sufficient for the purpose of preserving animal life. The automatic nature of instinct is, of course, most clearly evidenced in the operations of *blind* instinct, which we can only explain by saying that the animal has an innate liability to be excited to action by particular causes, *i.e.* by certain objects, or the qualities of objects, &c., and that these causes produce actions prior to experience by means of the desires which they awaken. Coming next to the extension of these causes by the operation of memory, we see that the desire must have been aroused by a process analogous to a reasoning process, but which such instances as that of my friend and his schoolmaster enable us to explain without the hypothesis of a rational principle.

8. It is obvious, then, that this automatic reason, as we find it in the brute, is a regulative machinery which lies outside the desires, and by which the impressions derived from the external world are modified in his brain before the desires are awakened; and although I have endeavoured to avoid anything like teleological argument, yet I am constrained to point out the manifest utility of this machinery; as were it absent the area of the animal's experience would be incapable of extension; and he would be only moved by those objects or appearances towards which his inclination or aversion is innate. This regulative machinery works as automatically as the desires; it consists of the principal intellectual processes—abstraction and generalization,†—and of memory. It is, as I consider, sufficient, in conjunction with the desires, to explain all the actions of the brute without our investing him with rational knowledge or a rational will, of which he shows no trace. As a question of terminology, it is immaterial whether we separate the desires from the machinery which arranges and modifies the impres-

* I use the term "process" to avoid applying the word "faculty."

† I have purposely omitted comparison, as it is more essentially a rational process.

sions produced on the senses, or whether we apply the term *instinct* to the whole of the complex mechanism by which the animal is guided to the performance of such actions as conduce to his preservation, or whether, on the other hand, we limit the term to the desires alone. As a matter of convenience, I will employ the term "natural sagacity" in reference to this modifying machinery, whenever it may be necessary to consider it apart from the desires.

9. But when we have admitted the existence of this automatic principle, and allowed its adequacy to produce all the actions of the brute, we are met by a still more serious difficulty. For the existence of this principle is held, virtually at least, by many thinkers who extend it to all the actions of man—who consider that the brute is governed automatically by the conditions which surround him, but who consider at the same time that man himself is impelled and controlled only by instincts, and that although his instincts may be occasionally of a higher and more complex nature, yet that he is really as much of an automaton as the brute; the only difference between man and brute being just the kind of difference which exists between two barrel-organs, one of which plays twice as many tunes as the other. As an illustration of this view I will quote the words of a well-known fatalist of the last century—the Baron d’Holbach :

“The will, as we have elsewhere said, is a modification of the brain, by which it is disposed to action or prepared to give play to the organs. The will is necessarily determined by the qualities, good or bad, agreeable or painful, of the object or the motive that acts upon his senses, or of which the idea remains with him, and is resuscitated by his memory. In consequence he acts necessarily; his action is the result of the impulse he receives either from the motive, from the object, or from the idea which has modified his brain or disposed his will. When he does not act according to this impulse, it is because there comes some new cause, some new motive, some new idea, which modifies his brain in a different manner, gives him a new impulse, determines his will in another way, by which the action of the former impulse is suspended; thus, the sight of an agreeable object, or its idea, determines his will to set him in action to procure it; but if a new object or a new idea more powerfully attracts him, it gives a new direction to his will, annihilates the effect of the former, and prevents the action by which it was to be procured. This is the mode in which reflection, experience, reason, necessarily arrests or suspends the action of man’s will; without this he would of necessity have followed the anterior impulse which carried him towards a then desirable object. In all this he always acts

according to necessary laws, from which he has no means of emancipating himself." *

Again—and in the following quotation I will draw attention to his recognition of the automatic principle of the intellect which I have previously indicated :

“ But he is not master of recalling to himself his ideas at pleasure ; their association is independent of him ; they are arranged in his brain in despite of him, without his own knowledge, where they have made an impression more or less profound ; his memory itself depends upon his organization,” &c.

10. The foregoing passages describe, almost exactly, the psychological machinery which, under the name of instinct, I have considered as supplying the motive power which produces all the actions of the lower animals ; and the description is also undoubtedly correct so far as it applies only to the animal nature of man. And unless we can show the existence in the human psychology of a principle differing in kind from the instinctive principle delineated in the above quotations, the psychological difference between man and brute will remain a difference only of degree, and will consist in this, that the desires of man are liable to be awakened by a greater variety of causes, and that the intellectual power which enables him to apprehend these causes is nothing more or less than an extension of the regulative machinery to which I have appropriated the term “ natural sagacity.” Man would still be an automaton ; his intellectual vision might be keener, his memory more capacious and more retentive, but he would still be acted upon necessarily by those causes to the influence of which he is naturally susceptible ; his religion or his moral code would be motive powers only in so far as they resulted from a more far-sighted consideration for his own happiness ; and the conflict between reason and passion would degenerate into a conflict between two different inclinations. I do not notice the obvious objection to this familiar theory—that it cuts at the root of moral responsibility. This is of course a weighty objection to its practical adoption, and is a reason why we should examine it far more carefully than is possible within the limits of this paper. The *consensus gentium* is in favour of a fundamental distinction between desire and the rational will ; and on this question the *consensus gentium* is of peculiar and especial value ; for it is founded on the self-knowledge of each individual.

* *System of Nature.*

11. The objection raised by the Fatalist to the existence of a rational will as a distinct principle of action—that is to say, distinct from desire—is not easily disposed of, however firmly we may be convinced of its fallacy; for however free * the will may be, it is impossible to conceive it, except as determined by some motive or other. And, if we allow this, how are we to distinguish it in kind from the desire which induces the duckling to seek the water, or the rook to avoid the gun? If we answer that man is acted upon by motives which are beyond the comprehension of the brute, and which consequently do not set his psychological machinery in motion, the Fatalist will point out that a difference also exists between the instincts of two given species of animal—that one animal is excited to action by objects or qualities of objects, which make no impression upon another; that the flower, or rather the sweetness contained in the flower, possesses an attraction for the bee, which it does not possess for the spider; and that, similarly, man is an animal endowed with social and moral instincts which influences him as automatically as the flower or the fly influence the spider or the bee, and that he is only a machine of more complex structure, and susceptible to motives which do not affect the brute. D'Holbach says:

“When Mutius Scaevola held his hand in the fire, he was as much acting under the influence of necessity, caused by interior motives that urged him to this strange action, as if his arm had been held by strong men; Pride, despair, the desire of braving his enemy, a wish to astonish him, an anxiety to intimidate him, &c., were the invisible chains that held his hand bound to the fire. The love of glory, enthusiasm for their country, in like manner caused Codrus and Decius to devote themselves for their fellow-citizens. The Indian Calanus and the philosopher Peregrinus were equally obliged to burn themselves by the desire of exciting the astonishment of the Grecian assembly.”†

On the same principle I have been compelled to lay this paper before the Institute, and at its close some learned member will be compelled to propose a vote of thanks to me for doing what I have really been unable to help.

12. Whenever we attempt to escape from this net of sophistry, we encounter a Fatalist with a drawn sword. If we point to

* Locke very justly remarks that the freedom is in the agent, and not in the will, and that therefore the common expression, “freedom of the will,” is erroneous. I use the expression, however, relatively to the desires.

† *System of Nature.*

the conflict which continually arises between the desires and the rational will, we are told that this is merely a conflict between two different desires, and is of the same nature as, for example, the conflict between rage and fear in the brute. If we assert that man frequently acts from moral principles, we are told that he is impelled either by a separate moral instinct, or by a desire of approbation, whether from the world at large, or a supposed impartial spectator; or that his action proceeds from a desire engendered by the perception that the sacrifice of a present inclination will be attended by greater ulterior benefit to himself. If he acts from religious motives, we are told that he is automatically influenced by the association in his mind of particular actions with his belief in future rewards and punishments. Finally, if he raises his hand, or lets it fall in order to show the freedom of his will by an arbitrary action, we are informed that the very desire to demonstrate the freedom of his will is the automatic cause of the action. It will be seen from this that the Fatalist regards a human agent as acting from necessity whenever he acts from a motive; and as every sane man acts from some motive or other, the corollary of this view is, that there is no mental condition intermediate between that of an automaton and that of a lunatic.

13. Again, if we accept this fatalistic view, it is evident that we are not only precluded from considering *man* as a free agent, but that we are also unable to conceive the existence of any free agent whatever; for whenever we shall attempt to picture to ourselves an abstract being endowed with infinite wisdom and power, we must, nevertheless, regard his actions as determined and limited by motives: and thus the view that action from motives is the same thing as *necessary* action conducts us into a manifest dilemma. It is quite reasonable to consider that whenever the rational will either does not exist, or does not operate, the agent acts from necessity. "Wherever thought is wholly wanting, or the power to act or forbear according to the direction of thought, there necessity takes place. This in an agent capable of volition, when the beginning or continuation of any action is contrary to that preference of his mind is called compulsion; when the hindering or stopping any action is contrary to his volition, it is called restraint. Agents that have no thought, no volition at all, are in everything necessary agents."* But the Fatalist has not known where to stop. Perceiving the existence of an automatic principle in man, he

* Locke, *Essay concerning Human Understanding*.

has applied it to *all* human thoughts and actions, under the influence, as I am inclined to think, of an idea which has given birth to many fallacies; viz., that having established the existence of a principle, it argues a truly philosophic mind to make it as universal as possible.

14. The issue, then, with the Fatalist may be reduced to the following terms:—"You consider," we may say to him, "all human actions to be necessary actions because they proceed from motives. But this position requires the assumption of the principle that all actions which proceed from motives are necessary actions, a principle which entails the consequence that every rational agent acts from necessity, and therefore that there is no such thing as a free agent. The limits which are placed on human freedom in regard to action do not touch the question at all; for the point under discussion is, primarily, the freedom of thought, and not the freedom of action. Unless, therefore, you are prepared to allow the inevitable consequence of your principle, you must renounce the principle itself, and admit that action from motives is not always necessary action. And, as you admit, on the other hand, the principle of automatism, it is clear that there must be a point where automatism ceases, and free agency begins."

15. This limit is to be found in our own natures, where we discover the two principles of automatism and free agency existing side by side. The difficulty of practically disentangling the automatic from the rational principle in any given action does not obviate the fact of their being two essentially distinct conceptions. The nature of the automatic principle is unmistakably shown in those actions the objects of which are unknown to the agent, when the action, though beneficial to him, is immediately produced by *desire*, but where the desire cannot have been awakened by a knowledge of the benefit resulting from its indulgence, inasmuch as this knowledge does not exist—at least in the mind of the agent. There are also actions which are produced by *knowledge* on the part of the agent; and these are what we usually term rational actions. That desire is sometimes concerned in the production of rational actions—that is, actions which result from the knowledge and reflection of the agent—is quite true. Our observation of blind instinct teaches us that the perception of certain qualities of an object, or a particular condition of body, excites a desire, and produces an action; and if, in the course of our reasoning on any subject, the images of such objects present themselves, it is natural that they should awaken the desire and influence our actions, or even our reasoning, automatically. But desire itself

is antagonistic to reasoning; for whenever we seriously set to work to form an impartial judgment on any matter, we carefully exclude from our minds such images as are likely to influence our desires and consequently to impair the correctness of our judgment; in other words, we shut out the automatic principle in order that the rational principle may work freely. And I think it might be shown that whenever desire helps to impel a man towards an action, the benefit of which he has demonstrated to himself by reflection, it is because an image has presented itself which would have excited a desire towards that action even if there had been no reflection at all. Yet, that a man may act from rational motives and without desire having any part in the production of the action, is a fact of which every one's self-consciousness will supply him with ample proof; for, if we examine ourselves when under the influence of an inclination produced by a rational conviction of the utility, &c., of any given action, we shall perceive that in many cases the inclination does not at all partake of the nature of a desire, and that whenever it does, the reason is, as I have just said, that a certain image has been evoked which would have excited the desire independently of the rational conviction.

16. But the Fatalist will maintain that there is a common element running through all human actions, to wit, that they all conduce to the benefit—I use this term in its widest sense—of the agent, whether he (the agent) is rationally aware of the benefit or not; and he will explain even benevolent actions on his theory of the gratification of a benevolent instinct. I may concede this point for the sake of avoiding irrelevant argument, and content myself with pointing out that there is a vital distinction between the principle which produces actions prior to experience, and the principle which produces actions in consequence of the knowledge possessed by the agent. The different senses in which the term “knowledge” is frequently employed in no way obliterate this distinction. In common discourse we hear the word applied to instinct in such expressions as “the horse knows what is good for it”—speaking of its food; but the horse cannot be said to know what is good for it in the same sense that the physiologist does. Its knowledge, even when it is experimental, consists in nothing more than a liability to be attracted or repelled by food which has on some former occasion proved agreeable or disagreeable to its palate. Its instinct guides it in the selection of the food which is best adapted for its sustenance, a fact of which the horse itself is profoundly ignorant. The lion feeds on the deer in obedience to an instinctive inclination to kill animals and eat

them, and the deer feeds on the herbage, likewise in obedience to its instinct; and no one supposes that the lion or the deer acts in such cases from a conviction that food is necessary to their existence, or that herbivorous or carnivorous diet, as the case may be, is suitable for them. Nor can we suppose that they are aware of the more remote objects which they are fulfilling in the economy of Nature—that the lion is keeping down the excess of herbivorous animals, and that the deer is keeping down the excess of vegetation. Each animal acts according to the instinct implanted in him; and although his actions are beneficial to himself, yet the knowledge that they are beneficial is plainly not his own knowledge. We cannot *prove*, indeed, that the lion does not perceive all the direct and indirect objects which he is fulfilling when he kills and eats the deer, any more than we can prove that he has not discovered a method of squaring the circle; but, in the absence of any evidence to the contrary, we are tolerably safe in assuming that he is actuated by an instinctive desire, and that a knowledge of the benefit resulting from the action has no share in its production.

17. Granting, therefore, that all voluntary actions—I mean here all actions which are not performed under compulsion—are beneficial to the agent, we must nevertheless divide actions, according to the method of their production, into two classes,—those in which the agent is aware of the benefit resulting from the action, and those in which he is not. In the latter case the action is, and can be, only produced by desire; in the former case, where the action proceeds from the knowledge possessed by the agent, it is questionable whether the term “desire” is properly applicable to the inclination which draws him to the performance of the action. I of course except those cases where the desire is excited by the introduction of an image capable of awakening it. At all events actions are frequently produced by strong rational motives without any indication of desire. Let us suppose one man to murder another in a sudden access of passion, and that, beyond the gratification of the momentary impulse, the action is in no way beneficial to him. Here the murderer acts in obedience to an instinct which was originally implanted in him for the purpose of his self-preservation, and the indulgence of which, if he were nothing more than an animal, might be, as a general rule, beneficial to him. But in the present instance his action is not caused by a perception of any benefit resulting from it, seeing that his greater benefit lies in the opposite direction. And when he comes to be hanged by process of law there is the strongest possible motive for his punishment, yet it cannot

be said that desire had anything to do either with the making or the execution of the law under which he suffers; for, although laws are made for the benefit of the community, and therefore come under the category which we are considering (of beneficial actions), yet legislators are not usually supposed to make them out of fright, which is an instinct, but out of a rational consideration for the public welfare. Now if we are to place all human actions in the same automatic or necessary category on the ground of their common tendency to the advantage of the agent, we must expect the perception of his greatest advantage to awaken the strongest desire. But we really find, on the contrary, that the strongest desires are generally those which are awakened without any knowledge in the agent of the benefit accruing from their fulfilment; whereas a clear perception of his own advantage produces in the agent a weaker inclination, and frequently no *desire* at all; in fact it often happens that a man will voluntarily call in the assistance of an animal desire to enable him to effect a purpose which his reason has shown to be beneficial.

18. From these considerations it is apparent that even if we allow a common (selfish) tendency in all the actions of man and brute, yet that actions are produced by two essentially different principles, which stand out in clear contrast with each other—the automatic principle operating independently of knowledge (in the agent), and the rational principle, producing actions from the knowledge of the agent by means of the rational will.

19. The rational principle is commonly considered to be a distinctive feature of the human psychology; and the variety of opinion which exists on this subject seems to have resulted from the selection of a particular phase as typical of the general principle. One writer considers the distinction to consist in a rational will, another in the intellectual faculties, another in the moral sense, another in self-consciousness, &c. &c. This variety of opinion amongst those who nevertheless maintain in common the distinctive existence of a rational principle, does not prove in any way the weakness of their general view, but rather that the attention of each writer has been too much taken up by a particular mode. If we place the distinction in the will alone, we do not escape the sophistry of the Fatalist; for he will argue, as we have just seen, that the will is always determined by motives, and that all motives are motives of self-interest or self-gratification. The moral sense he will regard as an instinct, peculiar possibly to man, and varying considerably in different individuals and races, but still an instinct,

combining with, or opposing itself to, other instincts; and he will consider all actions proceeding from the moral sense as being equally necessary with the actions produced by the desires of the animal. In short, nearly all the phases of the rational faculty which are ordinarily held to be distinctive characteristics will be explained by the Fatalist on automatic principles. I am not dealing here, it must be remembered, with sound argument, but with pure sophistry. Psychology is a strictly inductive science, and the difference between desire and the rational will is far more clearly proved to us by an examination of our own nature than by any amount of demonstration. And in indicating a phase of the rational principle which cannot be accounted for on the automatic theory of the Fatalist, I do not mean it to be inferred that this phase furnishes the only point of difference between the rational and automatic principles, but I am simply laying my finger on a point which the fatalistic theory leaves uncovered.

20. Whenever, on the automatic principle, the agent refrains, under the influence of a stronger motive, from an action towards which he is impelled by desire, the Fatalist argues that the stronger motive gives a necessary character to the action: and, so far as the actions of the lower animals are concerned, he is undoubtedly right; *e.g.*, a dog who is only restrained from flying at my throat by the sight of a cudgel which I hold in my hand, certainly acts from necessity, and is quite at the mercy of the predominant feeling. But when the Fatalist, extending this principle into all human actions, claims for them an automatic character, and resolves the process of reflection into a balance of desires, it is evident that his theory fails to explain one of the most common operations of the rational principle, namely, the restraining of an inclination, not by another and a stronger inclination, as is always the case in the conflict of instinctive desires, but by an arbitrary act of the will *before* any antagonistic consideration has presented itself,—an act by which the will checks the inclination, not under the influence of another motive, but in order to direct the intellect, so to speak, in quest of other motives; and no one who has impartially considered this phenomenon in his own mind will deny that there is in such cases a conscious and voluntary suspension of the action towards which he is impelled by desire.

21. Let us take the case of a schoolboy who has made himself drunk, and has been seriously unwell in consequence; the probable result is that he feels for some time to come a strong aversion either to alcoholic drinks generally or to the particular drink which has caused the disagreeable sensation. His aversion

is, of course, instinctive; and the abstention which it produces is automatic. Further on in life, let us imagine him to restrain an inclination for stimulants in consequence of his having acquired a sensitiveness to the opinion of society, and of his having become aware that society disapproves of drunkenness; in this case also we will concede that he is more or less automatically influenced by a social instinct. But let us suppose, thirdly, that, having arrived at maturity, he reflects on the nature of drunkenness and the numerous evils resulting from it, and that he abstains from intoxicating drinks in consequence of his reflection. The Fatalist will urge that the abstention is the necessary result of one or all of the considerations presented to him by his reflection, which overpower his inclination for the stimulant in the same way as the fear of the cudgel overpowers the anger of the dog.

22. But even if we admit that the abstention is automatically produced by any of the considerations suggested by reflection, there still remains a fundamental difference between the psychological process which results in the abstention of the man from stimulants and the process which precedes the final action of the dog. The dog flies at my throat or not according as rage or fear may preponderate; but the man suspends the performance of the action to which he is inclined *in order that* he may reflect; and the motives which ultimately determine his conduct are generated by, and therefore *follow* the reflection; and these motives, however automatically they may finally influence him, were not the primary cause of his abstention, for they did not at the time exist in his mind at all.

23. The importance of this suspensive power of the rational principle is recognized by Locke; and I think he might with more reason have made it the ground of distinction between man and brute.

“I desire it may be well considered whether the great inlet and exercise of all the liberty men have, are capable of, or can be useful to them, and that whereon depends the turn of their actions does not lie in this, that they can suspend their desires and stop them from determining their wills to any action till they have duly and fairly examined the good and evil of it, so far forth as the weight of the thing requires.”*

24. Recurring now to what has been laid down in the commencement of this paper relative to the automatic nature of the intellectual processes, it is easy to perceive why *intellect*, as

* *Essay concerning the Human Understanding.*

the term is commonly understood, is not in itself a satisfactory basis of distinction between man and brute. Understanding intellect as the sum of the intellectual faculties, the ordinary inquirer is perplexed by the discovery of the fact that brutes do unquestionably both abstract and generalize. But what are the real facts of the case? When a particular object is presented to my consciousness, I find, as a matter of experience, that one or more attributes of that object will often awaken an emotion or a desire which, if unrestrained, will pass into action, while the remaining attributes of the same object are comparatively or entirely disregarded. Unconsciously, and quite independently of my rational will, a separative or analytical process has been performed, and I find that I have *abstracted*. Further, the contemplation of this particular attribute has called up in my mind the images of other objects possessing the same attribute, and thus the process of *generalization* has been accomplished. And these processes deal not only with ideas or thoughts, but with whatever objects come within the range of my consciousness—with all the perceptible attributes of matter, with form, or colour, or extension, as well as with emotions or sensations; all of which are sorted, separated, or associated irrespectively of my rational will. Let me suppose, for example, that I want to examine the truth of the proposition that all red-headed men have freckled complexions—it is not of consequence whether the proposition is absurd or not. Unless my mind is sufficiently abstract to be capable of considering the quality of red-headedness apart from any individual of whom it may be a characteristic, I first of all fix my attention on a particular red-headed man; and in a short time I find that the images of different red-headed persons whom I have met in the course of my experience pass before my mind like Banquo and the eight kings. Each of these images I can arrest in its passage, and again examine until my memory produces the fact of the person whom it represents being freckled or otherwise. But I cannot at once summon up all the images of red-headed people that are stored away in the recesses of my memory; some of them may drop in now and then for the next month, especially if my mind is much exercised on the subject. And I cannot in every case where the image is recalled recollect whether the person was actually freckled or not. It is quite clear, therefore, that the process which evolves the images is not directly under the control of the rational will, but that it is self-working or automatic. The investigation by which I proposed to verify the generalization was indeed *initiated* by the rational will, and the rational will intervened at different stages. But, in such instances, it merely *utilizes* the mental processes which

could have gone on without its intervention ; it does not create the power which evolves or associates the images in my mind, any more than it creates the power of vision in my eye when, as a rational act, I turn it upon some object in the external world. In dealing with abstract thoughts or ideas, the mental processes under consideration are essentially the same in the mode of their operation. In metaphysical thought, for instance, the ideas are difficult of comprehension and the rational principle plays a more important part in their production, because a stronger effort of the will is necessary in order to enable the mind to realize them at all ; but when once they are realized, and the mind has become familiarized with them, they are sorted and arranged as automatically as the most superficial ideas or the simplest impressions of sense. These leading intellectual faculties are thus simply natural processes of the mind, which, although working automatically, are made use of by the rational principle.

25. Of this rational principle as manifested in the suspensive and directive phase above specified, there is in the psychology of the lower animals no indication whatever. All the instances—at least all I have ever heard of—in which the brute is said to have exhibited symptoms of intelligence, may be explained with very little trouble on the automatic principles so plainly discernible in our own natures. Of course, the phase which I have adduced does not embrace all the manifestations of the rational principle ; but it is the one which distinguishes most clearly the psychological nature of man from that of the brute. Nothing in the inorganic world is so inexplicable or incomprehensible to my mind as the simple action of a dog who attacks me under the provocation of a threatening gesture or look ; for there is an obvious reason for the action, and yet the dog does not act from that reason. But this rational principle, undefinable in itself, by whatever term we designate it,—whether reason, power, freedom, or self-consciousness,—this principle which reigns supreme over the other faculties of our nature, directing, controlling, and acting through them, not as an absolute but as a constitutional sovereign, is certainly the most incomprehensible of all.

The CHAIRMAN (Rev. R. Thornton, D.D., V.P.).—I am sure—or perhaps I should use the necessitarian language and say, “I am irresistibly compelled to take it for granted, that you are irresistibly compelled to thank the author for the essay, which he has been unable to avoid writing.” I shall now be glad to hear any remarks which any gentleman may feel himself compelled to make.

Rev. Prebendary Row.—As I take it, the general principle of Mr. Morshead

is, that the action of animals is altogether automatic, but I cannot agree with this. From my own observations it seems to me that those actions are something more than automatic. Of course our great difficulty in discussing this question arises from our inability to look into the minds of animals. But as we cannot do this, we are in the dark, and can only judge from analogy. Now, many years ago, my brother and my brother-in-law went out to bathe; neither of them could swim well, but they got out of their depth, and the dog of the latter, being on shore and seeing his master's danger, plunged in, and seizing him by the neck, rescued him. I do not think this can be regarded as an automatic action or as simply the result of pure instinct.* So far as my own experience goes, the difficulty of supposing that the acts of animals are purely instinctive, arises from the fact that they are capable of varying their operations in conformity with circumstances. Take for instance the bee. You may say that in building its comb its act is purely instinctive, and I will not dispute it; but what do you mean by instinct? Mr. Morshead uses the phrase "natural sagacity," which is very inconvenient, and which covers a great deal more ground than instinct. Suppose in a hive a piece of the comb falls down by some accident—in such a case the bees modify the architecture of the comb to meet that circumstance. Now if you admit, as I am not indisposed to do, that the action of the bee is purely instinctive, still when you find that the bee accommodates its architecture to the altered condition of circumstances, there is, I think, something more than mere instinct involved in the matter. Again, take the case of birds' nests. I know the general character of their nests, and I also know that they accommodate their architecture to circumstances. I cannot understand how it is possible to pronounce such acts purely instinctive or automatic. I do not think everything can be referred to pure instinct; for instance, a setter that I once had was a most notorious poacher, and the way he carried on his operations was this:—In the neighbourhood there was a sheep-dog with a cross of the greyhound; hence he was a rapid runner. The two animals used to go out poaching together. The sheep-dog would not go out by himself, but was induced to do so by the setter. When the setter got his dinner, he used to fetch the sheep-dog, and after dividing his dinner with him, the two went out hunting together. I cannot understand that such cases as this can well be accounted for on the principle of instinct alone—in fact it seems to me that a great number of these animal actions are the result of principles analogous to those in man. I am not sure whether Mr. Morshead wishes to put forward the view that the whole of the intellectual functions of man are simply instinctive also (several voices, No, no); but it seems to me that much was laid down in that direction. Nobody will dispute that many of our intellectual actions are instinctive or automatic.

* Such anecdotes show the lower animals to be possessed of both instinct and intelligence, qualities without which they would not have served the purpose of their creation.—Ed.

The CHAIRMAN.—I think the author says a certain part of them, but when they pass to a certain point that is not so.

Mr. Row.—Very well. I observed repeatedly on reading the paper that one important matter is left out, and that is the formation of our habits. The fact is that after certain of our habits are formed, they seem to become what we call instinctive, and many have become to a certain extent automatic, which were clearly not automatic in their origin. There is a theory which is not mentioned in this paper, and that is the theory of transmitted habits. Transmitted habits, accumulated by and coming from our ancestors, seem to me to be a matter which it is very difficult to conceive ; but there certainly are some startling facts in support of the theory. Finally, I cannot agree with Mr. Morshead's remarks on our personal freedom and on our belief in that freedom.

Rev. Prebendary IRONS.—The writer of this paper seems to imagine that it is in the interest of religion to believe that animals are automatic. Surely there could be no more serious mistake than to put the matter thus. Let us discover the exact truth and conform our theories to the facts, but do not let us for a moment suppose that religion is committed to the question one way or the other. True religion and real facts are not in contradiction with each other. Since the truths of religion stand on a solid foundation, no facts can come into collision with them. With regard to the paper itself, I think that its facts are carefully put together, and that there is much ingenious expression and clearness of thought, if we concede the author's philosophy at the outset ; but to a person like myself, wholly differing from his philosophy, the paper is only interesting as a theory worked out by one whom I am merely watching, in order to see how he does it. The mistake of the paper is that it has altogether left out the physical necessities of the universe. We cannot admit a physiology and psychology apart from physical science ; and the laws of physical science, although now more understood than ever, have not as yet touched the primary philosophical question of causation. The principal point at the bottom of these inquiries is, in what sense these animals are causes,—and also in what sense we are causes. There lies the whole of the issue. I do not see that certain of the propositions in this paper have any sense whatever, from my own point of view. This is a strong thing to say, and I explain it in this way. The author of the paper speaks of so many abstractions, and of so many effects and powers of the existence of which I feel entirely ignorant, that I may be excused for considering it an entirely unintelligible view. I have been accustomed to say that the individual,—the man, the *ego*,—is a cause, and wherever I recognize an *ego*, even of an inferior kind, I recognize the origin of a certain amount of active causation. Thus, I speak of myself as a cause, and certain acts come from me as the cause ; but the abstractions used in this paper appear to me to be unintelligible on the ground of any sound philosophy. Abstractions unfortunately play a remarkable part in metaphysics. To say, I think, I feel, I remember, is intelligible ; and yet I am not a mere compound of thought and feeling and memory. I myself am a

unit ; and that is the only philosophy that I can adhere to. You might as well tell me that my leg is made up of walking and running, as say that I am made up of reflecting and thinking, or any other abstractions. It is I who reflect. I am a thinking being, and I exercise my power of thought in an infinite variety of ways, for which, perhaps, I have not an infinite variety of expression. You will see, therefore, that I cannot even quote from this paper to criticise it, I differ so widely. I have arrived at the conclusion that it is only suited for the consideration of those who hold some modification of Locke's opinions. Mr. Row has given us some reasons for throwing aside the extraordinary attempt to consider all animals as automata ; but few, after all, will ever maintain that animals are only a species of machines acting from "springs," to which certain names are given, but which, whatever names may be given, are only names after all. How we are to regard them is another question.

Rev. J. FISHER, D.D.—I consider the paper to be a very able one, and very well written from the writer's standpoint ; but I take a different standpoint myself. I am inclined to go with the writer generally, for I think he has studied the subject more than I have, but I cannot go with him in this. The paper is on psychology, and psychology has nothing at all to do with automata. An automaton has no psychology in it ; and in the very hypothesis that animals are mere automata, psychology is altogether left out of the question, for there is no room for it. An automaton does not live, an animal does live ; an automaton does not feel, an animal does feel ; an automaton has no self-impelling movement, an animal has. Psychology, therefore, is altogether thrown out by the hypothesis that an animal is a mere automaton. An animal has instinct : a man has instinct, and a child has instinct, as well as lower animals ; and in proportion as the organism, so to speak, or the animal rises in intelligence, the instinct becomes less and the reasoning powers, of course, become greater. An animal has instinct, but it has something more besides. Is it by instinct that the elephants at Astley's perform their movements ? Is it by instinct that dogs will do so many things which we know they do ? Man has little instinct because he has little need for it ; but, on the other hand, he has intellectual powers, and by these he is guided. I think the writer of this paper has argued well from his point of view, but then his point of view is not mine, and for a Christian to widen his circle in this way is only to make room for unbelievers. There are many things in the paper which are open to exception : for instance—the author speaks of instinct as being the sole source of action in animals ; he explains the passionate action of a dog, as springing from self-defence. Then he speaks of abstraction and generalization in the brain, but the brain has nothing of the kind. All these things are open to exception, but they seem to arise in consequence of a wrong impression in the writer's mind, that it is necessary to establish a differentiation between man and the lower animals, other than those which we know to exist.

Mr. DIBDIN.—I do not think that the discussion does justice to the paper. With regard to Dr. Irons' remarks, he will find that Mr. Morshead distinctly

disowns any teleological argument. He only takes what he considers to be the facts, and argues and infers from them. Then it should be remembered that the paper now before us, only deals with one portion of the subject, for it is really in continuation of another paper, read on a former occasion.* I think, however, that we find our main difficulty in the fatalistic argument, and that this paper does not meet it.

Mr. J. RENDALL.—I consider that one of the difficulties in dealing with the paper, arises from the fact that it uses some words with indistinct meanings, as, for instance, the word automatic; which Dr. Irons has used in a sense widely differing from the sense in which it is used by the author, who gives a definition of the word as follows:—

“A difficulty having been raised on a former occasion as to the meaning of the term ‘automatic,’ I give a definition of Dr. Carpenter’s, which expresses the meaning in which I have employed it. He defines an automaton as ‘a machine which has within itself the power of motion, under conditions fixed for it, but not by it.’”

Now he evidently does not mean what most people mean by the word “machine,” because he applies it to living beings.

The Meeting was then adjourned.

MR. MORSHEAD’S REPLY.

As the remarks which have been made on my paper evidence a certain amount of misconception as to its general bearing, I think the most appropriate reply will be a short explanation of the object with which it was written.

The moral consequences of the Darwinian theory of evolution are not, perhaps, of much importance; for, although it removes the first creative act to a more distant epoch, yet it does not, professedly or necessarily, exclude the idea of an originally miraculous creation. But intimately connected with this theory—I do not say proceeding from it, inasmuch as it existed long before the time of Darwin,—there is another, which, so far as its moral consequences are concerned, is of the very first importance, I mean the theory expressed in the quotations which formed the text of my first paper on this subject. “The intellect of vertebrate animals is identical, as their organism is identical; thus gradually descending, passing through the orang man himself to all the mammalia”; and again, “From animals to man everything is but a chain of uninterrupted gradation; therefore, there is no human kingdom.”† The consequence of this theory of intellectual gradation is, that it leaves us the following alternative,—either we must deny the distinctive attributes of humanity, or we must extend these attributes to the lower animals. If there is less difference, as has been stated, between the chimpanzee and the Bushman than there is between

* See Vols. III. and V. for Mr. Morshead’s former papers.

† Pouchet, *Plurality of the Human Race*.

the Bushman and the European, we must either invest the chimpanzee with the attribute of moral responsibility or we must withhold this attribute from man. Viewed in this light, the conception that all the intellectual and moral attributes of man are merely higher developments of similar attributes existing in the lower animals, is one which strikes at the root of the doctrine of moral responsibility. This theory is much in favour with sceptical writers, and I believe it to exist, more or less distinctly formulated, in the minds of a far greater number of educated persons than is commonly supposed. It is not, however, the province of this Institute to deal primarily with the moral bearing of scientific questions; and my inquiry was addressed entirely to the facts on which the theory was based; the arguments contained in my paper being directed chiefly against the attempts which have been made, in conformity with the theory in question, to obliterate the distinction between man and brute.

I think Mr. Row will find that the points raised by him have been anticipated. The sense in which I used the phrase "natural sagacity" is explained in sec. 8 of the paper. The question of transmitted habits is a very interesting one, but it hardly came within the scope of my argument.

In reply to Dr. Irons, I will point out that it is impossible to establish a distinction between man and brute without considering the attributes of each separately. It was held both by Descartes and Aristotle that animals are automata.

The objections of Dr. Fisher apply principally to my terminology. I used the word psychology to express the attributes of the $\psi\upsilon\chi\eta$ collectively, and therefore as including the appetites and passions, which I showed to be plainly automatic, in so much as they produce actions without the intervention of the rational will. Of course this is an extension of the sense in which the term is usually employed, but the extension is perfectly legitimate. I do not mean, however, to compare the wonderful mechanism of the animal with the automaton chess-player at the Westminster Aquarium.

It is an error to suppose that the term "automatism" is inapplicable to living creatures. An automaton is, as a matter of fact, a machine of human construction, and, therefore, destitute of sensation; but the absence of sensation is not included in the essential idea of automatism. What I mean when I speak of animals as automata is that they are constructed in such a manner as to act of their own accord under particular conditions. This conception in no wise derogates from the wisdom of the Creator; for a tree is as certainly a piece of Divine workmanship as an animal, and yet it has not even "automatism." Every impulse of anger or fear is automatic; in fact the word is continually used to distinguish involuntary from voluntary actions.

I am sorry that Mr. Dibdin omitted to indicate the defect in my argument against fatalism; had he done so, I might have been able to supply it.