Leroy, Charles Georges (1870): The Intelligence and Perfectibility of Animals

PREFACE.

CHARLES GEORGES LEROY, born in 1723, succeeded his father as Ranger of Versailles and Marly. In this post he enjoyed ample opportunities for the observation of animals.

DEDICATORY LETTER TO MADAME

You know, Madame, that I hold that none but a sportsman can fully appreciate the intelligence of animals. To know them thoroughly, you must have associated with them; and most philosophers fail in this point.

Now I will venture to assert that this Nuremberg Naturalist is or was, like myself, a determined sportsman, and that he went through his course of philosophy in the woods. I agree with him in thinking that, in the study of animals, isolated facts must be put aside. It is their daily conduct, the whole of the acts, with their modifications according to circumstances, all working towards the object which they must necessarily have in view, each according to its nature, that constitutes the true field of observation.

But when you have studied a large number of individuals, chosen from different species; when you have ascertained the limit to which the education proper to their respective formation, natural appetites, and circumstances lead them; when you have seen them cautiously feeling their way, and only attaining to the so-called certainty of instinct after the lessons consequent on failure, it seems to me impossible not to reject entirely the idea of automatism – of their being mere machines.

LETTER I.

We shall never understand the nature of the soul of animals , and we must allow that the point is unimportant . We are convinced that our own is immaterial and immortal , and the conviction is the basis of our fondest hopes . Whether the souls of animals be immaterial or not , it is certain they can never attain to the glory reserved for ours ; thus religion cannot be affected by the result of any examination of the faculties of animals .

Those who most obstinately cling to the notion that they are mere machines, yet cannot but allow them to possess the faculty of memory; for, wishing to have good dogs, they correct them. These facts being admitted, the naturalist, having thoroughly examined the structure, and formed an opinion of the use of all the parts,must throw aside the dissecting knife, leave his study, and plunge into the woods, there to follow every wile and turn of these sentient beings, to appreciate the development and effects of this faculty of feeling, and to see how by repeated sensations, combined by memory, they rise from mere instinct to intelligence.

There are certain necessary effects, both of the sensations and of memory, which the observer must not allow to escape him. In very many instances the actions of animals only pre-suppose the existence of these two faculties; but there are others which can never be accounted for by these alone, without the aid of their natural concomitants.

The naturalist, then, must have a clearly-defined idea of the different effects of simple sensation, of recollection, of the comparison of a present object with one which memory places by its side, of the judgment resulting from that comparison, of the choice which succeeds that judgment, of the idea of the thing so compared and judged, which gradually and unconsciously, by the repeated exercise of these acts, becomes fixed in the memory.

Natural formation, internal no less than external, the average length of life, and of the period of growth, the way in which they feed, their ruling inclinations, the manner and season ofpairing, that of gestation, &c.; these are the simplest facts for the observer, and which only require him not actually to close his eyes; but to follow the animal in all his operations, to penetrate the secret springs of his actions, to see how the sensations, the wants, the obstacles, the impressions of all kinds to which a sentient being is exposed, multiply his movements, modify his actions, and enlarge his knowledge, is, in my judgment, the special domain of the philosopher.

If the history of a carnivorous animal be chosen, it is not enough to state generally what animals he preys upon, and how he seizes them; we should trace the steps by which experience teaches him to facilitate his chase, and ensure its success, the new inventions to which scarcity leads him, and consider the number of known facts, supplied by memory, and combined by reflection, which are involved in the devices to which he has recourse.

modifications of his actions due to the active influence of the passions, such as fear, love, &c., to which he is subject; how far the keenness of want sets aside the dictates of prudence, and the distrust induced by experience neutralises the activity aroused by hunger.

It is only by this observation of the animal in all ages and situations of life that a right judgment of the development of his instincts, and the degree of his intelligence, can be formed. If he belongs to a species living in society, either constantly or only for a certain season each year, the additional projects and enterprises superinduced by this association must also be noted.

The thorough knowledge of all these different orders of life would add new charms to the spectacle of the universe for the philosopher, and could not but give a fresh impulse to his admiration for the SupremeBeing who has so infinitely varied the affections as well as the outward forms of his creatures, and made all subservient to the eternal plan known only to himself.

The effects of sensation in those animals which by their structure are less open to external influences may furnish similar phenomena, the observation of which, by its greater facility and certainty, will help in that of the more complex. In some species, sensation will be seen to be obtuse and almost entirely inactive, giving rise to a very limited number of spontaneous actions; while in others, its greater intensity will multiply those actions, and will produce that desire and restlessness which, in sentient beings, are the parents of attention, and thereby become the true sources of their knowledge.

As geometry rises from the consideration of the properties of a simple line to the sublimest speculations, so will observation pass from the contemplation of the most simple sensation to its most complicated results, and the gradations which are so obvious in the world of sight will be equally recognisable in that of sensation.

I think that were this kind of view taken of the natural history of animals, it would render it more interesting in itself, and more worthy the attention of the thoughtful. I have long lived among animals; I have studied some species with great care, andhave discovered that human morality may learn some lessons from that of wolves.

LETTER II.

In the first letter which I had the pleasure of writing to you, I asserted that it was impossible to refuse to animals the faculties of sensation and of memory, unless we disallow our own consciousness – I mean that instinct of sympathy which alone assures us that our fellow-men are gifted with the same faculties which we recognise in ourselves.

From these facts we may predict that those animals which, by virtue of their organisation and appetites, are most dependent upon the objects that surround them, will have the largest amount of knowledge; and further, that if the acquisition of knowledge is limited by the special organisation and nature of the appetites of each species, the greater the difficulties to be encountered in the satisfaction of their wants, the greater will be the sphere embraced by their ideas.

That each species should have some ideas which are peculiar to it, and beyond which it cannot go, is quite natural.

The sheep in its pasture sees with indifference the wiles of the fox in pursuit of the prey which seeks to escape him. But all species equally must have sensations and ideas, the exercise of which is regulated by their respective wants and dangers.

Among animals, those whose nature leads them to prey upon other animals have most points of contact with the objects by which they are surrounded; accordingly, we find that they exhibit the most intelligence in all the details of their daily life. Nature has endowed them with exquisitely delicate senses, with great strength and agility, and without these endowments life would, even if possible, be very difficult; for, at war with other species for their daily existence, they would soon perish of hunger had they inferior, or even only equal resources.

But their degree of intelligence is not solely due to the delicacy of their senses. Intense excitement, the difficulties to be overcome, and the dangers to be avoided, keep the sensations in constant activity, and impress upon the of the animal numerous memory facts, which, taken together, constitute his science of life.

Thus, in places remote from any habitation, and where game abounds, the life of carnivorous animals consists of a few simple and unvaried acts. They pass successively from an easy prey to sleep. But, wherever the co-existence of man renders the gratification of their appetites more difficult; wherever, in consequence of this rivalry, their steps are threatened with pit-falls, their path planted with snares of all kinds, and they are kept in a state of constant alarm, then an absorbing interest forces them to watchfulness, their memory stores itself with all the facts which concern them, and does not fail to bring forth its stores whenever similar circumstances arise.

These various obstacles produce in the animal two states of existence, which it is well to consider separately. The first is purely natural, very simple, limited to a small number of sensations, and may, in some respects, be compared with that of man in the savage state. The other is artificial, far more active and full of interests, of alarms, and of movement; ...

The first exists with little variation in all the carnivorous species; the second admits of many degrees, in proportion to their more or less perfect organisation. This will be seen in comparing them.

Of all the carnivorous animals found in the temperate climates of Europe the wolf is the strongest. His voracity and his wants are in proportion to his strength; nature has endowed him with the most delicate senses, a piercing sight, and an acute ear, and a nose which, with yet greater certainty, warns him of all objects to be found on his path. This sense, when well trained, informs him of some of the relations which things may have with him: I say when well trained, for there is a very perceptible difference between the proceedings of a young and ignorant wolf, and those of a wolf of ripe age and experience.

The young wolves spend two months in the den, during which time their father and mother feed them. They then follow their mother in search of prey, for she can no longer alone satisfy their daily increasing voracity. With her they tear to pieces live animals, try their powers in the chase, and gradually become able to provide for the common wants. The habitual practice of rapine, under the eye and with the example of an experienced mother,gives them each day new ideas on this subject. They learn to know the places to which their game retires; their senses become alive to every kind of impression; they begin to distinguish these impressions, and to correct by their smell the judgments which their other senses would lead them to form.

But in those places where his wants clash with those of man, the constant necessity he is under to guard against the snares laid for him, and to provide for his safety, oblige him to extend the sphere of his thoughts and actions to a far larger number of objects. Then his step, naturally bold and free, becomes watchful and timid; fear keeps his appetites in check; he distinguishes between the sensations which memory brings before him, and those which he receives from the immediate use of his senses. Thus, when he scents a flock within its fold, memory recalls to him the impression of the shepherd and his dog, and balances that of the immediate neighbourhood of the sheep; he measures the height of the fence, compares it with his own strength, takes into account the additional difficulty of jumping it when burdened with his prey, and thence concludes the uselessness or the danger of the attempt.

A full-grown wolf, inthe neighbourhood of human dwellings, has little need of experience to teach him that man is his enemy. He is pursued from the moment he appears; the crowd and noise show him how much he is feared, and how much he has himself to fear; and each time that the scent of man meets his nose, it awakens in him the sensation of danger.

He will resist the most tempting morsel accompanied by this alarming accessory; and even when it is divested of it, he is long in overcoming his suspicions. In this case the wolf can only have an abstract idea of danger, the precise nature of the trap laid for him being unknown; yet this vague idea is only overcome by a most gradual approach to the object of his desire and fear-several nights are hardly sufficient to give him confidence. The cause of his suspicion no longer exists, but it is reproduced by memory, and the suspicion is unremoved. The idea of man is connected with that of an unknown danger, and makes him distrustful of the fairest appearances.

Timeo Danaos et dona ferentes. This is a piece of wisdom forced on the wolf by the instinct of selfpreservation, never wanting in the full-grown wolf of some experience, and capable of extension as circumstances force him to return upon his past and to reflect.

He could not argue syllogistically , as man does ; but he must compare his sensations , and ascertain the mutual relations of objects , as well as their relations to himself, else he could never attach any idea, either of fear or hope, to those objects. And yet the wolf is the least wary of all our carnivorous animals, owing to his superior strength; naturally rather bold than suspicious, it is experience which makes him cautious, and want which makes him ingenious; but these qualities are acquired, not natural gifts.

In seeking his food we have seen that the wolf exercises as much ingenuity as his great strength leaves room for. He takes measures to ascertain where he will find his prey; and if in his search he chooses one place rather than another, his choice is determined by previously-known facts. He then makes a careful and deliberate study of the dangers he incurs; he estimates them; and this calculation of probabilities keeps him in suspense till hunger throws its weight into the scale, and terminates his deliberations.

In taking precautions for his safety much foresight is required-that is, a large number of facts engraven on his memory. Then he must compare these facts with his present sensations, and discover the relation existing between these facts and sensations; and finally, by the aid of these appreciations, he must determine upon his course of action. These operations are indispensable.

The shaking of a leaf rouses in a young wolf only a simple movement of curiosity; but an experienced wolf, who hasknown this fluttering precede the appearance of a man, takes fright at it with reason, because he has perceived the connection of the two phenomena. When these judgments have been repeatedly formed, and by this repetition the actions to which they lead have become habitual, the rapidity with which the action follows the judgment gives it a mechanical character; but a little reflection enables us to recognise the steps which led to it, and refer it to its true cause. It may happen that this idea of the relation between the movement of a leaf and the presence of man, or any other danger, becomes from different circumstances extremely vivid; in this case it becomes fixed in the memory as a general idea, and the wolf becomes subject to illusions, and to false judgments, which are the fruit of the imagination; and if these false judgments extend to a certain number of objects, he becomes the sport of an illusory system, which will lead him into infinite mistakes, although perfectly consistent with the principles which have taken root in his mind.

He will see snares where there are none; his imagination, distorted by fear, will invert the order of his various sensations, and thus produce deceptive shapes, to which he will attach an abstract notion of danger. This may easily be verified in those carnivorous animals which are constantly being hunted and beset with snares.

Thus, whatever be the principle of this association, it involves mutual rights, and gives birth to new ideas. The pair hunt together, and their mutual aid facilitates and secures their success. If they meditate depredations upon a flock of sheep, the she-wolf draws off the dog by a feigned flight, while the male breaks through the fold, and carries off one of the sheep in the absence of its protector. If it is a wild beast they would attack, they take their parts according to their strength; the wolf puts himself on its track, attacks it, and when it begins to flag, the she-wolf, who has stationed herself at some narrow pass, takes up the chase with fresh strength, and soon settles the matter.

It is easy to perceive how much knowledge, judgment, and inference are implied in such proceedings; it is even difficult to conceive the execution of agreements of this nature without an articulate language – a point which we will leave for future examination.

Nevertheless, as we have already said, the wolf is, owing to his strength, one of those carnivorous animals which are most independent of artificial ideas – that is to say, of those which are formed by the exercise of reflection upon past sensations.

Moral relations cannot be very strong between those animals who are in no way dependent upon association; a being, who lives a life of hardship and isolation, alternating between solitary labours and sleep, can be but very slightly susceptible of the tender feelings of compassion .

But food is not always the immediate object of the fox's journeys; even when his appetite is satisfied, his active foresight leads him to travel on, less in search of new victims than of more certain and minute information about the country which furnishes his subsistence .

He often revisits the different burrows which he cleaned out at first; walks round them with the greatest caution, enters in, and carefully examines the various outlets; he is slow in his approach to any object which is new to him; any fresh thing is an object of suspicion, and his every action exhibits distrust and scrutiny .

The only passion which induces the fox to lay aside some of his caution is his tenderness for his young; their need, when confined to the burrow, makes the father and mother, but especially the latter, far bolder than they are for themselves, and this pressing necessity often causes them to hazard their lives. Sportsmen do not fail to avail themselves of this affection of the fox for his young. This community of cares and interests implies a kind of morality in their love, and affections which extend beyond the merely physical wants . These animals, constantly accustomed to scenes of blood, cannot hear without pain the cries of their little ones in suffering. Doubtless, poultry have small reason to consider foxes as compassionate; but their females, their little ones, and even all the members of their species, have no cause to complain of them.

It has been seen that the ordinary mode of life of the fox, and the detail of his daily actions, involve a more regular plan, a more complicated set of reflections, and more extensive and subtle views than those of the wolf. Prudence is the resource of weakness, and often proves a better friend than the boldness which accompanies strength. For the rest, we find in both animals an equal aptitude for improvement, notwithstanding the differences in the results due to their structure and wants.

The conclusions which they draw from these inductions are not always just, but experience rectifies them, and it is easy to trace, in the different ages of these animals, their progress in the art of forming judgments. In youth, imprudence and giddiness lead them into many dangers, and then the mere remembrance of these excites in them a degree of fear which often leads their judgment astray, makes them regard all unknown forms with terror, attaches to every new object the abstract idea of danger, and makes them liable to delusion. Old wolves and foxes, who have been frequently obliged to act upon, and to ascertain the value of, their judgments, are less apt to be misled by false appearances, and more on their guard against real dangers.

As misplaced fear may make them lose their night's work, and reduce them to a scanty diet, they have a deep interest in observing. Interest produces attention, attention discovers the qualities which distinguish one object from another, and constant repetition makes these distinctions as rapid and easy as they are sure.

It is thus that animals are perfectible; and if this perfectibility is limited by their natural organisation, it is not the less, in varying degrees, common to all those beings who are possessed of sensibility and memory: the Wise Author of nature has in every case proportioned their resources to their wants .

LETTER III .

It is man especially , in his greed and cruelty , who refuses to allow the peaceful enjoyment of the fruits of the earth to those animals which can minister either to his food or his pleasures.

Even in man it may be that this restless sense of discomfort, which ever leads him to seek refuge from himself in outward things, and thus becomes the source of most of his knowledge, is but an acquired vice, a product of education. Savage nations, who have few wants, do not appear to be less happy than civilised ones, who have many that they cannot gratify.

If we consider the conditions and apparatus which man in the enjoyment of leisure and civilisation finds necessary to his happiness, and compare the small number of those who enjoy them with the immense numbers of those who suffer because they have them not, we are led to suspect that the race might be better off had it less knowledge. Perhaps, however, a more general and improved method of instruction would teach men in what true happiness consists, would show them the precise way of life which would make it attainable by the majority, and would calm their restlessness, and moderate their desires, on grounds of feeling and conviction.

We might be led to infer from this that mutual aid forms the only bond of society among animals , but we find in some species instances which show that society has charms for them wholly distinct from any selfish interest .

We see that the stag, despite his delicate senses, his quick eye, admirable scent and hearing, acquires little knowledge, because he has few motives to attention. With animals of his own kind he is in merely temporary relations, involving perfectly simple sensations and requiring no reflection. With other animals, and with man, his only relation is that of defence, and his only resource is in flight. We must examine, then, the mode of flight he adopts, in order to see the development of his faculties. Mere instinct will account for the alarm roused in a timid animal by the barking of dogs, and for its seeking to distance its pursuers; but that its flight should be regulated, modified, complicated, by ascertained facts, can only be ascribed to an intelligent principle; and these modifications unquestionably belong to the stag.

It is by instinct that the stag grazes, that the fox lives upon flesh; but we may not refer to instinct, but to the faculty of sensation and its effects, the expedients to which these animals resort in the gratification of their natural wants. Instinct determines the object of desire, desire produces attention, attention enables the animal to observe, and fixes the results of his observation upon the memory; the recollection of these facts gives experience, experience points out the means to be employed. If these means are successful, they constitute his knowledge; if unsuccessful, they bring reflection, which makes new combinations of facts, and gives birth to new expedients.

A falcon who from a great height darts down upon a partridge on the wing, must calculate exactly the distance between him and his victim, the time it will take him to accomplish that distance, and the progress the partridge will make in that time; for if he neglected any one of these conditions, he would miss his aim and lose his prey.

LETTER IV

ON a survey of the daily life of some few animals, we have seen that they are endowed with the faculties of sensibility and memory, the power of grasping the relations of things , and of judging of them, of reflecting upon their actions, & c., and we cannot doubt that the use they make of these faculties is regulated by their needs and circumstances.

We are compelled to confess that we cannot measure the degree of intelligence to be found in the different species, because it varies according to circumstances, always increasing when necessity keeps it in action, and only decreasing in consequence of disuse.

... but a little consideration shows us how far we are from being competent judges of beings differing from us in so many points, and how possible it would be for them to make very important steps without our being able to recognise them.

In general, in all works which have a common aim, and which are equally removed from the sphere of our observation, we can only be sensible of a general resemblance, which leads us to conclude the existence of an absolute uniformity.

It is probable animals are equally insensible to the difference between our palaces and cottages, and that the eagle, in flying over different countries, is blind to the degrees of civilisation attained by their inhabitants. A horde of savages wandering about their wigwams, and a group of philosophers moving in a well-built town, must equally appear to him simply beings walking on the earth, and differing little in their movements .

It is even beyond our powers, in observing most kinds of animals, to estimate the progress made by individuals. The chief instruments of their ideas are precisely those which are least suggestive to us, so that we cannot know the elements of their complex ideas, because we do not share in the same degree the principal sensations which compose them. From this results a radical difference between their system of knowledge and ours.

If we venture to pronounce upon that group of their ideas which depends directly or principally on the sense of smell, we put ourselves in the position of a blind man who should venture to judge the progress of painting.

Many conditions are required as handmaids to perfectibility, and without them beings of the highest order of possible perfectibility would never realise its effects. Society, leisure, the artificial passions which spring from these two combined; *ennui*, the offspring of the passions and of leisure; language, writing, which involves the use of the hands, are so many means in the absence of which no sensible progress can be reasonably expected from the most intelligent beings. Now, we must ascertain whether all these conditions are possessed by animals, and what is the relative importance of those they have not.

There are many species which appear to live in society; but when we come to examine the nature of their association, it is easy to see that it cannot lead to much progress. All the herbivorous kinds which live in flocks seem to be kept together by mere timidity, which leads them to seek encouragement in the company of others. But this common feeling, though it unites them, establishes no active helpful relations between them, even with regard to its immediate object. Though their fears are less when they are in company, union does not make them more formidable to their enemies.

The other details of their life tend rather to weaken than to strengthen the bond which might be formed between them. Feeding all together on grass, equally necessary to all of them, this simple action may be a source of rivalry in case of dearth, but can never lead to any mutual aid.

It is this interchange of services which is the foundation of the relations which make up society in the true sense of the word. These relations must spring from different functions all working together for the common good, and by this division of labour making life easier to each individual, contributing to economy of time, and securing some leisure to all; thus the merit of each individual is decided by the greater or less degree of usefulness of the office he has chosen.

LETTER V.

Hunger alone is a feeble incitement to activity, compared with the care of providing for the wants of their little ones. The need these feeble beings have of their help seems to double the courage of the parents, and produce in them that degree of passion and enthusiasm which either ignores peril or despises it.

The she-wolf and wild sow, of great strength, and provided with very formidable arms, become terrible when they have their young ones to protect. They rush furiously to recover them from those who would easily put them to flight if they had only robbed them of their food, though in extreme hunger. Of all griefs, the most poignant and deep seems to be that of a mother doomed to listen to the cries of her offspring.

Animals have, then, all the necessary conditions of language. But if we closely investigate their actions in detail, we perceive further that we cannot for an instant deny them the power of communicating some at least of their ideas to one another, and this by the aid of words. We are positive that they never fail to distinguish between the cry of terror and that which expresses love. Their different agitations have different intonations which characterise them. If the mother, alarmed for the safety of her family, had but one cry to warn it of its varying dangers, the family would always be sure to do the same thing when she utters the cry. But, on the contrary, their movements vary according to circumstances. Sometimes a hasty flight is the consequence of the cry of alarm; at others, concealment; and, at another time, they advance to the combat. Since then the actions which follow the mother's command are different, it is impossible to conceive that her language is uniform .

It is true that the language of signs is in great use among animals, and that it suffices for the communication of most of their emotions. This language, familiar to all who feel more than they think, makes an immediate impression, and its communication of feeling is almost instantaneous; but it is not enough to express all those combined actions of animals which suppose concert, agreement, designation of place, &c.

Two wolves, who, to facilitate their chase, have each taken a different part - that of the one being to attack the victim, while the other awaits it at some place agreed upon, to run it down with fresh strength - cannot have acted thus admirably in concert without some mutual communication, and this communication is inconceivable unless they have a spoken language.

The education of animals is mainly conducted by means of the language of action. Example shows them most of the movements necessary to the preservation of their natural life. But in cases where the objects of foresight and of fear increase with the increase of danger, this language becomes inadequate; instruction becomes more complicated, and words are necessary to convey it. Without spoken language the education of a fox could not be completed.

It is a notorious fact, that long before they have had any chance of learning by personal experience, young foxes, leaving the den for the first time, are more suspicious and watchful in places where they are much hunted than are the old ones in more peaceful neighbourhoods. This truth, which is incontestable, demonstrates, once for all, their need of language; for how, in its absence, could they acquire this science of precautions, which supposes in them the knowledge of a number of facts, and the power of comparing and of appreciating them?

All these different orders of intelligent and active beings serve to beautify the universe, and in following each its peculiar bent, they are in harmony with the, to us unknown, design of Him who created them all for his own glory.

LETTER VI .

If we now turn our attention to some of the domestic kinds, we shall be still more confirmed in these same views .

M. de Buffon justly remarks that these animals acquire knowledge of which those who are left to themselves are wholly ignorant, but which naturally arises from their relations with us. I have two observations to make upon this remark: -If they acquire, they must have the means of acquiring. We do not impart to them our intelligence; all we do is to develop their own; that is, to bring it to bear upon a greater number of objects. But the progress which the domestic animals make under us is necessarily purely individual, both because we deprive them of their liberty, and by reason of the very nature of their relations with us.

After the elephant, the dog seems, of all domestic animals, the most susceptible of relations with man. He is also the one whose intercourse with us acts most powerfully in extending the circle of his knowledge. The dog is so well known, that this single instance ought to have entirely discredited the theory of the automatism of animals .

How could we refer to a blind instinct the ever-varying motions of so intelligent an animal, so easily and in so many ways rendered serviceable to man, and who, preserving, even in dependence, an undeniably free spirit, excites the loving interest and friendship of his master by his voluntary submission?

The shepherd's dog, constantly fulfilling an office in which his activity is excited by his master's voice, shows much more sense and discernment. Every fact relating to his object takes root in his memory.

From these results an accumulation of experiences sufficient for his hourly guidance, and the effects of which are seen in the modifications of all his actions and movements. If the flock passes a cornfield, their watchful guardian will be seen drawing them together, as far as possible, from the precious grain, never losing sight of those which seem inclined to break through this restraint, checking the bolder ones by movements which excite their terror, and chastising those who neglect his warnings.

For, if the dog had not learnt from his master to distinguish between corn and the ordinary sheep-pastures; if he did not know that the corn was not to be eaten; if he were unable to see that his movements should be regulated by the inclinations of his charge, and to recognise those inclinations, his conduct would be inexplicable, and in the absence of all motive for action, we could not expect him to exert himself.

But, in order to follow the development of a dog's intelligence, it is especially in the chase that he must be seen. Hunting is natural to him, being, as he is, a carnivorous animal. Thus man, in employing the dog for this purpose, is only modifying and turning to his own account an aptness and a taste which nature had gifted him with for his own preservation. For this reason we see in the actions of the dog a mixture of the docility superinduced by chastisement, and of his natural inclination. One or other of these elements will predominate as circumstances have more or less called it into action. Nature is more self-reliant and free in the hound than in other kinds of dogs.

The habit of subjection makes him attentive to a certain point to the words and gestures of the huntsmen; but as they cannot always keep up with him, his intelligence has room for exercise, and his personal experience often corrects the judgment of the sportsmen.

If, for instance, the bird is wounded, and the old and experienced dog feels confident that he is on its track, he will not allow himself to be led astray by his master, who by voice and threats seeks in vain to recall him. The dog knows that he is doing him a service in disobeying him, and the caresses which follow his success soon convince him that he was justified in his disobedience.

Besides, every man may try experiments for himself upon this animal, whom we can train to anything we choose by the alternation of pleasure and pain; who attaches himself to man, who receives his instructions; but who, when he feels that his own experience is a better guide, will in his turn teach a lesson to his master, and boldly disregard the fear of punishment and the power of habit.

It is impossible to refer to pure instinct — that is, to a blind, unreflecting impulse – these actions of the brute creation in which their instinct is in a degree perverted. No cause can be found for their motions which does not involve reflection upon previous facts. Any education, supposing them without reflection, would be as incomprehensible as that of human beings deprived of liberty. All education, however simple, necessarily supposes the power of deliberation and of choice. And this is the point disputed by the advocates of the mechanical theory of animal existence.

If animals acted without intelligence and without reflection, they would always act in the same way. The machine, once set in motion, would go on functioning in the same manner. Now we see innumerable changes, and always in strict dependence upon the degree of experience which age and circumstances have brought with them; therefore, reflection does preside over the construction of these works. It would be curious if, without memory, these creatures should retain, from one year to another, the recollection of what incommoded them, and, without reflection, should conduct themselves accordingly.

One of the things which most troubles the partisans of the mechanical aciton in the brute creation is the general uniformity of the constructions of the individuals of each species. They say that were they intelligent, their works would be as varied as ours are. In another place I have said that this uniformity is not so great as at first sight it appears; that we judge wrongly of it, from want of sufficient observation; and that possibly we have not the means of forming a correct judgment of it. Not that the works and the actions of animals do not present far greater uniformity than ours; looking at their organisation and their way of life, it is impossible it should be otherwise.

I incline to attribute to ignorance of the facts these far-fetched systems to account for the actions of animals. They have been judged without having been sufficiently studied.

Sportsmen, who observe because they have every opportunity, have rarely the time or the capacity to draw inferences, and philosophers, who reason without end, have rarely the opportunity of observing.

Besides, many people have thought religion interested in this question of the intelligence of animals, and have allowed themselves to be influenced by a dread of consequences. But the question is purely philosophic, and it is a mistake to mix it up with those truths which religion teaches us, and which are of a totally different order.

Suppose that animals have intelligence which can be applied to all their wants; that their intelligence rises in proportion to the degree to which it is called into action by circumstances; and that it has in itself a certain principle of perfectibility relative to those same wants; all this is no argument why our intelligence should not ascend to the sublime truths which are the grounds of our duties and of our hopes.

The intelligence of animals will never pass the limits of visible objects, with which alone it is concerned. Ours wings its bold flight towards Him from whom all orders of intelligence proceed, and who has assigned to each the limit it shall never pass .

It follows, then, that religion is not concerned with the various views taken of this subject. It may even be said that the assertions of those who maintain the mechanical theory are less religious than the feeling which recognises the existence of intelligence in all animals. In fact, their arguments amount to this - that God, in exhibiting to us in animals the appearances of sensibility, of memory, &c., merely gives us a material and illusory spectacle, which keeps us in continual error; and that works, the order and conduct of which show the most visible traces of wisdom, in which everything tends successfully to one end, are yet by no means to be referred to intelligence, and may be the product of a blind material impulse. They say positively that there are material sensations, a material memory, &c. If I do not deceive myself, these ideas may be regarded as no less contrary to religion than to philosophy.

But I am far from wishing to fasten a crime upon these gentlemen. With the best intentions and the highest talent, it is so easy to stray out of the right path in the search after truth, that those who err are yet entitled to our gratitude for having attempted the search.

Philosophical debates must end if the right of being wrong be taken away.

LETTER FROM THE NATURALIST OF NUREMBERG

The faculty of sensation cannot, in my mind, be considered to belong to material substance. I adopt all the reasonable demonstrations which have been made to prove the necessity of a being, one and indivisible, for the reception and comparison of different sensations.

I have observed the intelligence of animals without any reference to the relations it may have with ours. I have sought to read their purposes in their actions, nor have I been unsuccessful; but, in thus studying their intelligence, I have never busied myself in drawing analogies between it and ours.

Would man, however, degrade himself by acknowledging faculties which exist in beings inferior to himself, and would the fact of his having something in common with them deprive him of any of the immortal blessings which distinguish him? No, it would be far more degrading to him were he to affect ignorance of the privileges enjoyed by these subordinate beings. If there is one thing more degrading than another, it is the childish fear which would close its eyes to the truth, or make us vainly wish that things were not as they are.

LETTER VII. ON THE INSTINCT OF ANIMALS.

NOTHING is more common than for men, and even for philosophers, to use words to which no precise meaning is attached, and which, nevertheless, are employed as though they had a perfectly definite signification. Endless arguments and disputes result from this habit, which might all have been avoided had the disputants begun by defining the meaning of their words.

The word instinct seems to me one of those which have been most frequently misused. Every one means to express by it the principle which directs the actions of the brute creation; but every one has his own peculiar view of the nature and extent of this principle. Upon the word all are agreed; but the ideas it suggests differ essentially.

On the other hand, every one is acquainted with the celebrated hypothesis of M. Descartes, which neither his own high reputation, nor that of some of his followers, has been sufficient to establish. Animals of the same species present, in their operations, an uniformity which has deceived these philosophers, and suggested to them the idea of automatism – of mechanical action; but this uniformity is but superficial, and constant observation will soon remove all appearance of it. To an attentive sportsman no two foxes resemble one another completely, nor does the gluttony of two wolves take the same form.

Since M. Descartes, many theologians have thought the maintenance of his theory of the mechanical action of animals indispensable to the interests of religion. They have not perceived that the brute creation, though provided with the same faculties as man, might yet remain at an immeasurable distance from him.

The man who refuses to recognise the cry of pain, and to acknowledge the evident signs of joy, of impatience, of desire, does not deserve refutation.

Not only is it certain that animals feel, it is equally certain that they remember. Without memory, all our corrections would fail to make our dogs obedient, and all education of animals must be given up. The exertion of memory enables them to compare a past with a present sensation. Any comparison of two objects necessarily produces a judgment. They have, then, the faculty of judgment.

An old wolf is attracted by the smell of a bait; but when he draws near it his nose informs him that a man has been in the neighbourhood. The idea of a man's path suggests to him danger and snares. He hesitates therefore; he haunts the spot for two or three nights; appetite brings him back to the vicinity of the bait from which the dread of the peril indicated would keep him.

But it is not so with the carnivorous animals : forced to pursue a prey which avoids them, their faculties, sharpened by necessity, are in constant exercise; all the means by which their prey has often escaped them are continually recalled by memory. From the reflection they are forced to make upon these facts, arise their ideas of stratagems and precautions, which, again, take deep root in the memory, become established principles of action, and by repetition habitual. The variety and ingenuity of these ideas frequently astonish those to whom such objects are most familiar.

What, then, is instinct? Such various effects produced upon animals from the pursuit of pleasure and the fear of pain, consequences and inductions drawn by them from facts which have gained a place in their memory, actions resulting therefrom; this system of knowledge, continually increased by experience, and day by day rendered more habitual by reflection – all these phenomena cannot be referred to instinct, unless we use the word instinct as a synonym for intelligence.

Among the various ideas which necessity adds to the experience of animals, that of number must not be overlooked. They count, that is certain; and though, up to the present time, their arithmetic appears weak, perhaps it may be possible to strengthen it.

Never, with such a sense of smell as ours, can we attain to the variety of relations and ideas which the fine and well – exercised nose of the wolf or dog furnishes them with. They owe to its delicacy the knowledge of some of the properties of many bodies, and of the ideas of relation between these properties and the actual state of the body to which they belong. These ideas and relations are hidden from our ruder organs. Why, then, do not animals perfect themselves? Why can we find no sensible progress in the different species? If God has not given to them celestial intelligence to sound the depths of man's nature , —if they cannot at one glance comprehend that strange compound of ignorance and talent, of pride and meanness, —they, in their turn, may say: Why, then, is this human species, with so many means of perfectibility, so little advanced in the most essential parts of knowledge? Why is more than half the race enslaved by absurd superstitions? Why are the most needful sciences, those upon which hangs the happiness of the entire species, yet in their infancy? &c.

It is certain that animals may make progress: a thousand peculiar obstacles hinder that progress, and besides, there is apparently a limit which they will never pass.

They are without those conventional wants which are the fruit of leisure and of *ennui*. The need of excitement presses upon us in the ordinary waking state, and produces that uneasy curiosity which is the parent of knowledge. Animals are without this want.

With regard to language, that of animals appears to be very limited. This is natural, when we consider their way of life, since there are savage nations who have bows and arrows, and whose language nevertheless does not contain three hundred words. But however limited be the language of animals, it exists; it may even be asserted, that it is much fuller than we should naturally be inclined to suppose in beings who have a snout or a beak .

TWO LETTERS ON MAN , BY THE NATURALIST OF NUREMBERG.

LETTER I.

HAVING examined the actions of animals; having seen how in the different species intelligence receives excitement, extension, and finally limit, from the sensations, the memory, and the peculiar wants of each; it may be useful to turn our attention to ourselves.

By the consideration of one side only of the nature of man, we shall easily avenge the indignity he has suffered at the hands of those who would degrade the other animals to heighten his position by contrast.

His real advantages are sufficiently brilliant to establish his superiority, without having recourse to any means rejected alike by experience and by feeling. The real detractors of human kind are those who think man's dignity requires the denial of the intelligence of animals, as if that dignity were not independent and personal, as if the position which the other animals have received from the Creator had anything to do with the immortal gifts which He has showered upon us.

The difficulty of this examination is, that at the first glance we can discover in the species no distinctive character applicable to all individuals. There is so great a difference in their actions, that we are tempted to fancy it extends also to their motives. Between the slave who pays his contemptible adulation to his master, and Timour, who put to death thousands of his species that none might be greater than he, we have varieties beyond number.

We cannot but be struck with admiration when we contemplate the vast works of man, when we examine his acts and the development of his knowledge, when we see him pass the limits of the seas, measure the heavens, and rival the thunder both in its sounds and in its effects. But yet how can we withhold our astonishment at the ignorance and stupidity of the great mass of the species ? How refrain from shuddering at the baseness or the atrocity of the crimes by which this king of nature degrades himself?

Religion is commissioned to bring us into the way of that happiness which she reserves for us in eternity. The philosopher ought to study the natural motives of man's actions, in order to discover the corresponding means of rendering him better and happier during this transient life.

We must confess that, contemplating man in the present state of society, we are at first tempted to regard him as unnatural. So many ideas foreign to his primitive constitution, so many artificial passions now form part of his actual composition, that to many philosophers it has appeared necessary, in order to know him, to go back to a more ancient period, in which greater simplicity and fewer complications are manifested. But this expedient is no guarantee against error.

It is not then in an unknown past that we must study man; but looking at him as he actually presents himself to our notice, it is easy to draw a line between the wants which nature gives him and those which his state of society first aroused, and then converted into habits. We may then attain a knowledge of the component elements of man, and of their combinations.

All philosophers and most theologians also of the present day allow that our sensations furnish the raw material of our ideas; and this truth, long since known in a general vague manner, could not, with all its details, escape the sagacity of our observers. Those who have studied the human understanding have well pointed out the order of succession of the effects of this general faculty, to which we are indebted for all our knowledge. But sensation alone does not constitute understanding.

In a sensation there are almost invariably two impressions to be considered: the perception of the object which causes it, and the modification which our mind receives from it; in other words, the pleasure or pain which it gives us. It is principally from the subjective part of our sensations that we derive our knowledge. From the kind of the affection which it produces in us arises pleasure or pain; that is, a sentiment which makes our existence precious or hateful to us.

If the tissue of fibres is not the same in all, some will have certain organs more sensitive than others, and will in consequence receive from the objects which agitate them an impression of a degree of strength unknown to others. In such a case our judgments and choice, being but the result of a comparison of the various impressions which we receive, will be as different in each individual as those impressions themselves.

Thence we might infer that the knowledge of man is unattainable, that each individual has a standard which cannot be applied to the whole race, that the judgments we form of the conduct of others is always unjust, and the advice we give them yet more worthless.

My reason must differ from that of a man who does not share my sensations; and if I take him for a fool, he has every right to consider me an idiot.

"Man is a being of wonderful diversity and oscillation," said that great painter of human nature, Montaigne. In fact, he would seem less the product of his natural inclinations than of the circumstances which surround him.

If not by nature cruel, passion, meeting with obstacles, will in an instant excite him to shed the blood of his fellow-creatures, and habit and prejudice may in the end make this cruelty necessary to him. "The bad man," said Hobbes, "is but a robust child; and if we regard man as being, like a child, full of strong desires, and destitute of experience, we really cannot see what should check him in the pursuit of his object."

But our passions take us back to childhood, by setting before us a single object invested with such a degree of interest as eclipses everything else. This word passion arouses a vast number of different ideas, when we consider man socially.

The social state, and the different forms which it assumes, produce, between man and man, an infinite network of relations and of states of existence, in which his natural passions are found divested of every trace of their original characters. It is therefore needful to draw a line of demarcation between those wants which nature imposes upon the individual man, and those which may be called factitious, which arise in the social state.

Though the latter are derived from the former, in their final development they differ so essentially from their origin, that a very close observation is required to detect it.

The mere want of food, which may become one of the most pressing, need not in itself lead him to any great amount of industry. Enabled by his taste, and by his constitution, to accommodate himself to different kinds of food, he is less exposed to want than any other animal. Hunting, fishing, milk, and the fruits of the earth, equally minister to his appetite.

The difficulty is, not to satisfy the hungry man, but to please the discontented man; and it is probable that the earth would easily yield to the natural man enough of the coarser aliments to maintain his vigour. But the facility which association gives in hunting or fishing soon establishes a kind of society between men who support themselves in either of these ways; and the multiplication of the tribe soon leads to the cultivation of the soil. This lays the foundation of a number of relations and institutions foreign to our subject.

In most climates man is compelled to clothe himself, under pain of suffering, and even of death. This want must, then, take its place as one of the first necessity, and it is, perhaps, the source of more reflection and inventions than that of food. Not that man cannot at first make a rough covering for himself of the skins of the beasts which he has killed, without giving them any preparation; but he cannot make use of it for a long time without being obliged, by its disadvantages, to reflect on some means of rendering this simple clothing more convenient. From these reflections will arise the art of preparing these skins, so as to render them more pliant and durable; then that of sewing them together so as to form a more complete or more convenient covering. The most stupid nations, as the Samoiedes and Greenlanders, are not ignorant of these two arts, the natural consequences of the necessity of clothing.

Want, the common master of sentient beings, gives lessons of a high order to those who in other respects are the most stupid and obtuse.

But those that we have just pointed out are not the only ones he derives from nature. There are other tendencies which make society at least very interesting to him, and which, perhaps, more than those already specified, influence his efforts, his progress, and his crimes. Man does not only require to be fed, clothed, shielded from the severity of the air, even with the addition, during a part of his life, of the lively emotions of love. These united objects might suffice for solitary man, because the necessity of providing for them would occupy all his time, scarcely leaving him enough for sleep. This is practically the case with those unhappy beings who are forced by poverty to support themselves by unceasing labour.

But over-work, anxiety, and fear leave them but a painful sense of their existence; they do not enjoy, they suffer it, and know the painful side of life only.

We are only consciously existing when acted upon by immediate sensations or ideas. We must be interested in these to be happy; and, unfortunately, the sensations which most interest us are weakened by time. That which we have contemplated for a long time becomes to us like a retreating object, which ceases to present to us anything but a confused outline. This want of conscious life, joined to the constant weakening of all our sensations, gives us a mechanical uneasiness, and vague longings, excited by the importunate recollection of a former state. We are, then, obliged, in order to ensure happiness, either to change our object incessantly, or to carry to excess sensations of the same kind.

Thence springs a love of change, which never suffers our wishes to fix themselves for more than a moment on any object, and a progression of desires, which, destroyed by their fulfilment, but ever kindled afresh by remembrance, know no limit. This tendency, which makes the uneasiness of *ennui* follow rapidly upon our most absorbing emotions, is the bane of the man of leisure and civilisation, as we shall see in examining its effects upon society.

The want of a lively sense of his existence is balanced in man by another disposition, common to him with all sentient creatures— indolence, or the love of ease. This force of inertia only acts very powerfully upon the unemployed class of society. In all other classes it is kept under by more stimulating wants.

Man dreads exertion; every kind of effort is repugnant and wearisome to him, unless when he is agitated by some passion. Thought is especially insupportable to those who are unaccustomed to it. But *ennui* soon becomes as troublesome as labour itself. The unoccupied man seems to lose a part of his existence.

This discomfort is less frequent in man in a savage state, both because he has less leisure, and because, the satisfaction of his rudest wants excepted, he has no idea of an active existence. His usual state is therefore one of torpor. The murmuring of a stream is enough to occupy his mind when he is not in action, and his ignorance of stronger emotion allows him the peaceful enjoyment of this state, but little removed from sleep. But if the savage has once had a taste of the strong sense of existence, as aroused by the use of spirits, for instance, he becomes most anxious for it, and will sacrifice all to this new want.

We see that associa tion is necessary for the preservation of man, or at least for his happiness. Yet it is certain that the same wants which induce him to draw near to his fellows, produce in the end conflicting interests which tend to isolate him.

LETTER II.

Man, considered as a solitary being , has only simple wants , which would lead him to a succession of uniform acts, the history of which would be limited to a small number of facts. But solitude cannot long continue his natural state. The love of ease, the experience of the facilities which association offers, the need of doubling the sense of existence by the communication of ideas — a kind of inclination, or secret affection — all tend to draw men together.

Not that man ever loses the dispositions inherent in his nature. These are not destroyed, but eclipsed by the social state; and we often seek in vain in the civilised the traces of the primitive and natural man. This is the peculiarity which renders the knowledge of man so difficult.

We cannot always, without much trouble, distinguish the properties he owes to his own constitution from those which have been superinduced by the social state. His natural wants are smothered by a crowd of artificial ones, and from these last he receives the impulse and movement which especially characterise him.

It is easy to perceive both how and why, in a numerous society, these artificial wants must increase. One of the earliest consequences of this increase is to isolate those whom interest and inclination had drawn together.

Thus the social state becomes the destroyer of the very principles upon which it is founded, and those principles become almost inert in the ordinary course and duration of society. The variety of pleasures, upon which the desires of all are fixed, produces a general and mutual rivalry.

Throw the most cursory glance over the world. You will see nations estranged from one another, private societies becoming more exclusive, families still more bound up in themselves, and our wishes, always governed by our interests, end by taking ourselves for their sole object. This disposition is a consequence of the general desire of well-being, inherent in every sentient creature.

Every man feels this personality in others, and every one in his turn makes it felt by others. So far as, and no farther than, we are useful to others, can we reasonably expect attachment from them.

The attachment of the dog to the master who feeds him is the faithful image of the union of men with one another. If his caresses are continued after the satisfaction of his hunger, it is because his experience of former want leads him to foresee future want.

The links which bind men together in society, not being always formed by obvious and necessary wants , sometimes wear an air of disinterestedness and free-will which deceives us. The delights of friendship we do not consider as the effects of want; we imagine we forget ourselves in our love for our friends, and do, in fact, frequently give up our dearest interests for them. But only from an imperfect estimate of our wants do we regard these sacrifices as really disinterested. The man whose lively conversation fills my mind with a crowd of ideas, of images, of sentiments, is as necessary to me as food to the hungry. He preserves me from *ennui*, he gives me a full, strong sense of my existence – that is to say, he satisfies one of the most urgent wants of my nature. "You have become so necessary to me that I cannot be happy without you," is the most flattering speech we can make to a friend.

The stronger our attachments the more easily are we deceived as to their true motive. The activity of the passions excites and accumulates a number of ideas, which by their union raise chimeras in their subject, just as the heat of fever fills the brain of the sick man with dreams.

The most violent passions lose sight of their natural object, and secondary ones, which at first were only looked upon as means, fill their place. If you except those classes who are constantly absorbed by the care of providing for their subsistence, and by the anxieties relative to this object, you will find all others carried away by the stream of factitious passions, or at least by the factitious element which has penetrated into their natural passions. The primitive wants of food, clothing, lodging, no longer occupy them when once assured to them.

At the first glance it might seem strange that indolence and *ennui* should set the world in motion, but by close examination the fact becomes evident. The combination of dislike to labour, and dread of *ennui* produces as its first and direct consequence the love of power.

One of the privileges which we consider most peculiarly our own is that of obtaining happiness without exertion. Only by the action of external objects can we be strongly excited and interested without exertion, but as these objects do not come at a wish, it becomes necessary for other men to occupy themselves in bringing together everything which can excite our sensations, without exposing us to the misery of activity. Now, in this case, nothing is so easy and pleasant as to play the sovereign, and to command. This it is which makes all men, and especially those who have no employment, naturally disposed to despotism.

The tale of the sultan, who insisted on having amusing tales related to him, under penalty of strangling, is a faithful picture of the secret dispositions of the unemployed classes of society.

The idea of distinction once established, soon becomes the ruling passion, and destroys that which gave it birth. As soon as a man has compared himself with those around him, and has attached importance to their opinion of him, his true wants cease to be the object of his attention and activity. What he cannot be, he will wish, at least, to appear; and from thence, in the mass, arises the taste for outward decoration, and all the paraphernalia which may give others the idea of power. Moderation, which is but the result of a more deeply seated and consistent indolence, has become so rare as to excite admiration, and ever since it has been an object of ambition, because it is the means of procuring consideration.

If a man has no hope of drawing upon himself the eyes of the world or of a whole republic, he contents himself with the notice of his neighbours, with outdoing his equals, and finds his happiness in the concentred attention of his own little circle. These pretensions, under the various forms which they receive from individual tastes and resources, give rise to the different classes which divide and circumscribe knowledge and employments. Many individuals are struggling in each little cloud of dust to obtain the first places.

The weak, being unable to rise, become envious, and do their best to keep down those who are rising. Envy, in its full development, and with its different modifications, sometimes leads to great crimes, and is always the moving spring of the petty calumnies which are the curse of society.

I am speaking of that yoke so universally borne, which people, about courts especially, who might live independent under the shelter of the law, take upon themselves. It is the love of power which leads them to it. They will crouch at the foot of a throne, in order to feel themselves above a crowd of heads which they gladly see bending before them. The result must naturally be that those who are the most abject of slaves to their superiors, show themselves the most haughty of despots towards those whom fortune places beneath them; and this is found to be universally the case.

But in all large societies, where property is safe under the shadow of law, riches confer, in fact, the most real power. He who can gratify the wants, whether natural or artificial, of a large number of men, is sure of their attention and devotion.

The desire of riches is thus naturally excited by the social state; it is a direct consequence of man's inherent love of ease, joined to his desire of a strong sense of his existence. And men, in general, are extremely greedy of riches and of power.

From all that has gone before, we might conclude that the social state has a tendency to corrupt man; that the various interests and competitions that it excites, in provoking them to greater efforts, produce, it is true, knowledge and its improvements, but that these are dearly bought by the crimes which flow from the same source. Such a conclusion would be unjust, and would proceed from the mistake of ascribing to society what is, in fact, the peculiar effect of the form of most of the societies that we are acquainted with.

Man cut off from society would be miserable. Association is indispensable to him; he seeks it both by interest and inclination; and, in itself, the social state would contribute to the common happiness. But this common happiness, which is the natural object of society, appears to be by no means that of the particular forms of society, ordinarily established by violence, usurpation, or chance, and founded upon the interests of the few.

It is the peculiar forms of the social state which must bear the reproach of not furnishing man with the advantages which might naturally arise from it.

As fermentation insensibly turns sweet things to sour, so does this disposition change our holiest natural feelings, and make that a necessary to us which yesterday we should have shrunk from.

From the same cause our attention is most willingly given to all uncommon spectacles; we eagerly seek all that excites many ideas in us, and, above all, those which give birth to new sensations. The same need of stimulant determines our physical tastes .

However this may be, it is certain that we owe to this want of excitement a curiosity which becomes the ruling passion of those who have no other to balance it; a taste for the marvellous which in many cases leads to an absurd credulity; a restlessness which, preventing us from living in the present, leads us into a region of fancy of far greater extent than that of reality.

The bounds of reason are not long able to contain the fixed point of our happiness. Difficult and extravagant enterprises, unnatural ideas, take possession of the minds of most men.

Observe the course of all human affections, of those even which seem most peculiar to the individual, and which therefore should naturally be least subject to change, will find them inclined to run to an excess by which their early manifestations are quite obscured.

Follow the history of all nations, and you will see the best governments, those which seemed the most firmly established, undergo a gradual alteration, and finally become wholly at variance with their first principles. A democracy, in consequence of a slow fermentation, becomes an aristocracy, and often ends in a tyranny.

A limited monarchy transforms itself in time into arbitrary power, and if, in any State, external causes bring no change, an internal and never-dormant cause hurries all forms of government towards the abyss of despotism, itself the occasion of the most frequent and the most terrible convulsions. The same change is to be traced also in the manners and in the genius of different nations.

But when the State has at length assumed an extent and power which guarantee the tranquillity of its citizens, and lull to sleep all fear of disturbance, whether from without or from within, security begins to lend refinement to manners, and makes them more feeble and effeminate. Ideas of pleasure become more predominant, but virtue does not yet abandon them. A modest urbanity veils the form of voluptuousness, but, though at first it renders it more attractive, it finally becomes troublesome. Then the vices show themselves openly; reserve and decency are laughed at; unswerving probity is thought bad taste; and the man who cannot at least tolerate agreeable knaves is thought wanting in the science of life. In the arts, you will see architecture quitting its noble simplicity for a style of profuse ornament; painting deepening all its colours; and a corresponding change will be perceptible in the productions of the mind. A false refinement will take the place of elegance; obscurity that of strength; everything will be called in question; puerile metaphysics will coldly analyse every sentiment instead of animating the soul.

A happily-inspired genius may effect a change in the minds of his contemporaries, just as a revolution changes the government of a nation.

We see that man, by nature indolent, but always acted upon by the desire of a lively sense of his existence, is in society the constant sport of a hope which flatters him only to betray. Wearied, in his search after happiness, by the constant need of guarding against interests which clash with his own; either discouraged by the obstacles he meets with, or disenchanted by possession; it seems that perversity must be pardonable in him, and that misery must be his natural portion. I am only speaking here of the idle class of society, which, its existence being amply provided for, is only excited to action by artificial wants, and can only constantly enjoy the sense of existence by constantly finding new objects of interest and gratification.

Those whom the necessity of providing for the most urgent wants of nature chains to an unremitting labour are much nearer to happiness, and farther from crime, than those whose lot they are accustomed to envy.

Work itself is to them that interesting occupation which others seek in vain. In their moments of relaxation they have the perfect enjoyment of the most simple and innocent pleasures, which have no charm for minds exhausted by continual leisure.

In this class of happy men may also be included those whom natural taste, or, even more than this, habit, has devoted to art, to science, or to letters. For in this devotion they find a constant succession of employments and pleasures. Their objects are so numerous that there is no danger of their being exhausted. Besides, the habitual exercise of reason and taste strengthens both without wearying them, and even increases more and more the pleasure of the exercise.

The interests of others cannot touch those who are a burden to themselves.

But except some splenetic monsters whose unhappy and rare organisation makes them cruel by nature, and perhaps some few others to whom habit has rendered the emotion necessary, men are, in general, affected by the sufferings of their fellow-men, when their private passions do not stifle the voice of nature. If this sweet sentiment seldom or never attains such strength as to overcome self-love, it at least tempers it in most men.

But this education, which modifies the generality of men and gives them character, cannot be conveyed by precepts, by instruction, by moral treatises. Experience teaches us only too painfully that reasoning, discussion, and the dry exposition of truth are wholly powerless on the great mass of mankind. Man is an imitative animal. Action and passion, these modify and govern him.

Except some few privileged natures, who judge of the essence of things by what they themselves experience, and who are made to battle with the stream, all are irresistibly carried away by imitation. Imitation it is which makes the child kneel at the altar, which gives a grave manner, and sometimes too a grave character, to the son of the magistrate, and courage and a bold bearing to that of the soldier.

In a large society there are infinite combinations and modifications of influences; but the prevailing opinion stamps itself upon the members of each particular society, and gives them a kind of resemblance which distinguishes them from others.

The continued presence of home examples undeniably makes a strong impression upon children, but if public life be not in harmony with these, they are effaced by the more striking impressions produced upon the children by the latter as they grow up. Thus, with the same wants and the same means, the men of one century may differ as essentially from those of another as one nation from another.

Since example and opinion determine, in society, the objects to which the love of ease shall make each of its members aspire, it follows that man, taken collectively, is the product of example and of opinion, and that it is possible to mould him almost as we please. This is especially easy in a monarchy, the throne being the pedestal towards which imitation, for a thousand reasons, looks for its model.

If the republican form of government has, in the equality which is its essence, an admirable means of preserving simplicity for a certain time, yet when once, by the natural course of things, this simplicity is destroyed, disorder is still less easy to subdue. The principle of equality deprives example of its due weight, and Cato's virtues were a useless satire on the vices of his time.

From all that has been said, we may conclude that man, though composed of simple elements, has no distinctive character which may serve as a means of distinguishing all individuals. The love of ease is common to him with all other sentient beings; but the means of obtaining this ease are infinitely varied by the modifications which they receive in society. The result is a crowd of dissimilar individual tastes, which cannot be accounted for without a knowledge of their sources. This it is which often makes men, taken separately, so incomprehensible and so unlike; this it is which makes so-called general rules so inadequate to meet almost any particular case. In judging of actions, we attribute to others the motives which would have influenced us in their place, and the few who have set before their self-esteem the object of being honest are invariably losers. But in considering how many uncontrollable elements enter into the determinations and judgments of almost every individual, we should be led to feel an extreme indulgence for the whole race.

LETTER II.

Others – as, for example, M. Reimar, a German doctor, who has written a large book on the instinct of animals – give them confused sensations, a confused memory, &c. He allows that for comparisons, for judgments, distinct images are necessary; but that, for action, confused images are sufficient.

He asserts that the present is everything to them; that yesterday, and still more the day before yesterday, does not exist for them.

All these gentlemen agree in assuming as a fact that which is the question at issue; they tell you, for instance, that, since animals are irrational beings, therefore they cannot reason.

They declare that animals are born with a perfect knowledge of all that concerns them, and that , without having ever learnt anything, they execute with the most finished accuracy those of their works which depend most upon skill — a fact which the experience of every one who has taken the trouble to examine will pronounce incorrect. But, according to these gentlemen, facts must not be attended to. It is indeed a most novel way of proceeding, to reject facts and base our judgment upon suppositions.

LETTER III.

The apparent uniformity of the constructions of animals depends on the same principle. It is impossible that, destined as they are by Nature for certain fixed ends, and organised accordingly, they should not be limited to the circle peculiar to their species by their wants and means. It would be absurd to require that their natural perfectibility should pass these bounds. To deny this perfectibility because they cannot go farther than they are led by their interests, or permitted by the faculties which belong to their organisation, would be as absurd as to deny that a stick is four feet long because it is not six.

It is further untrue that the uniformity in works of animals is as great as people choose to represent it. At first we are only struck with a general resemblance between productions of the same kind. It is only after some familiarity with these objects, and after having in some measure lived among them, that we begin to discover variety in that which we had thought uniform, and had thought uniform not only at the first glance, but after an apparently sufficient scrutiny.

Habit alone teaches us to distinguish differences, and confers the right of pronouncing upon them. It is by habit that the shepherd distinguishes each sheep in a large flock.

The works of man, which must be infinitely more various, because his means place at his disposal a greater number of combinations, would assuredly present this same appearance of uniformity to eyes unused to contemplate them.

Men are astonished that animals exercise almost from their birth a part of the actions necessary to their preservation; and conclude that the principle of these actions is therefore innate and purely mechanical.

There is also another remark to be made upon the dispositions which we regard as innate and purely mechanical; it is that they may possibly be entirely the result of habits acquired by the ancestors of the individuals now before us.

I prefer, Madame, infinitely, to abandon myself to the free play of my admiration for the Eternal Artisan, who, from a single principle, sensibility, has drawn, in such astonishing abundance, this infinite variety of dispositions, of affections, and of actions, which unite to spread life throughout all nature. I prefer to observe each individual set in motion by sensibility, obeying his own peculiar affections, and thus contributing to the perfection of the whole, and to the just proportion which should reign between the species. I am struck with the same spectacle in the order of society; and surely the persuasion of a general and diffused sensibility makes this spectacle still more grand.

LETTER IV.

M. de Buffon, in his "Discourse upon Animals" (p. 23, vol. iv. of the edition in quarto), thus expresses himself: - "The animal, on the contrary, is a purely material being, which neither thinks nor reflects, but which nevertheless acts, and appears capable of determinations. We cannot doubt that the determining principle of the animal's actions proceeds from a purely mechanical influence, absolutely dependent upon its organisation." And at p. 24 he says: — "The internal sense of the animal is, equally with his external senses, a result of a purely mechanical influence, a purely material sense," &c.

What! We witness a course of action in which was clearly displayed the present sensation of an object; another sensation, recalled by the memory; the comparison of these two sensations; a balance of conflicting impulses, the evident sign of this comparison; a marked hesitation; finally, a determination, for an action follows which could not otherwise take place: and in order to explain what is so simple, so perfectly in harmony with our own personal experience, we are to have recourse to incomprehensible mechanical perturbations! Most assuredly we know not what produces sensation, either in ourselves or in the other animate beings.

Rags so put together as to resemble the human form will frighten away birds, at least for a time; for this assemblage suggests to them an abstract idea of man. The interest they have in drawing near it, in order to pick up the grain which it is placed there to protect, will often induce them to take some steps towards the object; but their first impression makes them timid and suspicious. If they are emboldened by the silence and repose of the scarecrow, the least wind, which gives motion to it, frightens them away. Again they approach, but by degrees. At last, the grain that they see, or suspect to exist, excites their attention, and makes them examine more closely. Then the sensation becomes clearly defined, they gradually correct their error, and, when fully convinced that the form is illusory, the scarecrow loses its virtue, because it no longer represents a man to them.

Not only have animals general abstract ideas subject to correction, they have particular abstract ideas also of the relation which certain phenomena have with one another; and often, by what they see, they judge of what will follow.

It is evident, Madame, that M. de Buffon has only been induced to refer these acts to a blind mechanism by the fear that too much equality between the animals and man would lead to dangerous consequences. Such a fear is respectable, even when it leads to error.

But we have proved that it is, on the contrary, the error itself which may lead to fatal consequences; that we can conceive of no relation between the sensation and the memory which all agree in attributing to animals, and our idea of the properties of matter; and finally, that to attribute the effects of these faculties to a blind mechanism is to favour ideas of automatism which are against the whole evidence of facts.

"A perfect analogy," says M. de Buffon, "requires at least to be free from all inconsistency: it would in this case require that animals should be able to, and should now and then do, everything that we do; now, the contrary is seen to be the case."

It then becomes necessary, in order to prove an analogy between the class of peasants solely absorbed by the wants of life, and that of people occupied in high speculations, that they should be able to, and on some occasions should do, all that has been done by Newton or by M. de Buffon; now, the reverse is seen to be the case, &c.

"If I have rightly expressed myself," he says again, at page 41, "the reader will have already seen that, far from robbing the animals, I grant them everything except thought and reflection; they have feeling; they have it even more strongly than we have; they have the consciousness of their present existence; but they have not that of their past; they have sensations, but they are wanting in the faculty of comparing them — that is, in the power which produces ideas; for ideas are but compared, that is, combined or associated sensations."

This passage contains the summary of M. de Buffon's doctrine on the faculties of animals; the rest is but the development of it.

"Animals have the consciousness of their present, but not of their past existence." Yet a fox who has been snared, and who, to recover his liberty, has been forced, as often happens, to leave his foot behind him, retains so vivid a recollection of his past existence, that, for years after, he avoids the snares laid for him. When these lame foxes, whose defect is the sign of their experience, are recognised, all intelligent sportsmen abandon the usual means of surprising them, knowing too well that reflection upon their past existence has become a habit to them, and that it renders them ever watchful against every kind of snare.

It is then necessary to have recourse to other means, which shall lull their sagacity to sleep, or at least make it useless. It would be superfluous to accumulate examples; but I ask, would it be possible, without reflection, without consciousness of a past existence, that past inconveniences should produce a system of precautions, often modified in some particulars, though adhered to in general principle?

We shall not have to go far for examples which prove that animals have the faculty of comparing. A mouse wishes to pass through a hole; she tries it, and unsuccessfully; she then judges that she must enlarge it in order to establish the requisite proportion between the opening and the size of her body. I well believe that she has no abstract idea of proportion; but assuredly she has a concrete notion – precise or approximative – both of her body and of the size the hole should be to admit of her passing.

"Animals," says M. de Buffon, "can have no notion of time, no knowledge of the past, no idea of the future."

But he who can walk twenty leagues, and he who is exhausted at the end of twenty steps, are both endowed with the faculty of walking.

From these data, which to me appear unquestionable, it follows that you may, Madame, without fear give yourself up to the charms of affection for the animals which you delight in feeding and caressing. Be persuaded that your charming Zémire is no automaton, which, moved by the springs of a blind mechanism, gives you the mere shadow of sensibility. She has both feeling and knowledge; there is meaning in the way she frolics round you to please you. In noticing her, in endeavouring to increase her relations with you, you extend the sphere of her intelligence; you create and develop in her a desire to love and to be loved, which habit makes independent of other wants. If she thinks you in danger, and prepares to defend you, it is because your kindness has given her a feeling that you belong to her. She defends you with as much courage and anxiety as she would her own food.

You will perceive that this interesting creature, gay, full of life and thoughtlessness, in her youth, will abandon herself to a thousand movements, apparently objectless, because youth has need of exercise and of experience; when age shall have instructed her, and given her gravity, she will become more sedate. If less prodigal of movements, and therefore somewhat less rich in grace, her feelings also will become less fickle; they will assume a character of constancy and depth; and her actions will tend more directly to one end. You will easily perceive that education is not everything to animals, that it only forms in many of them some good habits, and corrects some bad ones; but that there are perverse dispositions which nothing can alter, and upon which education is thrown away.

You will admire, with me, the unbounded fertility of the plan of the Great Workman, who, from a single principle, can bring forth so great a variety of forms. Although we can never fathom more than an infinitely small part relatively to the whole of this immense plan, we cannot but exclaim, in the raptures of our admiration –

LETTER V.

We have remarked, Madame, that most of the objections which have been raised against the intelligence of animals rest upon assertions which will not bear examination, and in particular upon the supposition of a continual uniformity in their operations, whence the conclusion of automatism is drawn.

Numerous and certain facts have taught us that individuals, among animals, bring as much variety to bear upon their conduct and their works as is possible for beings who, with limited wants and means, are seeking the same end.

This disposition is that by virtue of which every man who sees another suffer is himself affected with a feeling of suffering, when not diverted by any other interest. This faculty of sharing the suffering of another involves also that of sharing all his other sentiments.

To sympathise is to feel with; and if sensations, properly so called, are by their essence incommunicable, we may safely assert that our feelings and affections spread with inconceivable facility. An articulate language is not as necessary for this communication as for that of our ideas. Outward signs, the language of action, are sufficient, and they are so connected with the feeling itself, as, except in cases of profound dissimulation, to be simultaneous.

We feel that sociability must be the necessary result of this impression which men mutually make upon one another.

When habit has strengthened it, and made its expression easy and prompt, it must give them a certain identity of feeling whenever they are not isolated by private interests at war with the common interest.

We see nothing of the kind in the other animals. It is true that some species, as the stag, the fallow-deer, live in herds, but we can discover in them neither mutual need of one another, nor any sign of habitual communication.

The young wild boars live also in herds; but they appear to be united for no other object than mutual defence, because alone they feel themselves insufficient, and all community ceases when the time of danger is past. Wolves also, while young, live together, but it is an association for war and plunder, with no other bond than the common need of rapine, which finally breaks it up.

Each man, absorbed in his own interests, would have no check but in the fear of drawing upon himself the hatred of all the others; and, once set free, or even with a hope of being set free from this, would give himself up to the carrying out of his own wishes. But the communication of feelings having once established the ideas of reciprocity and of justice, they produce a secret repugnance to violate the rights of others: this is to be found in no other species.

Every other animal, guided by his own interest, follows, without deviation, the road which his wants, and the resources he has to satisfy these wants, have traced for him. The circumstances in which he is placed, the obstacles he meets with, awaken, as we have seen, his industry, turn it upon himself, and extend the sphere of his intelligence; but this intelligence never exercises itself beyond the sphere of his wants. Man's faculty of being moved by the troubles of others, and the natural pain which they give him, introduce morality into his actions.

Compassion, the sharing the feelings by which we see others moved, must be natural to the human race.

POSTHUMOUS LETTERS ON MAN.

LETTER I.

If we only consider the intelligence, we shall find a greater degree of development in our species; but in all we shall find the same elements. In the absence of this really distinctive quality, compassion, there would be no difference but of degree; and there would be much to be said against even this difference.

The argument so constantly brought forward to establish the inferiority of the brute creation, that of the uniformity of action always observed in the same species; will be seen, however unwillingly, by a candid examiner, to be equally applicable to man.

It seems to me, Madame, that people attribute to the mass of mankind a progress which is really the work of a very small portion, considered relatively to the whole of the species. From the creation to our own time – that is to say, throughout the known duration of the human race – the number of wise men has always been so limited, and the mass of mankind has always been so enslaved by prejudices, and these prejudices almost constantly the same, that one is tempted to consider all progress as simply individual.

Among the most civilised nations there is scarcely one really educated man in a thousand; the numerous class of peasants have no information beyond that relating to the cultivation of the soil, and even on this subject most of them are very ill informed. It is with them less a real knowledge than a routine that they obey; so that even in what appear their most intelligent proceedings their action might almost be looked upon as mechanical.

Among those men who bear the name of philosophers there are many who, in systems apparently coherent, have nevertheless not a single real thought. We have seen philosophy, or that which has borrowed the name, composed for a long time of an assemblage of words, either unintelligible, or at least not understood. And not seldom in disputes, even between men who ought to have brought their reason to bear upon the subject, we see, in the place of thoughtful, well-connected ideas, a mere series of words, habitually strung together in a certain order, and which rather resemble a somewhat complicated piece of mechanism than a regular exertion of the intelligence.

Man brought into relation with God through religion is a being of another order, the possible subject of the highest speculations; but these are not within my province.

It is not a matter of surprise that this diversity should have led many thoughtful minds to consider man as a species apart, connected with the animal world by a resemblance of organisation, but separated from all other animals by an active principle inherent in his nature. It is as a consequence of this idea that people have denied the intelligence of animals, and have lost themselves in ideas of an incomprehensible mechanism, contradicted by every fact.

These people have not investigated whether there is not, underlying the great variety which appears to distinguish the inclinations, the habits, the actions of men, a certain character of uniformity not at first visible, yet presumable, inasmuch as man, like every other sentient being, is in bondage to his nature; in other words, to the dispositions which arise from his wants, his relations, and his means.

LETTER II.

Power as well as wickedness is ascribed by the negroes to their divinities. If they pray to their fetish for rain, or any other gift they want, they never ascribe the denial of it to want of power.

They rather consider the fetish as unfavourable to them, or as offended with them for some prevarication; and then they endeavour to conciliate its favour or appease its displeasure by sacrifices, but especially by abstinences of different kinds. All tribes and countries furnish examples of this method of conciliating superior beings, when supposed to be angry.

A somewhat more advanced degree of reflection upon the good and evil which befall man has led to the idea of an evil principle: the alternation, and the kind of balance between good and evil, have led to the belief that these principles are nearly equal in power, and they have been represented as in a state of continual warfare, in which success is nearly equal on both sides. This very ancient doctrine, which was revived again in the very heart of Christianity by Manes, the founder of the sect of the Manicheans, and reappeared later among the Albigenses, has been the doctrine of all others the most widely spread among men who have just emerged from barbarism; and an admixture of it may be traced in almost all forms of worship. We know what a success it had in Persia. It is predominant among the Jokists, a people of Siberia. They believe in two sovereign beings, one the source of all good, the other of all evil. Each of these beings has his own peculiar family. One class of devils exercises its evil influence over animals, another over grown men, another over children, &c. And the same with their gods. Some have care of the animals, others protect man, &c.

The doctrine of the immortality of the soul does not belong to the first infancy of man, but it appears everywhere simultaneously with the first steps of civilisation.

It seems even probable that legislators have made use of this salutary idea to impose an extra check upon men, and to give their laws a higher support than mere temporal punishment; but the idea of the soul's immortality is almost everywhere accompanied by that of its transmigration: this doctrine, so prevalent in India, as is well known, exists also among the Samoïedes, who most certainly never learnt it from the Brahmins.

The Chinese are really idolaters, although the Government worships only the Supreme Being. The idols which the Government allows the people to satisfy their need of visible objects of worship are decorated, invoked, and feasted; but if any of these idols, called upon to send rain or some other blessing, does not hear and answer the prayer, it is generally beaten, and, if it persists in its obstinacy, deposed.

Among the Ostiacks, a tribe on the borders of Siberia, the idols, which are usually nothing but logs of wood rounded off at the ends, are adorned with care. Their votaries cover them with silk, or other stuffs, according to their means, and submit to privations in order to please them; but whenever these idols do not appear to take sufficient interest in the small affairs of those who have adopted them as patrons, they strip them, beat them, and sometimes even throw them into the fire or water, and make others to supply their place. But when they seem to favour them, then no honours are thought too great for them.

In our own times we have seen the ignorant multitude abandon itself to the same superstitious practices, spite of the Divine prohibitions; exalting to the rank and function of idols the representations of the saints who are held up by the Church to their veneration, invoking their aid rather as if they were local divinities than powerful intercessors, and making them responsible for events.

The more absurd certain opinions and customs are the more repugnant to perfect reason, the stronger is the evidence which inclines us to consider them as belonging to human nature, as in fact a necessary consequence of it, when we find them generally prevailing.

Most men – always restless, and often discontented with the present – ardently seek the knowledge of the future: they seldom fail to be duped by any charlatan in this art who endeavours to deceive them. But we may feel surprised at the uniformity of the illusions they have all cherished as to the means of obtaining this insight into the future. All have had the same respect for dreams, for instance, and a tendency to regard these wanderings of the imagination in sleep as the voice of the Divinity.

We must not overlook the fact that, however absurd the errors by which the human mind has been misled, there have never been wanting charlatans who have found it for their own interest to encourage them. And for this end they have ever fostered, and even openly preached, ignorance, because without its powerful aid it would have been difficult to meet the objections raised by those whose credulity had been overtaxed.

It would seem that reason should be the bond of union, or that, at the least, it should soon dispel the clouds of error which envelop the species; but, on the contrary, we find this to be the truth – that while error belongs to the species, and shows itself, as we have seen, in forms of no great variety, reason is, and ever will be, the privilege of the few.

A thoughtful mind cannot but be struck with wonder at the accumulated discoveries in astronomy, in navigation, &c.; but when, side by side with these discoveries, we see the greater portion of the race obeying the most mechanical impulses; when we see it fantastically credulous, mechanically superstitious, with a tendency to idolatry hardly kept within bounds even by a Divine revelation, we cannot overlook the fact of a fundamental uniformity, not perhaps so close as that which we trace in other species of animals, but far closer than we might have expected from the greater number of means man has at his disposal.

A proof that in man mechanism may not only co-exist with reflection, but even sometimes overpower it, is that acquired dispositions become hereditary in him, as in other animals.