

OF CARNIVOROUS ANIMALS.

HITHERTO we have treated of useful animals only. The noxious species are few in number; and though, upon the whole, what is hurtful seems to abound more than what is serviceable, yet every thing is well ordered; for in the physical world, evil is subservient to good, and there is nothing really noxious in Nature. If the destruction of animals be hurtful, is not man, considered as forming a part of the general system of animation, the most noxious and pernicious of all beings? He alone sacrifices and annihilates more individuals than the whole carnivorous tribes. The latter are hurtful only, because they are rivals to man, because they have the same appetites, the same taste for animal food, and because, in obedience to this unavoidable and necessary desire, they sometimes dispute with him that prey which he would engross for the gratification of his inordinate appetite; for man always sacrifices more to his intemperance than to his real wants. Born to destroy the subordinate races of animals, he would exhaust all Nature, if, by a fecundity superior to his depredations, she did not repair the

perpetual havoc he makes. But death is only the minister of life, and destruction is the parent of reproduction. However great, therefore, the waste made by man and the carnivorous animals, the fund or total quantity of life is never diminished; for, in proportion to their premature destruction, fresh births are produced.

Large animals constitute but a small part of life: The earth teems with the smaller tribes. Every plant, every grain, every particle of organized matter, contains millions of animated atoms. Vegetables seem to be the great fund of subsistence; but this fund, however inexhaustible, would hardly be sufficient to the still more numerous tribes of insects. Their fecundity, which is equally great, and often quicker than the reproduction of plants, indicates the superiority of their numbers: For plants are only renewed every year; but a single season gives birth to several generations of insects, especially among the minuter tribes. Their multiplication, therefore, if they were not devoured by other animals, would exceed that of vegetables. But many insects feed upon other insects: Some tribes, as the spiders, devour indifferently their own as well as many other species; the whole are eaten by the birds; and the wild and domestic fowls serve as nourishment to man, or become the prey of carnivorous animals. Thus violent deaths are equally necessary as natural ones: They are both modes of destruction and

of reproduction; the one continues Nature in perpetual youth, and the other preserves the order of her productions, and limits the number of species. Both are effects depending upon general causes; Every individual drops at the end of a determined period; or, if prematurely cut off, it was because he was superfluous. How many flowers are cropped in the spring? What numberless beings are extinguished the moment they begin to exist? How many germs are annihilated before they are unfolded? Man and the carnivorous animals feed upon individuals either completely formed, or about to exist, Flesh, eggs, seeds, and germs of every species, constitute their ordinary nourishment. This waste alone might limit the exuberance of Nature. Let us attend to one of those inferior species that serve for nourishment to others. The herrings, for example, present themselves in myriads to our fishers; and, after feeding all the monsters of the northern ocean, they furnish subsistence to Europe during a certain part of the year. If incredible numbers of them were not devoured by other animals, what would be the effects of such an amazing multiplication? They alone would cover the whole surface of the sea. But, by their numbers, they would soon injure and destroy each other. For want of sufficient nourishment, their fecundity would diminish, Contagion and famine would produce the same effects as the present consumption; the number

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of these animals would by no means increase; but the number of those that feed upon them would greatly diminish. And, as the same remark may be applied to any other species, they must of necessity prey upon one another. Hence the killing of animals is both a lawful and an innocent practice, because it is founded in nature, and they hold their existence under that seemingly hard condition.

It must be allowed, however, that the motives which have raised doubts concerning this matter, do honour to humanity. Animals, at least those who are endowed with senses, and are composed of flesh and blood, are sensitive beings: Like us, they are capable of pleasure, and subject to pain. To sacrifice unnecessarily those animals who approach or live with us, and who, like man, exhibit symptoms of pain when injured, indicates a cruel insensibility; for those whose nature differs greatly from ours, cannot affect us. Natural pity is founded on the analogy which takes place between us and the object that suffers, and the degree of it is proportioned to the nearness of this conformity or resemblance in structure. The word *compassion* implies a division of suffering. In man the sentiment of pity belongs more to the body than to the mind; and the animals are also susceptible of it. They are moved by the voice of pain; they run to succour each other; they recoil at the view of a dead body of their own species. Thus horror and pity are not so

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much passions of the mind, as natural affections depending on the sensibility of the body, and similarity of structure. This emotion, therefore, ought to diminish in proportion as different animals recede from each other in their nature and conformation. The beating of a dog, or the killing of a lamb, excite our compassion: But we feel no emotion when a tree is felled or an oyster swallowed.

Animals, whose organization resembles that of man, must have similar sensations; and the liveliness of these sensations must be proportioned to the activity and perfection of their senses. Those, on the other hand, whose senses are blunt, cannot have exquisite feelings; and those who are deprived of any organ of sense, must likewise want the correspondent sensations. Motion is a necessary effect of the exercise of sentiment. We formerly proved *, that, whatever be the organization of an animal, if it be endowed with sentiment, it must exhibit its feelings by external movements. Thus plants, though properly organized, are insensible beings, as well as those animals who have no apparent motion. In the same manner, animals, who, like the sensitive plant, move their bodies only, but are deprived of progressive motion, have very little sentiment; and even those who are endowed with the power of moving progressively, but whose actions, like those of the automaton, are

* See above, discourse on the Nature of Animals.

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extremely limited in number, and always performed in the same manner, have only a small portion of sentiment, which is confined to a few objects. In the human species, there are many automaton: Education, and the mutual communication of ideas, by means of social intercourse, augment both the quantity and the vivacity of our sentiments. What a vast difference, in this respect, between a savage and a civilized man, between a female Hottentot and a woman of fashion? Among the animals, in like manner, those who live in a domestic state have their feelings improved by their frequent intercourse with man; while those who remain wild preserve only their natural sensibility, which is often more certain, but always more confined than that which is acquired by education and example.

Besides, considering sentiment entirely as a natural faculty, independent of the movements produced by it, we may still ascertain its different degrees by physical relations, to which too little attention has hitherto been given. To possess a high degree of sensibility, the animated body must form a whole, not only sensible in all its parts, but so constructed that these parts intimately correspond with each other, in such a manner, that an impression made upon one, must necessarily be communicated to all the rest. There must also be a common centre, upon which the various impressions or vibrations must terminate, and this centre must, like a fulcrum, re-act

re-act and reflect all these movements. Thus man, and those animals who resemble him most in organization, will be the most sensible beings. Those, on the contrary, who form not so complete a whole, whose parts have a less intimate correspondence, who have several centres of feeling, and who, under the same covering, seem not to include one perfect animal, but various centres of existence separate from each other, are beings of much less sensibility. When a polypus is cut in pieces, each division lives separately; the head of a wasp, after being divided from the body, lives, moves, and even eats as formerly; a lizard, though cut asunder, is neither deprived of motion nor of feeling; the limbs of a lobster are renewed after amputation; the heart of a turtle continues to beat long after it is cut out of the body; the principal viscera of insects, as the heart and lungs, make not a whole in the centre of these animals, but extend along the body, and form a succession of unconnected hearts and wind-pipes: All these, and similar animals, whose organization is so far removed from that of man, have little sentiment.

In man, and in the animals which resemble him, the diaphragm appears to be the centre of sentiment: It is upon this nervous part, which conveys the impressions of pain and of pleasure, that all the movements of the sensible system are exerted. The diaphragm makes a transverse division of the body into two equal parts, the superior

rior of which includes the heart and lungs, and the inferior contains the stomach and intestines. This membrane is endowed with such an extreme sensibility, and is so necessary to the communication and propagation of feeling, that the slightest wound, whether in its centre or circumference, is always accompanied with convulsions, and often with death. The brain, therefore, which has been considered as the seat of sensation, is by no means the centre of sentiment; for it may be wounded, and even parts of it cut away, without destroying the animal.

Sensation, therefore, ought to be distinguished from sentiment. Sensation is only a vibration, or impression on the sense; but sentiment is the same sensation rendered agreeable or disagreeable by the propagation of the vibration through the system. The essential characteristic of sentiment is pleasure or pain; for all other movements, though they pass within us, are totally indifferent, and do not affect us. All the external motions, and the exercise of every animal force, depend on sentiment, which only acts in proportion as it is affected. The diaphragm, therefore, which we consider as the centre of sentiment, is also the centre of force, or common fulcrum upon which every force is exerted.

All lively emotions, whether pleasant or painful, sickness, fainting, and every sensation that has become agreeable or disagreeable, are felt internally in the region of the diaphragm. In

the brain, on the contrary, there is no indication of sentiment. We feel only pure sensations in the head. We can, indeed, recal any sensation, whether agreeable or disagreeable; and, if this operation, which is performed in the head, be followed by a real and lively sentiment, we immediately feel the impression of it in the region of the diaphragm. Thus, in the foetus, where this membrane is not exercised, there is no sentiment, or at least it is so feeble as to produce no effect; for the little motions of a foetus are mechanical, and have no dependence either on sensation or on the will.

Whatever be the nature of that matter, which serves as a vehicle to sentiment, and gives rise to muscular motion, we know that it is propagated by the nerves, and that it is instantaneously communicated from one extremity of the system to the other. We know not how this movement is performed, whether by vibrations like those of elastic cords, or by a subtile fire similar to that of electricity, which resides not only in animated and inanimated bodies, but is perpetually regenerated by the motion of the heart and lungs, by the friction of the blood in the arteries, and also by the action of external causes upon the organs of sense. It is certain, however, that the nerves and membranes are the only sensible parts of an animal body. The blood, the lymph, the fat, the bones, the flesh, and all the other solids and fluids, ate, in themselves,

selves, totally insensible. The brain is a soft unelastic substance, and, of course, incapable of producing or of propagating the vibrations of sentiment. The meninges, on the contrary, which serve as an envelope or covering to all the nerves, are exceedingly sensible. Like the nerves, the meninges originate in the head, and, like them, they divide into branches, and extend along with their most minute ramifications. They may be regarded as nerves rendered flat; for they are of the same substance, have nearly the same degree of elasticity, and form a necessary part of the sensible system. If the head, therefore, be the seat of sensation, it must reside in the meninges, and not in the medullary part of the brain, the substance of which is entirely different.

The opinion, that the brain is the fountain of sensation, and the centre of all sensibility, arose from this circumstance, that the whole nerves, which are the organs of sensation, terminate in the brain; and hence it was regarded as the only part fitted to receive every impression or vibration. This supposition appeared so simple and so natural, that the physical impossibility which it implies, though abundantly evident, was never attended to: How can an insensible part, a soft inactive substance, such as the brain, be itself the instrument of all sensation and motion? How can this soft insensible substance not only receive impressions, but retain them for a long time,

time, and propagate vibrations through all the solid and sensible parts of the body? It may, perhaps, be replied, with Descartes and Peyronie, that the principle of sensation resides not in the brain, but in the pineal gland, or in the cortical substance. But, from examining the parts of the brain, it is apparent, that neither the pineal gland nor cortical substance contain nerves: They are surrounded with the insensible part of the brain, and so separated from the nerves, that they can receive none of their movements. Hence these suppositions, as well as the former, fall to the ground.

But what is the use, what are the functions of this noble and principal part of the body? Is not the brain found in every animal? Is it not larger in man, in the quadrupeds, and in the birds, who have all a great deal of sentiment, than in fishes, insects, and other animals which have little sentiment? When compressed, is not all motion suspended? If this part is not the principle of action, why is it so essentially necessary? Why is it even proportioned, in every species of animals, to the quantity of sentiment they possess?

These questions, however difficult they may appear, admit of easy solutions. Upon an attentive and unprejudiced examination, the brain, as well as the medulla oblongata, and spinal marrow, which is a prolongation of the brain, are only a species of mucilage, and hardly organized.

nized. We discover in it, indeed, the extremities of small arteries, which terminate there in vast numbers, and carry no blood, but a white nutritious lymph only. These minute arteries, or lymphatic vessels, when separated from the brain by maceration, appear like very fine threads. The nerves, on the contrary, never penetrate the substance of the brain, but terminate on its surface; but they first lose their solidity and elasticity; and their extremities next the brain are soft, and almost mucilaginous. Hence the brain, which is nourished by the lymphatic arteries, furnishes, in its turn, nutriment to the nerves, which ought to be considered as a species of vegetation issuing from the brain in trunks and branches, which afterwards divide into an infinite number of ramifications. The brain is to the nerves, what the soil is to plants: The extremities of the nerves are the roots, which, in every vegetable, are more tender and soft than the trunk or branches. They contain a ductile matter proper for the growth and nourishment of the nervous tree. This ductile matter they derive from the substance of the brain itself, to which the arteries perpetually carry the necessary supplies of lymph. The brain, therefore, instead of being the origin of sensation, or the principle of sentiment, is only an organ of secretion and nutrition, but a very essential organ; for, without it, the nerves would neither grow nor be supported.

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The brain is largest in man, quadrupeds, and birds; because the quantity of nerves is greater than in the fishes and insects, whose sentiment, for this reason, is feeble: The latter have a small brain, proportioned to the small quantity of nerves it has to nourish. On this occasion, I must remark, that man's brain, as has been acknowledged, is not proportionally larger than that of any other animal: There are species of monkeys and of the cetaceous tribes which have larger brains, in proportion to the size of their bodies, than man: And this fact likewise proves, that the brain is neither the seat of sensation, nor the principle of sentiment; for, if this were the case, these animals would have finer sensations and more sentiment than the human species.

Plants absorb not the solid parts of earth or water: These parts must be reduced by heat into thin vapours, before they can be absorbed by the roots. In the same manner, the nerves are nourished by the subtle moisture of the brain, which is absorbed by their extremities or roots, and from thence conveyed to all the branches of the sensitive system. This system, as formerly remarked, forms a whole, all the parts of which have such an intimate connection, that none of them can be injured without wounding the rest. The slightest irritation of a small nerve, is sufficient to convulse the whole body; and the pain and consequent convulsions cannot be cured but by cutting the nerve

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above the injured part; and then all the parts upon which this nerve was distributed, become for ever immoveable and insensible. The brain ought not to be regarded as an organic portion of the nervous system; because it has not the same properties, nor consists of the same substance, being neither solid, nor elastic, nor sensible. I acknowledge, that, when compressed, sensation ceases. But this alone proves it to be a body foreign to the nervous system, which, acting by its gravity on the extremities of the nerves, presses and benumbs them, in the same manner as a weight applied to the arm, leg, or any other part of the body, benumbs the nerves, and annihilates their sensation. It is true, this cessation of feeling, by compression, is only a suspension or a benumbing, which vanishes the moment the compression is removed, and sensation and motion are again renewed. I farther acknowledge, that, by tearing the medullary substance of the brain, convulsions, privation of feeling, and death itself, will ensue. But these effects are produced, because the nerves are entirely deranged, and the whole of them materially injured in their very source.

To these arguments particular facts might be added, which would equally show that the brain is neither the centre of sentiment, nor the seat of sensation. We have seen animals, and even children, born without head or brain, and yet they had sentiment, motion, and life. There

are whole classes of animals, as insects and worms, in whom the brain is not perceptible, having only a part corresponding to the medulla oblongata and spinal marrow. It is, therefore, more rational to place the seat of sensation in the spinal marrow, which no animal wants, than in the brain, which is not an universal part, common to all sensitive beings.

The great obstacle to the advancement of human knowledge, lies not in the objects themselves, but in our manner of considering them. Man's body, however complicated, is more simple than his ideas. It is less difficult to see Nature as she is, than to know her in the dress she is exhibited to us. She only wears a veil; but we give her a mask. We conceal her with prejudices. We suppose that she operates as we act and think. Her actions, however, are evident; but our thoughts are obscure. To her operations we transfer the abstractions of our own minds. We judge of her designs by our own views; and we perpetually blend her works which are uniform, her facts which are always certain, with the fluctuating illusions of our own imagination.

I speak not here of systems purely arbitrary, or of frivolous and imaginary hypotheses, but of the methods generally employed in the investigation of Nature. Even the method of experiment has produced more errors than truths. This method, though the most certain, requires great dexterity of management: A small deviation either leads

to barren regions, or to rare and obscure objects. We nevertheless assemble them together, and ascribe to them general relations and common properties; and, as mankind pass and repass on the crooked paths which have been formed, the road appears to be clear and beaten. Though it terminates in nothing, the whole world follows, the method is adopted, and the consequences derived from it are received as fixed principles. I might demonstrate this doctrine by exposing the origin of what are called *principles* in all the sciences, both abstract and real: In the former, the general basis of the principle is abstraction, or one or two suppositions: In the latter, the principles are only consequences, good or bad, of the methods which have been observed. I shall here limit myself to the science of anatomy: Did not the first man who, contrary to a repugnance of Nature, opened a human body, believe that, by dissecting and examining its different parts, he would soon discover its structure, mechanism, and functions? But having found the subject to be infinitely more complicated than he imagined, he was soon obliged to renounce his pretensions, and to institute a method, not for distinguishing and judging, but solely in order that he might see the parts in a certain train or order. Many ages were necessary to bring this method to any degree of perfection; and it alone still occupies the attention of our most accomplished anatomists. This

method, however, is not the science, but only the road which ought to lead to it, and which perhaps might have led to it, if, instead of travelling always in the same narrow path, anatomists had extended the tract, and compared the human body with that of the other animals. What real knowledge can be derived from a single object? Is not every science founded on the comparison of similar and different objects, of their analogous or opposite properties, and of all their relative qualities? Absolute knowledge, if it has an existence, exceeds the powers of man: We can judge only by the relations of things. When solely occupied with the method of investigating a subject, and when we consider it independent of what is analogous, or different from it, we can never arrive at real knowledge, and far less rise to any general principle: In this case, we can invent names only, and make descriptions of the object, and of all its parts. Thus, though human bodies have been dissected for three thousand years, anatomy is still nothing but a nomenclature; and hardly any advances have been made toward the real object, which is the knowledge of the animal economy. Besides, the method itself is still imperfect, though it ought to be clear and simple, since it depends on inspection, and has no end but that of denominations. As this nominal knowledge has been mistaken for science, anatomists, instead of limiting the number of ob-

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jects, have been anxious to augment the number of names. They have loaded the subject with minute and fruitless details. They were inclined to discover differences, where every thing was alike. In creating new names, they imagined they were exhibiting new objects; and the description of a minute part, which had been either overlooked or neglected by former anatomists, was dignified with the appellation of a *discovery*. Even the names themselves being frequently substituted in place of the objects, with which they have no relation, have only served to augment the confusion. Are not the *nodes* and *testes* small parts of the brain similar to the whole, and unworthy to be distinguished by particular denominations? These names, bestowed originally from caprice, at last gave rise to new opinions and prejudices. Others, given to parts which either did not exist, or were imperfectly viewed, have been the sources of fresh errors. How many functions and uses have been ascribed to the pineal gland, and that pretended void in the brain, called the *fornix*, while the former is only a simple gland, and the existence of the latter is doubtful, being probably produced by the hand of the dissector*?

The most difficult part of science, therefore, is not to know those things which form the direct object of it, but to strip them of a thousand false colours under which they have been conceal-

* See Seno.

ed, to examine the foundation and effects of the method employed by former inquirers, to reject every arbitrary arrangement, and, in fine, to endeavour to detect every error or prejudice that has been adopted. All these precautions are necessary to uncover Nature; but, to know her, we have only to compare her with herself. In the animal œconomy, her appearance is very mysterious, not only because the subject is complex, but because, having neglected those modes of comparison which alone could afford light, we have been left to wander in the darkness of vague hypotheses. The human body has been described in millions of volumes; while the anatomy of the other animals has been almost entirely neglected. In the human subject, we have distinguished, named, and described the most minute parts; while we are ignorant whether these, or even parts of greater magnitude and importance, exist in other animals. Particular functions have been ascribed to particular organs, without knowing whether the same functions are not performed in other beings, though deprived of these organs. So that, in the different explications of the animal œconomy, we labour under the double disadvantage of having commenced with the most complicated subject, and of reasoning concerning this subject without the aid of analogy.

In the course of this work, we have observed a very different method. Uniformly comparing Nature with herself, we have traced her in her relations,

relations, in her differences, and in her extremes. To mention here only those parts relative to the animal œconomy, of which we have had occasion to treat, as the generation, the senses, the movements, the sentiment, and the nature of animals, the reader will easily perceive, that, after all the labour bestowed in discarding false ideas, in rooting out established prejudices, and in separating truth from arbitrary conceits, the only art we have employed is that of comparison. If we have succeeded in throwing light upon these subjects, it must be ascribed not so much to ingenuity or labour, as to the method we have followed, and which we have endeavoured to render as general as our knowledge would permit. Before giving general ideas, we have invariably exhibited the particular results, or effects.

We shall now content ourselves with relating a few facts, which will be sufficient to prove that man, in the state of nature, was never destined to live upon herbs, grain, or fruits; but that, in every period of his existence, he, as well as most other animals, eagerly desired to nourish himself with flesh.

The Pythagorean diet, though extolled by ancient and modern philosophers, and even recommended by certain physicians, was never indicated by Nature. In the golden age, man was innocent as the dove; his food was acorns, and his beverage pure water from the fountain:

Finding every where abundant subsistence, he felt no anxieties, but lived independent, and always in peace both with himself and the other animals. But he no sooner forgot his native dignity, and sacrificed his liberty to the bonds of society, than war and the iron age succeeded that of gold and of peace. Cruelty, and an insatiable appetite for flesh and blood, were the first fruits of a depraved nature, the corruption of which was completed by the invention of manners and of arts.

These are the reproaches which, in all periods, have been thrown upon man, in a state of society, by certain austere and savage philosophers: Flattering their private pride by the humiliation of the whole species, they have exhibited this unnatural picture, which has no value but in the contrast: To hold out to man chimerical ideas of happiness, may, perhaps, be sometimes useful.

Did this state of ideal innocence, of exalted temperance, of entire abstinence from flesh, of perfect tranquillity, of profound peace, ever exist? Is it not a fable, where man has been employed as an animal, to give us lessons of moral instruction? Is it even possible to conceive the existence of virtue previous to society? Does the loss of this savage state merit regret? Was man, while a wild, unsocial animal, more dignified than the polished citizen? Yes; for every evil springs from society; and what does it import

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whether there was virtue in a state of nature, if it gave rise to happiness, if man were only less miserable than in his present condition? Liberty, health, strength, are not these preferable to effeminacy, sensuality, and voluptuousness, accompanied with slavery? The absence of pain is more estimable than a thousand pleasures: What is happiness, but to have nothing to desire?

If this representation were just, they should go farther, and tell us, that it is better to vegetate than to live, to have no desires than to gratify our appetites, to doze perpetually in apathetic slumbers, than to open our eyes to view the beauties of Nature; and, in a word, to sink below the condition of brutes, or to become masses of inanimate matter attached to the earth, than to be active and sentient beings, capable of receiving pleasure from a thousand sources.

But, instead of disputing, let us attend to facts: We see not the ideal, but the real state of nature. Is the savage inhabitant of the desert a tranquil being? Is he a happy man? For we must not suppose with a certain philosopher, one of the most ferocious censors of humanity*, that the distance from man, in a pure state of nature, to the savage, is greater than from the savage to us; that the ages elapsed before the invention of words, have been longer than those which were necessary for the perfecting of signs and of language. I have always thought, that, in reason-

* Rousseau.

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ing concerning facts, all suppositions ought to be banished till every thing presented by Nature be candidly examined. Now, we find that mankind descend, by imperceptible degrees, from the most enlightened and polished nations, to people of less genius and industry; from the latter, to others more gross, but still subject to Kings and to laws; from these, again, to savages, who exhibit as many different shades as the polished nations. Some savages form numerous nations subject to chiefs; smaller societies of them are governed by customs; and the most solitary and independent species constitute families, and submit to their fathers. Thus an empire and a monarch, a family and a father, are the two extremes of society. These extremes are likewise the boundaries of Nature: If they extended farther, in traversing the numberless solitudes of the globe, we must have discovered those human animals, who, like the monkeys, are deprived of speech, the males separated from the females, their offspring abandoned to the elements, &c. Even supposing the constitution of the human body to be very different from what we see it, and that its growth were more rapid, it is impossible to maintain that man ever existed without forming families; because, if not cherished and attended for several years, the whole children must have inevitably perished. Whereas, other animals require the care of the mother a few months only. This physical necessity is a perfect demon-

demonstration, that the human species could neither multiply nor exist independent of society; and that the attachment of parents to children is natural. This attachment must unite the parents and children into a small society, which alone would be sufficient to accustom them to make certain gestures, to utter certain sounds, and inure them to every expression of sentiment and of desire. All this is attested by facts; for the most solitary savages have, like other men, the use of signs and of words.

Thus the state of pure nature is a known state: It is that of the savage living in the desert, but living in family, knowing his children, and being known by them, using words, and making himself understood. The savage girl picked up in the woods of Champagne, and the man found in the forests of Hanover, are not exceptions to this doctrine. They had lived in absolute solitude; and could not, therefore, have any idea of society, or of the use of words: But if they had ever met, the propensity of Nature would have constrained, and pleasure united them. Attached to each other, they would soon have made themselves understood; they would have first learned the language of love, and then that of tenderness for their offspring. Besides, these savages must have sprung from men in society, and been left in the woods at the age of four or five years; for, before this period, they could not have existed. They must have been old enough

enough to be able to procure subsistence, but not to retain the ideas which had been communicated to them.

Let us, then, examine this man of Nature, this savage living in the family state. If the family prospers, he will soon become the chief of a numerous society, of which all the members will have the same manners, observe the same customs, and speak the same language. At the third or fourth generation, new families will arise, who may live separately; but, being united by the common bonds of customs and language, they will form a small nation, which, increasing with time, may, according to circumstances, either become one people, or remain in a state similar to that of those savage nations with which we are acquainted. If these new men live under a mild climate, and upon a fertile soil, they may occupy, in the full possession of liberty, a considerable space, beyond which, if they meet with nothing but deserts, or men equally new with themselves, they will remain savage, and become, according to circumstances, either friends or enemies, to their neighbours. But, when under a severe climate, or ungrateful soil, they find themselves pinched by numbers, or cramped for want of room, they will make irruptions, form colonies, and blend themselves with other nations, of which they will either become the conquerors or the slaves. Thus man, in every situation, and under every climate, tends

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equally toward society. It is the uniform effect of a necessary cause; for, without this natural tendency, the propagation of the species, and, of course, the existence of mankind, would soon cease.

Having discussed the origin of society, and shewn that it is founded on Nature, let us next inquire what are the appetites and taste of savages. In this investigation, we shall find, that none of them live solely on fruits, herbs, or grain; that they all prefer flesh and fish to other aliments; that pure water is not pleasant to them; and that they endeavour either to make for themselves, or to procure from others, a less insipid beverage. The savages of the South drink the water of the date-tree; those of the North swallow large draughts of whale oil; others make fermented liquors; and the whole, without exception, discover a violent passion for ardent spirits. Their industry, dictated by necessity, and excited by their natural appetites, is confined to the making of instruments for hunting and fishing. A bow and arrows, a club, a net, and a canoe, constitute the whole of their arts, and are all destined to procure a species of food corresponding to their taste: And, what corresponds with their taste, must be agreeable to Nature; for, as formerly remarked*, man would die of inanition, if he took not more substantial food than herbs alone. Having but one

* See above, vol. iii. article Ox.

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stomach and short intestines, he could not take a sufficient quantity of such meager food as would afford him proper nourishment. The same remark is applicable to fruits and grain; for, though corns and other grains have been highly improved by culture, and contain a greater quantity of organic nutritive particles, than any of those which are produced spontaneously by Nature; yet, if man were denied any other food, he would only drag out a feeble and languishing existence.

View those solitary enthusiasts, who abstain from every thing that has had life, who, from motives of sanctity, renounce the gifts of the Creator, fly from society, and shut themselves up within sacred walls, against which Nature continually revolts: Confined in those living tombs, where they contemplate nothing but death, their mortified visages and hollow eyes indicate perpetual efforts to support a languishing, feeble, and useless existence. They take food; but their hunger never abates. Though aided by the fervour of a romantic imagination, they are enabled to resist the effects of this cruel abstinence for a few years only, and may be said rather to die daily than to live.

If man were obliged to abstain totally from flesh, he could not, at least in our climates, either exist or multiply. This diet may, perhaps, be sufferable in southern countries, where the fruits are better concocted, and the plants, roots, and

herbs

grains

grains more nourishing. The Brahmans, however, rather form a sect than a people; and their religion, though very ancient, has never extended beyond their own climate.

This religion, founded on metaphysics, is a striking example of the lot of human opinions. By collecting the scattered fragments which remain, it is unquestionable that the sciences have been very anciently cultivated, and perhaps ripened to a degree of perfection beyond what they now are. It has been known long before the present æra, that all animated beings contained indestructible living particles, which passed from one body to another. This truth, adopted at first by philosophers, and afterwards more generally diffused, would preserve its purity during the enlightened ages only. A revolution of dark periods having succeeded, no more of the living organic particles were remembered than what was sufficient to give rise to the notion, that the living principle of animals constituted an indestructible whole, which separated from the body after death. To this ideal whole they gave the name of *Soul*, which they soon regarded as a being really existing in all animals; and combining with this chimerical being, the real, but disfigured, idea of the passage of living particles, they maintained, that, after death, this soul transmigrated successively and perpetually from one body to another. From this system man was not excepted: They quickly associated

morality

morality

morality with metaphysics: They hesitated not to hold that this surviving being retained, in all its transmutations, its former sentiments, affections, and desires. Weak minds trembled. They contemplated with horror the passage of the soul from an agreeable lodging to be an inhabitant of an unclean and loathsome animal. Every new fear engenders a fresh superstition. In killing an animal, they were terrified lest they should murder their mistress or their father. They regarded every brute as their neighbour: And, at last, both from motives of tenderness and of duty, they maintained that they ought to abstain from every thing endowed with life. This is the origin and progress of the most ancient religion of India: An origin which shows, that truth, when committed to the multitude, is soon disfigured; that a philosophical opinion never becomes popular till it has changed its form; but that, by means of this preparation, it may prove the basis of a religion, the stability of which will be proportioned to the universality of the prejudice, and, being founded on truths misunderstood, it must be environed with obscurity, and, of course, it will have an air of mystery, of grandeur, and of incomprehensibility: In fine, that fear, combining with reverence, will make this religion degenerate into superstitious and ridiculous practices, which, however, will take root, and produce rites that at first will be scrupulously observed, but will so gradually

gradually alter with time, that even the opinion which gave them birth, can only be traced in false traditions, in proverbs, and in tales puerile and absurd. From hence we may conclude, that every religion founded on human opinions is false and variable; and that, to promulgate the true religion, which depends not on the fancies of men, and which is constant, unalterable, and will always be the same, is the prerogative of God alone.

But, to return to our subject. An entire abstinence from flesh can have no effect but to enfeeble nature. Man, to preserve himself in proper plight, requires not only the use of this solid nourishment, but even to vary it. To obtain complete vigour, he must choose that species of food which is most agreeable to his constitution; and, as he cannot preserve himself in a state of activity but by procuring new sensations, he must give his senses their full stretch, and eat a variety of meats, to prevent the disgust arising from an uniformity of nourishment. But he must avoid every excess, which is still more noxious than abstinence.

Those animals which have but one stomach, and short intestines, are obliged, like man, to feed upon flesh. It is an unquestionable fact, that all animals which have more stomachs than one, and long intestines, like the cow, sheep, goat, &c. are herbivorous, and that those which have but one stomach, and short intestines, like men, dogs, wolves, lions, &c. are carnivorous.

It must not, however, be concluded, that herbivorous animals are under a physical necessity of feeding on herbs alone, though the carnivorous tribes can by no means subsist without flesh. We maintain only, that the former can be sufficiently nourished without the use of flesh; not that they would not have recourse to this food, if Nature had endowed them with talents adapted to the purposes of seizing prey; for we have seen sheep, calves, goats, and horses, eat, with avidity, milk, eggs, and even flesh, when cut down and seasoned with salt, though they had not been previously accustomed to such food. We may, therefore, maintain, that the taste for flesh is an appetite common to all animals, and that it is exerted with more or less vehemence or moderation according to their particular conformation; for this appetite is apparent not only in man and the quadrupeds, but in birds, fishes, insects, and worms; to the last of which, it would appear, all flesh has been ultimately destined by Nature.

Nutrition, in every animal, is performed by organic particles, which, after being separated from the gross mass of aliment, by means of digestion, mingle with the blood, and are assimilated to all the parts of the body: But, independent of this principal effect, which is always proportioned to the quality of food, another effect is produced, which depends on the quantity or bulk of the nourishing substances.

The stomach and intestines consist of flexible membranes, which occupy a considerable space within the body. These membranes, to preserve them in a proper state of tension, and to counterbalance the action of the neighbouring organs, require to be always partly filled. If, for want of nourishment, this large space be left entirely void, the membranes, having no internal support, collapse, and adhere to each other, which gives rise to weakness, and all the symptoms of extreme want. Thus the aliments, beside answering the purposes of nutrition, serve as a ballast to the body. Both their presence and their volume are necessary to maintain the equilibrium between the internal parts, which act and react against each other. When a man dies of hunger, it is not so much for want of nourishment, as of a proper poise to the body. Thus animals, and especially the most voracious tribes, when pressed with hunger, are so eager to fill the internal void, that they swallow earth and stones. Clay has been found in the stomach of a wolf; and I have seen swine eat it greedily. Most birds swallow pebbles, &c. This is not the effect of taste, but of necessity; for the most craving want is, not to refresh the blood with new chyle, but to maintain an equilibrium in the action of the great parts of the animal machine.