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THE RELIGION

OF

NATURE

By

E. KAY ROBINSON

Editor of "The Country-Side"

HODDER AND STOUGHTON

PUBLISHERS LONDON

Eval

THE RELIGION

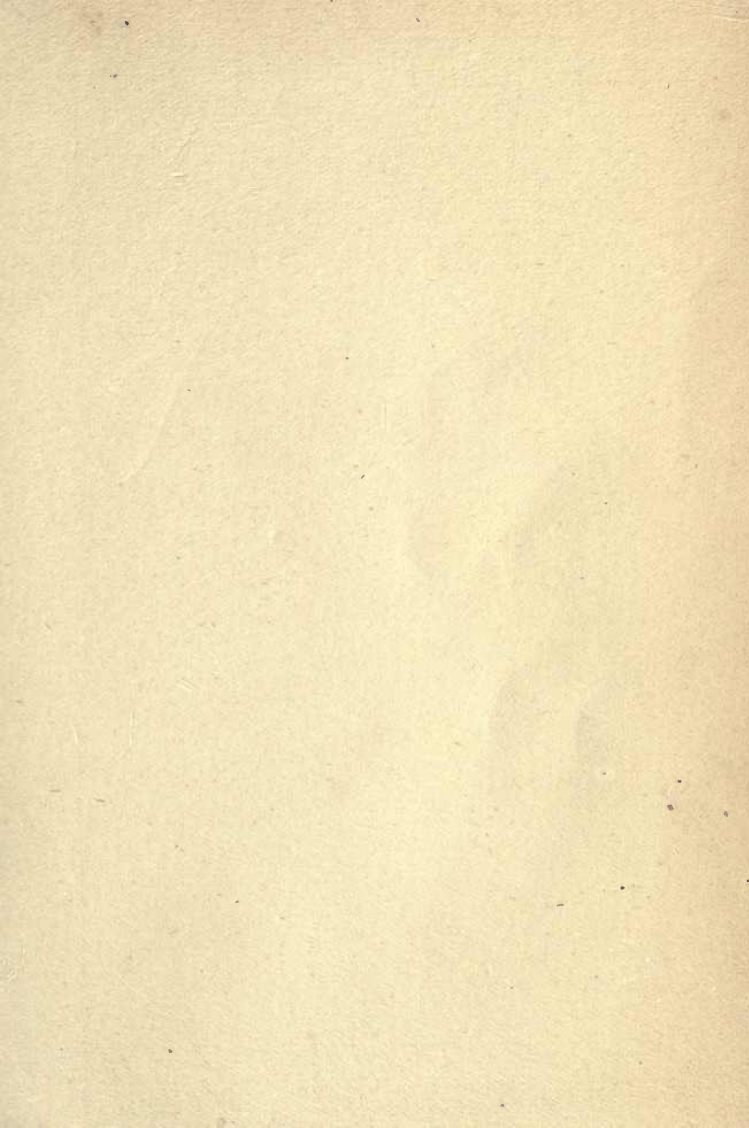
OF

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THE
RELIGION OF NATURE

BY

E. KAY ROBINSON

AUTHOR OF "TO-DAY WITH NATURE," "MY NATURE NOTEBOOK,"
"IN THE KING'S COUNTY," "THE COUNTRY DAY BY DAY"

EDITOR OF "THE COUNTRY-SIDE"

HODDER AND STOUGHTON
PUBLISHERS, LONDON



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TO THE HEADS OF ALL
CHRISTIAN CHURCHES I DEDICATE THIS BOOK
BECAUSE, ALTHOUGH DOGMAS CLASH AND CREEDS DIFFER,
THERE IS ONLY ONE
TRUTH

E. K. R.

“For the right that wants assistance,
'Gainst the wrong that needs resistance,
For the future in the distance,
For the good that we can do!”

PREFACE

IN this little book my object is not to preach, but to prove on logical and scientific grounds, and in language which all can understand, that man has inherited the spirit of God and will return to God.

In my earliest childhood I was entrusted, during the absence of my parents in India, to the care of a Scotch clergyman of the severest school. His sermons and his moral exhortations were, so far as my memory serves, all of the gloomiest and most terrifying kind. The end of the world and the commencement of unending torment were always in my mind—at the age of five—as probable occurrences of every day.

My very earliest recollection of nature and wild life is bound up with this haunting dread. I was in the garden one day when a wild duck flew by. I had never seen one before; and,

with its neck stretched out in front and no tail to speak of behind, I mistook one end of the bird for the other, and thought that it was flying tail-first.

I vividly experience even now the hot-cold rush of thought into my amazed mind: "A bird flying backwards! The impossible coming to pass! The end of the world!" I rushed indoors and upstairs, and hid under my cot in terror. Such is the state of nerves to which too much religion of the frightening kind can reduce a child of five.

Removed to home surroundings by the return of my mother from India, the end of the world and my own certain damnation were still my terrors in the night; and by day I must have been rather a terror to my seniors with my constant efforts to get some light on the subject. They could not solve my difficulties; so they put me off by saying that we must believe without questioning.

When I grew older, the problem—of course, an old one—presented itself: Why is it wicked to ask questions? We have been given reasoning power by God: and one could understand

that it might be wicked to refuse to use God's gift. But how can it be wicked to use this in relation to the most important fact of existence, namely, the future of one's soul?

So I tried to reason the thing out: but the more I tried the more wrong and cruel everything seemed to be.

Yet that was only because the reasoning did not go quite far enough. By slow degrees I worked out the problem; and now I find myself possessed of a faith the chief beauty and value of which—to my mind—lies in the fact that it brings religion and science into harmony.

It is no longer "wicked" to ask questions and to seek the truth. The more you ask the more truth you find.

“There is a pleasure in the pathless woods,
There is a rapture on the lonely shore,
There is society where none intrudes
By the deep sea, and music in its roar ;
I love not man the less, but Nature more
From these our interviews, in which I steal
From all I may be or have been before,
To mingle with the universe and feel
What I can ne'er express, yet cannot all conceal.”

BYRON.

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"I will even risk incurring your ridicule by confessing one of my fondest dreams, that I may succeed in making some of you English youths like better to look at a bird than to shoot it; and even desire to make wild creatures tame, instead of tame creatures wild."—RUSKIN.

MAN AND OTHER ANIMALS

“As our dear animals do suffer less

Because their pain spreads neither right nor left,
Lost in oblivion and foresightlessness—

Our suffering sore by faith shall be bereft
Of all dismay and every weak excess.

Christ's presence shall be better in our pain,
Than even self-absence to the weaker brain.”

GEORGE MACDONALD.

CHAPTER I

MAN AND OTHER ANIMALS

“A Freethinker’s” Challenge—Cruelty of Nature—The Human Point of View—Man’s Unconsciousness in Peril—Hypnotic Unconsciousness—Parallel of the Telegraph Office—Flagellants and Devotees—Meaning of “Sensation”—Why Animals are spared Pain—Man as a Hunting Animal—Man as a Person.

IN the following pages I hope to bring home to all readers the truth of the views which have brought comfort and complete satisfaction to myself.

For more than a score of years the problem of the apparent cruelty of the world was daily in my mind. Nature in almost all its details seemed to undermine the very basis of religion; but gradually I came to see the very truth, and now I find nature to be the bed-rock of

true religion, insomuch that the future of the human soul itself—as taught by religion—is only the crown of natural evolution.

I should probably not, however, have ventured to put my views in detail into print, but for an accident.

A little while ago “A Freethinker”—whose name, if published, would surprise most of my readers—was good enough to write to me that he had been struck by the “confident religious note” which seemed to inspire some of my writings, and he wanted to know how I could reconcile the study of nature with belief in religion.

As a very able controversialist he allowed me, in reply, to sum up his closely-typewritten pages in the sentence that nature as we see it—from the human point of view—appears intensely cruel and, therefore, incompatible with the theory of the existence of a merciful God.

This has, indeed, been a great stumbling-block to many good men.

But, the apparent cruelty of nature having been granted—for, indeed, the seeming atrocities which are commonplaces in nature are often

almost too horrid to be described in print—I was able to point out that the whole significance of the facts lies in the words “from the human point of view”—for, of course, we cannot look at nature from any point of view but our own.

Now, the human point of view is that of a conscious personality, a being who feels that he has an individual existence apart from his body, and who has the power of contemplating and considering the injuries which his body may suffer, translating them into terms of conscious pain. This translation is almost instantaneous, so that we do not as a rule recognise any connecting link between the two things. When a wasp stings your hand, you start and you probably cry out, at the same time feeling pain.

Indeed, looking back upon this incident, you ordinarily suppose that the reason why you started and cried out was that you consciously felt the pain; and this mistake—for it is a mistake—leads you into the further error of supposing that a dog who similarly jumped and yelped in the same circumstances *con-*

sciously felt the pain in exactly the same way.

Indeed, it is very hard to realise the distinction between mental consciousness and bodily sensation, or the great difference which may separate other animals' "feelings" from ours. We have never been in the habit of supposing that there was any distinction or difference, because all our ideas about pain and suffering and the words in which we express them are based on the notion that the feeling of pain is necessarily conscious and inseparable from the suffering of injury. We get just a glimpse of the separation between them, however, in cases of urgent peril or desperate struggle.

Every one who has been in sudden deadly peril or has fought hard for his life is surprised afterwards to recollect that he was conscious of no fear and felt no pain from wounds at the time. This is owing to the fact that in the terrible shock of mortal combat the conscious personality who rules every man's thoughts and actions—except such thoughts and actions as are automatic, like those of other animals—is temporarily unseated from his throne,

and for the moment man is an animal fighting instinctively for self-preservation.

At such times even a civilised man will fix his teeth like lightning in the exposed throat of his adversary and unconsciously worry it like a wolf, unheeding meanwhile the wounds which are being inflicted upon himself.

When the struggle is over his instinctive actions may still be the same as those of any other animal in like case; but the conscious human being reasserts his sovereignty in the feeling of sick horror at the fearful experience gone through and glad gratefulness that the peril has been passed.

Other animals, I hold, are spared the horror and denied the gladness; they are *consciously* neither happier nor unhappier for the experience, and the character of their subsequent actions is modified in no way by those strong waves of "feeling" which agitate the man when he thinks of the incident.

In this connection I would quote some lines by Rudyard Kipling, which throw the flashlight of genius on the subject. He is describing one of those sudden panics to which even British

troops are liable, and he makes one of the fugitive soldiers say—

“ ‘Till I ’eard a beggar squealin’ out for quarter as ’e ran,
An’ I thought I knew the voice—an’ it was *me!* ”

No one can fail to be struck by the absolute, inexorable truth of the picture of the soldier automatically fleeing for his life and automatically calling out for mercy as he did so, just as a frightened dog would run and yelp; while the conscious human being in the soldier’s body was in complete ignorance, as it were, of his proceedings—until he recognised his own voice!

Now, this admirably illustrates the point which I wish to make clear; namely, that our own behaviour in moments of terrible crisis enables us to catch just a glimpse of the distinction between the conscious human being and his animal self. It is only at such times that the shock, as it were, throws human consciousness out of gear, and for a moment we see man acting by instinct only like any other animal.

If Kipling’s soldier had been shot through

the heart a moment before the conscious power of thought returned he would have died as any other animal dies, without knowledge of the anguish of fear through which he had passed.

We get another glimpse of the line of demarcation between the body's sensation of pain and the mental consciousness of that sensation, even in the human mind, in the case of persons who have been hypnotised.

Not long ago a case was reported at considerable length in the London papers in which a woman, whose state of health forbade the use of ordinary anæsthetics, was subjected to hypnotism before undergoing a surgical operation. Now, the result of hypnotism is to separate the mind from the body—to transfer the conscious personality from its actual circumstances into whatever environment the hypnotist chooses to suggest. In this case the effect was remarkable.

The hypnotist suggested to the mind of the woman that nothing worthy of attention was about to happen, and throughout the operation she kept up a conversation with him about

trivial matters. At the same time her hand, which he was holding, gripped his convulsively at each of the moments when, had she not been hypnotised, she would have been acutely conscious of pain.

Although the full details of this case, with names, dates, &c., were published in the papers at the time, it is immaterial to my argument that they should be authentic. They merely illustrate the well-known fact that the minds of mesmerised or hypnotised persons may be unconscious of injuries which their bodies suffer, and on the other hand may feel imaginary pains which have not in reality been inflicted.

Now, I do not say that there is any exact analogy between one of the lower animals and a hypnotised human being, because the latter lives for the time being in unreal circumstances; but such facts as that a woman could talk light-heartedly about her favourite novels and so on at the moments when her tortured body was telegraphing for aid to her brain and her brain was forwarding the message on to the muscles which moved her hand, shows that, even in

human beings, the feeling of pain and the consciousness of feeling pain can be separated. And if they are not inseparable, we cannot take any actions, which merely show that the bodies of animals feel pain, as proof that they are conscious of feeling it, since—as I will show later—many other actions and emotions of animals which appear “conscious” to us must be quite unconscious.

Further, as we have no right to suppose that one action or emotion of an animal is more conscious than another, I am glad to believe that those who fear that animals other than man share man’s consciousness of suffering must be mistaken.

It is difficult to realise the all-important difference in happiness or unhappiness which this conscious power of realising one’s sensations makes between man and other animals; because, although the mind of man is to some extent independent of his body, it is still to a greater extent dependent upon it. Human consciousness is in fact the quintessence of man’s mental power, but it is situated within the great nerve centre of his brain, and is still

informed, and dominated to a great extent, by his nerves.

Perhaps the best and most natural explanation of the matter is to be found by comparing the nervous system of the higher animals with a complete telegraph service, the brain being the receiving centre of all messages from the nerves and the distributing centre whence all messages are sent out to the muscles. By this machinery the actions of an animal automatically correspond to its sensations; and in the long process of evolution every species of animal has acquired a set of rules for doing instantly that which the experience of past ages has shown to be the right thing to do in any given circumstances.

Thus, the mind of an animal may be likened to an ordinary telegraph-office under an ordinary telegraph-master, whose conduct is regulated by routine and rule, every message received being dealt with promptly in the ordinary course of business.

The human mind, on the other hand, resembles a more important telegraph-office of which a superior, responsible official has supreme charge.

There is still the ordinary telegraph-master attending to the routine work, so that to outward seeming the receipt and despatch of messages scarcely differs from the ordinary system; but the responsible official all the while exercises the power of deciding that a certain class of message shall be treated in a certain way, that one shall be given preference and another put in the background.

In the former class of office everything goes on smoothly and automatically, according to rule, and no responsibility troubles any one. In the latter the responsible official reaps all the credit or the blame of success or failure. His is the burden of responsibility and his the ambition of improvement. He personally feels the consequences of everything which happens.

The parallel is not, of course, exact, because you cannot imagine an office conducted by human beings so automatically as to eliminate the element of personal failure or success; but it is close enough to illustrate the difference in the working between an animal mind which is actuated solely by a code of instincts, some simple and some complicated, and a human mind

of which a self-conscious personality sits in charge, controlling the routine of his instincts—and feeling the consequences.

It is almost entirely owing to the difficulty of putting new thoughts into old words that I cannot make plain in fewer sentences this difference between the unconscious suffering of animals and the unhappiness of man. To feel pain is a bodily sensation : to dislike the feeling of pain is a conscious thought ; and this “consciousness” which distinguishes in the human mind between pleasure and pain, as things desirable or otherwise, is only another phase, in fact as in word, of the “conscience” which distinguishes between good and evil.

And it may be similarly perverted. Most of us are apt to think that the conscious feeling of pain by a human being and the dislike of it cannot be separated ; but there is abundance of evidence to show that they can be, and very often are, entirely separated.

It is well known to medical science that the human conscience governs one's notions of pain, and that immorality is often accompanied by delight in suffering great pain.

The sect of the Flagellants, originally a religious brotherhood, had to be sternly suppressed because of the frenzied excesses of self-torture in which its votaries delighted in public.

In the East to-day you may see self-tortured devotees, who cannot help feeling the pain which they inflict upon themselves but certainly do not dislike it.

Now, if the human conscience thus working a little aside from the beaten path of thought—for in other respects these pain-lovers may be perfectly sane and sensible—can convert feelings of agonising pain into feelings of ecstatic pleasure, is it not manifest that our conscious feelings of happiness and unhappiness are controlled by and belong to our conscience, and that other animals, who have no conscience to distinguish between right and wrong, must have no consciousness to distinguish between happiness and unhappiness?

This is hard to be understood because our language has no word to express sensibility without consciousness. We know that sensitive plants have no consciousness; but as soon as we begin to think of sensitive animals the idea of

conscious suffering comes at once into our minds, and we cannot drive it out. That is the difficulty.

For instance, one controversialist—who may be taken as a type of many—has written to me that I shall never be able to persuade him that animals do not feel pain, although in another part of his letter he agrees that they “may not be consciously happy or unhappy.” That is to say, he admits my argument, but he cannot see that, if admitted, it destroys his preconceived notion of the “feeling” of “pain.” That is not his fault. We all think in words; and there are no ready-made words in which we can think of animals feeling pain without being conscious of it.

We can think of plants being “sensitive” or even of low animals “suffering injury” without conscious feeling; but as soon as we think of the higher animals, creatures of flesh and blood, the words “sensitive” and “suffering” carry a totally different meaning.

This is very illogical, because the lower animals graduate so finely upwards that there is no point in the scale at which you can say, “Here consciousness begins.” It is only when you come to man himself that reasons leap to the mind at

once to prove that by man the realm of consciousness is entered for the first time.

“Why should we assume that other animals are spared the consciousness of pain which is such a condition in man’s life?” is a question which I have been asked in various terms. The answer is, I think, plain.

Many animals are born to suffer what would be excruciating pain to human beings, through all their lives, simply because they are animals of a certain species. Take, for instance, the common dor beetle.

This is a mail-clad insect so strongly armoured that it cannot by any means touch the joints of its body or the upper joints of its strong limbs. Consequently we find that parasitic mites—bearing about the same relation in size to the beetle as rats would bear to a man—cluster and multiply at these joints, sucking the living juices of the beetle’s tissues.

The beetle can do nothing at all to help itself, simply because it is born to be a certain kind of beetle. Its troubles are part of its existence. It is the natural vehicle and provender of a certain kind of mite.

We cannot, therefore, suppose otherwise than that the dor beetle comes into the world with a constitution adapted to the circumstances awaiting it. Although laden with a gang of blood-sucking parasites, it will go through life, feeding, multiplying, and providing for its young with complete apathy.

In the same way man, as an animal—*i.e.*, in a state of savage nature—comes into the world with feelings adapted to the circumstances awaiting him. Who is there that, in hunting, counts hardships and perils as matters of complaint? Instead, these seem in a curious sort of way to be part of the pleasures of the chase. That is because man is a hunting animal, and hardships and peril in hunting are his natural circumstances.

Otherwise it would be absurd that men whose means would purchase every luxury of life should gladly risk their lives, and toil more than any labourer would toil for pay, merely to kill other creatures.

Even to see the joy of middle-aged gentlemen of wealth in the midst of personal discomfort when shooting partridges is a large lesson in the

meaning of "pain" to animals and men. While they are after living quarry men are pure animals, and do not mind such bodily pain and hardship as naturally belong to the pursuit.

Suppose that in his hunting man has had the misfortune to be worsted—that, instead of bringing home the lion's skin, he has lain helpless in the grip of the lion. What happens then?

Intolerable agony, you suppose, as the lion's huge teeth crunch through bone and sinew, nerve and flesh. Yet all those, Livingstone and others, who have survived the ordeal, tell us that there is no pain: only a fierce feeling of anger against the brute. This is because, in fighting lions, man, as a hunting animal, is in his ancestral place, and is temporarily dominated by instinct only.

Man amid the surroundings of civilisation is a different creature. He is no longer one of a species, born to fight through life and to die fighting. He is an individual, with a high sense of his personal destiny and of the value of comfort and health. He has, as an individual, the opportunity to avoid that which is dangerous

and painful, and to choose that which is safe and pleasant. He has to choose also between right and wrong at every turn. He hates trouble and loathes pain. In his heart he detests wrong and wickedness. He is, in a word, self-conscious.

This is the reason why we may assume that other animals are spared the consciousness of pain which is such a condition of our life ; because the extent of human self-consciousness is so manifestly the measure by which we can gauge the distance that civilised man has risen above the animal level.

Another great truth to remember is that, as a hunting animal, man was the enemy of almost everything that breathed : as a conscious person he becomes more and more the friend of every living thing. This is the working of God in him.

INSTINCT AND REASON

“ Animals are not guided in inferences by reasoning; neither are children; neither are the generality of mankind in their ordinary actions and conclusions. . . . Nature must have provided some other principle, of more ready and general use and application.”

DAVID HUME.

CHAPTER II

INSTINCT AND REASON

Automatic Actions—Blinking in Self-Defence—Acting “without Thinking”—The instantaneity of Instinct—A Horse’s quick Hearing—Relics of old Habit—Where Instinct passes Reason—Where Instinct fails.

IT is only because we are so familiar with actions like taking food or going to sleep, or coughing to clear our throats, &c., that we do not regard their operation as evidence of conscious intelligence; but perhaps I may be able to illustrate the exact parallelism—with a difference—between such actions which are performed by instinct, and those which are dictated by our consciousness, if I instance the conduct of a human being when threatened by an enemy.

Suppose that a man approaches you with a

manifestly hostile intent. You read his purpose in his mien, and when he aims a blow at you you avoid it by dodging. If you know little or nothing of the art of self-defence you probably spring backwards several feet or "duck." If you happen to be an expert boxer you may evade the blow by the movement of your head a few inches to one side; or, if you prefer it, you avert the blow with a dexterous guard of one hand, at the same time returning it with the other. That is the triumph of consciousness, armed by training.

But all such conscious acts of self-defence require an instant of time for their completion; and the best pugilist is he who, by persistent training, has almost learned to translate the conscious processes of his mind into flashes of instinct. What this means may be understood from our instinctive habit of defending our eyes from injury. When a man aims a blow at your head you may dodge or duck or ward the blow. This will be a conscious action. But if anything seems likely to strike your eye you blink; and to blink is instinctive and instantaneous.

It is a common game among boys to test each others' nerve by defying a companion to refrain from blinking when a pretended blow is aimed at the eye.

In such a case you know perfectly well that you will not be hit. Your reason is commanding your nerves to take no notice of the pretended blow. Yet when the fist comes suddenly toward your eye—you blink.

To shut the eyelid over the eye is an admirable protection against injury. It is so admirable that it has become instinctive and instantaneous. Your human reason cannot control it. Yet if you had been asked whether it was possible for you to take action to protect a particular part of your body against a blow which threatened it without bringing your conscious reason into play, you would surely have said No.

Besides this instinctive habit of blinking in self-defence every one must have had experience of other occasions when he acted by unconscious instinct in a way which, had time allowed, his conscious reason would not have sanctioned. How often one does a thing "with-

out thinking" and "on the spur of the moment" and is sorry for it afterwards! This is human reason coming too late into action. Other animals always act without thinking and on the spur of the moment: but they *are not sorry for it afterwards*. They are spared the conscious unhappiness which follows wrong actions.

You see a good instance of the instantaneity which especially distinguishes instinctive from conscious actions in the ordinary conduct of all other animals. When you are trying, with a camera which has a visible shutter, to photograph a small bird at close quarters you can hardly set the shutter to a speed great enough to prevent the bird hearing and seeing it in time to move its wings and so spoil the plate.

If you are sitting quietly by the fire when a mouse creeps out on the hearth and some sudden noise frightens it, you will, if you analyse your sensations at the moment, find that the flight of the mouse and your conscious hearing of the noise were simultaneous. In fact, you would be inclined to say rather that you saw the mouse bolt before you heard the noise.

In the same way if when you are feeding tame pigeons a gun is fired off somewhere near, you are almost certain that the birds crouched in readiness to fly before you heard the sound.

In the case of a horse, too, you will frequently notice that its ears are laid back before you are conscious of the sound which frightened it, and your hand instinctively tightens on the reins before your reason has told you whether there is danger or not. After this it is a contest between your human reason and the horse's unthinking instinct to flee.

Many times in India, where it was my custom to drive back to office after breakfast at exactly twelve o'clock, I had noticed that the mid-day gun which was fired near the office compound seemed to make my horse start before I heard it. So I used to try the experiment of driving up exactly to time, and when the finger of my watch was on the very second of noon I would watch the horse's ears and listen at the same time; and there seemed to me no doubt whatever that the horse took alarm before I knew that I had heard the sound.

What was even more interesting was my discovery—as it seemed—that I myself started slightly, before I knew that I had heard the sound—at the same time, in fact, that the horse laid back its ears. If this was so—for it was very difficult to make quite sure of the succession of events which collectively occupied only an instant of time—the unconscious start would be a relic of the old instinctive habit of men, as animals, to take instantaneous, unthinking action when danger threatened.

In cases where such instantaneous action has remained useful—as in the case of blinking when danger threatens the eye—human nature has retained the instinctive habit, because our conscious reason would in such cases operate too late by a fraction of an instant. Also the sudden tautening of the muscles, and the grip of the hands upon whatever you may be holding, when something makes you “start,” have been retained by human nature, because these are often more useful than otherwise.

All instinctive actions of a larger kind, however, appear to have been brought under the control of our conscious reason; because it

would manifestly be dangerous for a comparatively slow-moving animal like man to betray his presence to an enemy by moving before he had realised the situation and had made up his mind what was the best course to adopt. Depending upon his brains rather than his speed or his strength, he acquired the power of thinking before acting.

In the struggle of existence every kind of creature has acquired the unconscious, instinctive habit of suiting its conduct to circumstances. Each individual inherits this habit from its ancestors; and the actions which it performs are specially suited to the varied conditions of its life, because they have gradually been developed by the experience of ages.

It is true that, of the various lines of conduct open to us at any moment, our human reason selects that which seems the right one; but nature, in the case of other animals, has made the selection once for all by the slow process of eliminating all courses but the right one. Thus the actions of animals (which would not exist to-day if long lines of ancestors had not handed down to them the habit of doing the

right thing in any natural circumstances) often appear to us to be prompted by intelligence similar to ours, because they are similar to those which human reason would prompt us to perform in like case.

Sometimes, indeed, they compel our admiration as being much more clever and wonderful than any that human reason could have dictated.

Such, for instance, is the action of the little gall-fly which has inherited the habit of depositing some extraordinary irritant—so it is supposed—with the eggs which it lays in the tissues of plants, with the result that a wonderful and beautiful growth takes place round the maggots which emerge from the eggs, supplying them with a comfortable nursery made of solid food which lasts them through the whole of their maggot-life, and afterwards serves them as a dry shelter during their long pupa-sleep. In cases like this the instinctive actions of other animals transcend the limits of human forethought and reasoning power.

And, inasmuch as we also are animals, many of our most important actions, such as taking

food and going to sleep, are performed by instinctive habit beyond the aid of our intelligence.

There are many cases, however, in which instinctive habits fall short of human reasoning power, because nature has worked within the strict limits of the past experience of each race, and has only been able to provide animals, other than man, with a set of ready-made impulses, which do not always suit circumstances that are entirely novel.

As an instance, we may take the habit of many moths—whose outspread wings are so mottled and streaked with greys and browns as to be concealed admirably when the creature rests on the tree-trunk or rock—of “hiding” themselves for the day on black-painted palings, where they are conspicuous thirty yards off. There were no such things as black palings when the insects acquired their habit of resting with outspread wings on any perpendicular surface, and nature has not been able to teach them to discriminate.

In the same way, where some jungle in India has been fired, the grey-brown jackals will crouch in full view to “hide” upon the black-

ened ground. There were no such things as jungle fires when nature gave the jackal a grey-brown hide which conceals it so well on the dry grey-brown earth ; and therefore the beast has never learnt that he should not crouch on black ground.

Thus we see that there are some cases in which instinctive habits go far beyond human reason in the wonderful results obtained and others which fall so far short as to appear stupid to us ; but in the majority of cases, perhaps, nature's selection of the proper course of conduct coincides fairly well with the choice that we should have made ; and it is for this reason that we have hitherto always made the mistake of regarding the actions of animals as the outcome of a conscious intelligence not very dissimilar from ours.

THE REALM OF UNCONSCIOUSNESS

“Observe the steps, and continually study the history of Nature . . . for there is nothing contributes so much to greatness of mind. He that is rightly affected with this speculation has in a manner laid his body aside.”—MARCUS AURELIUS, Book 10, Paragraph 11.

CHAPTER III

THE REALM OF UNCONSCIOUSNESS

The Conception of the "Soul"—Unconscious Insects—The Growth of Habits—"Shame" in a Dog—Need of new Words—The Sensitive Plant—The Sea Anemone—The Wasp as a Parent—Lord Avebury's Ants—"Unnatural" conduct of Birds—Cannibal Mothers—Consciousness and Morality.

THAT we should have invented such a word as "soul" to describe our conscious personality, and that we should feel the need of a religion or at least of a "belief," to account for the existence of the soul, shows that our human view already passes beyond our bodies and—when the needs of this world permit—fixes itself upon the hereafter.

Other animals have no such ideas, for the same reason that they have no sense of happi-

ness and unhappiness. Their conduct is always regulated by their surroundings, in the same way as that of plants, although we, whose instinctive expressions of our emotions resemble those of other animals, find it hard to believe that creatures which seem to share our emotions do not also share our feelings.

In this connection it is interesting to follow through nature the several stages by which man has reached this remarkable pre-eminence.

Among the lowest types of animals the nervous system, which has culminated in the brain of man, is not distinguishable, and is certainly not different from that of the lowest orders of plants. There are still some creatures concerning which scientists debate whether they should be classed as animals or plants.

But for our present purpose we need not go lower than the insects—creatures which, in many ways, are as highly developed as man himself. Here we find the nervous system concentrated in knots or ganglia, situated at intervals down the body, with the result that one part of an insect has no correct knowledge of what another part may be suffering or enjoying.

A wasp may be snipped with a pair of scissors across the narrow "waist" which separates the thorax from the abdomen, and it will still go on feeding as though nothing had happened, although the syrup which it swallows merely makes a pool behind its severed trunk.

A sleeping moth upon a tree-trunk may be dexterously transfixed by an entomologist with a pin, so that it does not even awake.

I have seen a large moth which had been trodden upon on the pavement so that the upper part was crushed flat and had dried to a mere scale on the stone, but its tail continued busily to lay eggs.

The reason of these things, which could be multiplied indefinitely, is that there is no effective connection between the separate knots of nerves in insects; and, of course, it follows that there can be no sense of personal individuality in creatures whose several parts are thus separately sensitive.

Yet the actions of the bee and the wasp and the ant are constantly quoted as giving evidence of an intelligence almost equal to our own, and Lord Avebury says that the reason of ants

differs only in degree and not in kind from ours.

Thus we are naturally tempted in our admiration of the insect's "cleverness" to lift them almost up to the human level: whereas what we ought to do is to recognise that most of our own emotions and clever actions are as automatic in themselves as those of these animals, and that it is only our human consciousness which invests them in our own case with a halo of dignity.

Look at a bird's feather, a fish's scale, or a mammal's hair under the microscope. Each is an object of wonderfully beautiful elaboration in its minute adaptation to the needs and interests of the creature that wore it; yet each has the same simple utilitarian origin, modified by the slow process of evolution. Cast the searchlight of your mind in the same way upon the most complicated and wonderful actions performed by insects, fish, reptiles, birds, beasts, or (in most cases) man; and you discover the same evidence of simple utilitarian origin, modified by evolution.

It is difficult, however, to realise that habits

of mind are as directly the result of natural evolution as are the features of the body.

Many of us, for instance, are apt to think that because a dog seems to exhibit symptoms of shame, gladness, remorse, gratitude, &c., similar to those shown by human beings, this proves that a dog has the same consciousness of these emotions as we have. But it does not really prove this. It merely proves that we have inherited habits of action similar to those of other animals.

Take the case of a dog exhibiting what looks like shame, because in one way or another it has been made to appear ridiculous or unworthy. This simply means that the dog—being a gregarious animal by nature, descended from ancestors who maintained their position in the pack by their prestige—automatically adopts the best course to avoid more trouble when he has been humbled. He skulks out of sight or, in the open, wears a hangdog air, and so avoids getting into quarrels until he is himself again. It is merely an elaboration of the instinct of the weak to keep in the background; and is no more a proof of consciousness than is

the microscopical elaboration of each of the hairs upon his body. Both are wonderful adaptations in their several ways to the animal's needs ; but neither is necessarily appreciated at its proper value by the animal, which performs its actions, as it grows its fur, by inherited tendency.

My chief difficulty in making my argument clear as I go along is that the principle which I am trying to explain is so new that no ready-made words exist for its proper expression. Never before has a distinction been drawn in common words between the human and the animal sense of "pain": because we have not realised that there was any difference. The unhappiness which we suffer on account of pain seems so inseparably connected with the pain itself that it has not occurred to us to invent a word to describe the natural bodily protest of a living organism against injury, as something different from the human sense of conscious suffering. And, as all of us unconsciously think in words, it is very hard for me to convey the idea to the minds of others.

That there has always, however, been need

for a word to express the idea is shown by the existence of living things like the well-known Sensitive Plant, which closes all its leaflets tightly together if you merely touch it.

What word is there to express the feeling which prompts the Sensitive Plant thus to resent interference? We cannot credit it with our human sense of resentment and apprehension, because it is merely a plant. Yet its action is so suggestive of feeling similar to ours, that we often use the Sensitive Plant as a simile for some gentle human being with nerves so highly-strung that the slightest touch causes mental agony. Since we have no word to express the difference between the sensitiveness of the Sensitive Plant and the sensitiveness of a human being, I have tried to mark the difference by calling one kind of sensitiveness "unconscious" and the other "conscious."

When I talk—as above—about the feelings of a plant, all are probably willing to concede that there is a manifest difference here, and that "unconscious sensitiveness" may be allowed to describe the feelings of a vegetable that moves when touched. But where will you draw the

line between the animal and the vegetable? Men of science cannot draw it with certainty; and it is significant that the lowest animal-plants or plant-animals have freer power of movement than all higher plants and than many higher animals.

There is no doubt again, about the status of the sea-anemone as an animal; yet it has no better means of protesting against interference than has the Sensitive Plant, for it simply closes up when touched. At the same time it can to a slight extent sting like a nettle, and captures its food in exactly the same way as the sundew plant which is common on English marshes. For the sundew is a small plant with a flat rosette of little red leaves. Each leaf bristles with sticky tentacles, and so soon as an unlucky fly, tempted by the odour of the sticky fluid, alights upon the leaf, all the tentacles close in upon him and the leaf remains closed upon his corpse, until the last particle of juice has been sucked from his tissues. I have often seen sundews in flower-pots that were regularly fed on flies, and what more can the sea-anemone do than this?

As evidence, moreover, that the sea-anemone, although undoubtedly an animal, cannot possess any human consciousness of individuality in suffering, I will quote an experience.

In an aquarium many years ago I had a number of vigorous sea-anemones, and was often astonished by the impartiality with which each of them swallowed any objects—edible or inedible—which were placed within the ring of tentacles surrounding the mouth. One day I gave a halfpenny to one large anemone, “to see what it would do with it”; and the creature’s mouth stretched and stretched, until the coin was slowly engulfed. But the diameter of the halfpenny was considerably larger than that of the anemone’s trunk, and, as this did not appear to have the same stretching power as the mouth, I was rather concerned to see that the tension caused the edge of the coin to cut through the tissues, until the anemone was divided in half—the upper still spread out like a flower, and the lower half sandwiched between the halfpenny and the stone on which the “sea flower” had been standing. The creature was, however, fully prepared for accidents like this,

for it quietly began to disengage itself from the stone, and, to my astonishment, the end which had been the base of the stalk threw out tentacles similar to those at the other end, until the halfpenny was decorated with a flourishing sea-anemone on each side of it!

Now, although this was an animal which was extremely sensitive to a touch, how can we credit it with any sense of individuality in suffering, when it quietly allows itself to be cut in half and each half becomes a complete individual, as "sensitive" to a touch as the whole was previously?

The explanation is, of course, that the sea-anemone, like the Sensitive Plant—the animal, like the plant—has acquired the power of responding to a touch for purposes which are useful in the struggle for existence. It is a matter, so to speak, of nerves and muscles, with no conscious brain to direct them, always doing the right thing upon occasion. Such actions are what I call "instinctive": and although the proceedings of animals higher in the scale of life become more varied and complex, they are instinctive too. Man is no

exception, so far as most of the things that he does are concerned. How many of us know that on entering a room we turn the handle of our door one way, and on leaving turn it the other way, in spite of the fact that most modern door-handles will work either way? We do so from habit automatically and unconsciously; yet how amazingly clever we should think a dog or a cat to be if it knew how to open an old-fashioned door from both sides by reversing the action of its paws!

But some actions habitually performed by animals, especially by the higher orders of insects, would seem to be more intelligent than this, did we not now and then get an insight into their purely automatic character.

There is a solitary wasp, for instance, the fertile female of which excavates a gallery leading to a chamber in a sand-bank; in the chamber she lays an egg, and thereafter keeps the maggot which has emerged from the egg supplied with fresh food. Throughout her proceedings there is every evidence of tense maternal solicitude and remarkable intelligence.

But that the whole business is automatic is

shown by the fact that the wasp does not know her own maggot-child by sight or scent, nor cares whether the nursery be empty.

If, during her absence, you extract the child, and lay it, naked and hungry, at the entrance to the gallery, the bustling mother hurries past it, pops down the food, and departs, after carefully concealing the entrance—with her baby lying outside the door!

Instances like this show that the marvellous maternal instinct in nature—which we human beings have acquired the power of admiring and valuing for its moral beauty and importance to us—is really an automatic process of nature, acquired and exhibited in different ways by most higher creatures in the struggle for existence. We see the beauty and the use and the joy of it; other creatures perform its function by rote, glibly repeating, without understanding, the lesson which their ancestors laboriously learned in the long experience of ages. We repeat it by rote also, but we see and enjoy its beauty.

Many modern writers of repute—repute justly earned by their learning and their literary style

—have done some harm to the cause of true knowledge by the omission to draw this line of distinction between the automatic instincts of other animals and the conscious understanding of man.

Lord Avebury (better known, perhaps, as Sir John Lubbock), who is a splendid authority upon the habits of ants, &c., persists in treating those habits as if they were the habits of human beings, with the result that he leads his readers to a standpoint from which they get a wholly incorrect view of nature at large.

Take, for instance, his account of the ants which, he says, collect the eggs of the aphides, or plant-lice, which supply them with sugar food, in the autumn, cherish them safely underground during the perilous time of winter, and in spring replace the young aphides which emerge from them upon their proper food plants, and thus secure for themselves a plentiful supply of sugar-food during the following summer. In these proceedings Lord Avebury sees forethought and reasoning power of a high order, placing the intelligence of ants on the same plane as that of man.

Now for the interesting facts in this life-history of the ants we are all greatly indebted to patient investigators who take the pains to observe and chronicle them. The pity is that, in the enthusiasm of their scientific hobby, they persist in weaving the facts into a futile parallel between the supposed intelligence or reasoning power of other animals and that of man. That no comparison of the kind is legitimate or possible may be seen from the following simple facts.

The ants in question are creatures of the year; therefore they can have no knowledge that autumn will be followed by winter, or that the aphid eggs will need protection in winter. Therefore their action cannot be guided by forethought.

Throughout the summer, again, the aphides have reproduced their kind by the simple process of "budding," active young aphides being protruded by their virgin-mothers. It is only through the labours of patient investigators like Lord Avebury that we know how the aphides tide over the winter—the last brood producing both males and females which are

winged and seek each other's company, the females subsequently laying eggs which will hatch in the following spring. But the ants have no books to tell them about these wonders, and therefore they can have no idea that the aphid eggs of autumn will produce young aphides in spring. Therefore there can be no intelligence in their care of the eggs.

Nor can they have any knowledge that the young aphides will require special food-plants. We know it, because the books tell us all about it; but the ants can have no knowledge that a particular kind of aphid must suck the juices of particular kinds of plants in order to produce sugar. It is absurd, therefore, and very misleading, to talk of forethought and reasoning power in the actions of the ants, since these are guided by facts of which the ants can have no knowledge whatever.

It is possible—perhaps it is probable—that the ants can recognise the eggs of the aphides by scent, and that being accustomed to visit an aphid-colony for sugar and finding, one autumn morning, that the aphides are producing eggs instead of sugar, they may have acquired the

habit of carrying off the eggs. It is possible, too, that some connection of ideas may have given them the impulse to restore the young aphides to the plants on which they were accustomed to find those insects producing sugar. Granted the possibility of these two suggestions, we may have a correct and scientific explanation of the origin of the very remarkable habits of the ants; but to ascribe these to forethought and reasoning power is mischievous, as representing insects on the human plane, to which, for want of knowledge, they have no chance to rise.

I have now shown, by instancing the behaviour of the Sensitive Plant, that living things do not necessarily "feel" when their actions suggest that they do. Next I instanced the sea-anemone, which, although it is an animal, merely closes up when touched, like the Sensitive Plant, while it catches its food like the Sundew plant, stings like the Nettle plant, and, when divided in half, becomes two separate individuals as do many plants in like case. The consequent presumption is that it has no more conscious "feeling" than a plant.

I then took the argument higher up the scale of animal life, and showed, by describing the behaviour of a female solitary wasp, that actions of insects which appear to us to be dictated by the same sort of maternal affection as a woman feels must be performed by mere instinctive habit only, because the creature cares nothing at all about her child, if you take it out of the nursery and leave it in its mother's way.

I have also shown that it is a mistake to give insects credit for forethought and reasoning powers merely because such "clever" insects as ants take care of aphid-eggs, seeing that the ants cannot have any idea why they do so.

And now, to take a few instances which show that birds and even mammals lack also the emotions and affections with which we ordinarily credit them.

Nothing could appear more touching and beautiful than the parental care of birds for their young. They are constantly quoted in literature as examples for us to imitate in this respect; and it is impossible for us not to admire daily the intense devotion which one

witnesses, say, in the case of a pair of robins rearing their young in full view of one of our windows.

But it is only by realising that the conduct of the robins towards their young is merely an inherited habit which they have acquired because it is good for the race in the struggle for existence—and that it is not based upon emotion and affection such as we “feel”—that we understand without difficulty the amazing sequel, when the parents mercilessly drive their children away to face the troubles of the coming winter as best they can, and then fight fiercely with each other.

The meaning of this is, of course, that it is not good for the robins to overcrowd a neighbourhood in winter. Each one will require all the space of hunting-ground that it can keep for itself. So the parents, whose devotion to their young was so beautiful at first—because it was good for the race that the young should be reared—now engage in cruel conflict with them and with each other, because it is good for the race that each robin should be sole owner of a hunting-ground in winter.

From nature's point of view the fierce combats between parents and children are just as touching and beautiful as their previous relations appeared to be; it is only from the human point of view (because man is a gregarious animal, thriving best by the co-operation of numbers of his kind in summer and winter alike) that the family fights appear "unnatural." We do not understand how, after tenderly cherishing children, it is possible to wish to kill them soon after, if we can, as a matter of course. Get rid, however, of the idea that other animals have human "feelings," and nothing in nature seems unnatural, nor offers any stumbling-block to religion properly understood.

By the dry light thus thrown on nature at large we easily comprehend—to take another instance—the strange perversion (as it otherwise would seem to us) of parental instinct which impels birds upon whom a cuckoo has foisted an egg to show no concern whatever for their own children when these lie, naked and dying, below the nest from which the infant usurper has ejected them.

It would not be good for the race of any kind of small birds if they bestowed attention upon any of their newly-hatched young that chanced to fall out of the nest. The chance of rearing the unfortunate youngster would be exceedingly remote; and if one of the parents should undertake the task of covering it at night both would probably fall victims to prowling vermin. So nature has made a rule that when a newly-hatched bird falls out of its nest—a very rare occurrence, perhaps, unless a young cuckoo aids its exit—no attention shall be wasted upon it.

Thus I have taken the question whether animals other than man can have human feelings and emotions upwards from the Sensitive Plant, the sea-anemone, the wasp, and the ant to the bird, finding the answer “No” in every case, and will conclude for the present with an instance among the mammals.

These, as being almost identical with ourselves in general structure and habits, naturally resemble us more closely in conduct: but what civilised human mother can contemplate without revulsion the idea that, simply because some

more powerful creature had looked into her nursery, and perhaps touched her children, but without hurting them, she should forthwith set to work and devour them? If this habit were characteristic of beasts of prey we might regard it as less "unnatural"; but the inoffensive, vegetable-eating rabbit will thus make a horrid meal of her own children and exhibit no unhappiness—or discomfort of any kind—afterwards.

Perhaps, however, it obscures the problem thus to emphasise the case of the rabbit, because the hedgehog, which, although nominally an insect-eater, is as bloodthirsty a little beast of prey in a covert or fowl-run as the worst of poaching cats, will eat its own young as readily as any rodent, and the reason for the habit, is, I think, in neither case hard to discover. The hedgehog and the rabbit are animals which are liable to be eaten themselves by beasts of prey. In the state of nature a nursery of such animals visited by a beast of prey is doomed, and the mother with it, if she remains in occupation.

So it would seem that the problem which nature had to solve was how to make the best

of a very bad job, when a nursery had been invaded. And apparently nature has settled it, in the best interest of rabbit and hedgehog, by teaching these creatures to forestall the returning beast of prey and devour what was left of the family, thus setting themselves free from the dangerous neighbourhood and at the same time—not to put too fine a point upon it—getting a nourishing meal.

But the worst of the matter is that there are actually said to be, in the Solomon Islands, human beings of so low a type that they also practise the same terrible habit in similar circumstances. The reason for this is, of course, that these cannibals, dwelling isolated for ages under the stress of a natural struggle for existence, have not yet succeeded in raising their unwritten code of ethics above the animal level in this and other particulars. They have not acquired our civilised sense of the beauty of maternal love and the sanctity of human life because nature has been against them ; and it is not possible that they can enjoy happiness in motherhood when they feel no unhappiness after thus destroying their infants.

Where, owing to his environment, man is still compelled to live in some respects the life of an animal, there he blindly follows in those respects all his animal instincts for the good of the race, and enjoys neither happiness nor unhappiness in so doing. What he does by instinct he does as a matter of course, seeing in it neither wrong nor right.

It is horrid, of course, from the civilised human point of view, but a great deal of animal nature is that. What we have to recognise is that in addition to all the instinctive habits which we have inherited as animals, we have, in proportion to our opportunities as human beings, acquired the unique power of conscious thought whereby we discriminate between good and evil and feel happiness and unhappiness.

ACTIONS OF ANIMALS EXPLAINED

“Pity is not natural to man. Children are always cruel. Savages are always cruel. Pity is acquired and improved by the cultivation of reason.”—DR. JOHNSON.

CHAPTER IV

ACTIONS OF ANIMALS EXPLAINED

Utilitarian Origin of all Emotions—The “Feelings” of Dogs—Animals have Memory—Nine typical Objections—Actions of the Horse—The chased Hare—The Dog again—Birds and their Young—Hunted Creatures—The Worm and the Hook—Cattle and the Slaughterhouse—The Horse’s Limitations—Contrast between Dog and Cat—Animal Insensibility.

ALL the means by which natural emotions, including those of man, are spontaneously expressed have their utilitarian origin.

All our expressions of grief are natural to gregarious animals seeking help in trouble; all our expressions of happiness are those of gregarious animals seeking to make conditions which are pleasant to us, pleasant to those around us, thus ensuring the continuance of that which is good. Frowns, tears, smiles,

caresses are all utilitarian in origin ; and, if we could remove human consciousness from the earth, the world of animals would contain no more happiness or unhappiness than the world of plants.

What we have to realise is that this human consciousness, which makes all the difference, exists only in man ; and that, except from the human point of view, there is no happiness or unhappiness in the world.

In following this line of thought for the first time we find it difficult to understand how, if other animals are not "conscious," they can perform certain actions and exhibit certain emotions.

How, for instance, can a dog, if he is not conscious of pain, ever afterwards exhibit fear of the whip that was used to chastise him ? How can a dog who is not conscious of sorrow mope and refuse to eat for days merely because he is separated from his master or mistress ? How can a dog, unless he is conscious of wrongdoing, behave so shamefacedly on coming into his owner's presence, even before his offence has been discovered ?

Now, I hope that all readers in whose minds objections have arisen similar in purport, if not in detail, to the above will recognise that the selection which I have made fairly covers the ground and that any explanation which satisfies these will satisfy all.

For all amount to no more than the suggestion in varying forms that other animals must possess consciousness, since they manifestly exhibit connections of ideas and memory, giving rise to symptoms which, if exhibited by human beings, would be associated with conscious fear, sorrow, shame, &c. But, except in the human mind (which is controlled in almost every detail by consciousness), there is no necessary connection between any mental gift or emotion and the conscious knowledge of it.

Every injury to the body of an animal leaves its imprint on the nerve-centre, and in the case of so severe an experience as a whipping is to a dog the imprint lasts so clearly that ever afterwards the sight of the whip completes an automatic nervous connection which brings the animal's natural instinct to avoid injury to his body into full activity.

What we regard as his "expressions" of fear—the dropped ears and tail, the crouching attitude, the backward glance—are all the natural actions of an animal preparing to evade or dissuade attack. Because, in like circumstances, we might know that we should be suffering from the consciousness of fear affords no reason for crediting the dog with similar knowledge. If any kind of animal in a wild state did not always instinctively prepare to evade the repetition of an injurious experience it would become extinct; and what we regard as painful signs of fear in our domesticated animals are only facsimiles of the instinctive means whereby their wild ancestors survived in the struggle for existence by evading unequal combat.

A dog's exhibition of distress when separated from its master and mistress is, again, only the working of the strong instinct of the gregarious, hunting animal, needing the primary factor of his life, namely, a leader to follow. Animals which hunt in packs, like the wild dogs, have been able to survive in the struggle for existence simply because instinct always taught them in no circumstances to become separated from the

leader of the pack. They might change leaders, as a domesticated dog may change owners; but, unless its instinct has somehow been perverted, a leaderless wild dog or an ownerless tame dog ought not to know a moment of rest until the great gap in its life has been filled.

Again, all those signs of shamefaced self-consciousness—as we interpret them in the case of a dog who has committed an offence—are habitually shown by all dogs, wild, half-wild, or tame, when they come into the presence of a more powerful animal of whose temper they have reason to be doubtful. You may witness the whole performance any day in the meeting of a small dog and a big dog in the street. Whether the signs are used in a cringing advance or a shrinking withdrawal, they are exactly the same instinctive motions as express fear of a known enemy, and have all served their useful purpose in the evolution of the race by dissuading the more powerful animal from attack. This is also their meaning when a domesticated dog enters the presence of a master whom it has disobeyed.

To deny memory to the brains of the higher

animals would be to make their evolution impossible; since their success in the complicated life which follows upon their complex structure depends many times in the life of each individual upon the instinctive power to adapt conduct to circumstance. The range of adaptation is limited; but it has sufficed for their needs so far, and its chief agent is memory.

Nor ought we to think it surprising that the imprint of any previous experience upon an animal's brain should cause it to repeat the conduct appropriate to such experience, when we ourselves manufacture inanimate machines like gramophones, which, when the proper "records" are given to them, will repeat the whole of a pathetic recitation or a comic song. Our ancestors would certainly have denied that such things could be done without "consciousness."

Yet at first we must all find it hard to believe that the higher animals are unconscious of suffering, since they exhibit all the apparent symptoms, not only of pain at the time, but also of manifest dread of its recurrence.

Such questions as these are often put to me:

“Why does a horse go lame, and, when it has a gall, shudder all over at the approach of the harness? Why does a chased hare turn almost black from fear? Why does a dog lick itself if stung or hurt, and exhibit terror afterwards when it hears a bluebottle buzz? Why does a bird often die when robbed of its young? Why that look of terror in a chased creature’s eye? Why does a worm wriggle when being threaded on a hook? Why that intense fear depicted in cattle and sheep when being driven to the slaughterhouse, and endless other instances?”

These nine questions may be taken as a fair sample of the phenomena which may be quoted by many readers as obstacles to acceptance of the belief that animals, other than man, are unconscious of “suffering”; and in answering them one by one I may be able to show how deceptive to the human point of view such appearances may be.

With regard to the first question: a horse goes lame because it inherits the useful and natural instinct to tread as lightly as possible with an injured limb—the nerves telegraphing the fact of injury to the brain—and to throw

as much of its weight as possible upon the sound ones. Thus its gait becomes unequal, but the injured limb has comparative rest and a chance of recovery. In human lameness this is also the *meaning* of the limp. That *we* are conscious at the same time of feeling pain has nothing to do with it, although it really seems to us that it is the consciousness of pain which *makes* us limp.

With regard to the second question the wincing of a galled horse at the touch, or the approach, of the harness which has galled it, is merely the play of another useful instinct which all animals have inherited from their ancestors to avoid the aggravation of an existing wound, although harness and galls caused thereby were, of course, unknown in the ages when the instinct was acquired.

Insects were doubtless then the chief agents which by persistent attacks upon a tender spot caused troublesome superficial wounds; and it is interesting to observe that to meet this danger the ancestors of the horse acquired a special instinctive habit, that of making their skins shiver when an attack was felt or appre-

hended, thus shaking or warding off the insects. You may see them do this several times a minute in the summer.

In reply to the third question I do not think that chased hares—although they may be fatally exhausted—ever turn black through fear. On the contrary, I have often been astonished at the inconsequent way in which they will begin to nibble herbage even while listening to hear if the danger is past. This is explained by the fact that very narrow escapes from danger constitute a large part of the ordinary lives of all animals which are preyed upon by others.

In any wild country you can seldom walk a mile without seeing more than one bird of prey. It may take you twenty minutes to walk that mile. Therefore in the twelve hours of daylight all the eatable creatures in every mile of country must be scared more—probably many more—than thirty-six times by birds of prey. In addition, there are reptiles and beasts of prey always on the prowl by day and night. Which of us, in such circumstances, would think life worth living?

Luckily for the other creatures they do not

think about it; and to them a danger past is an incident done with, except in so far as they grow cunning by experience.

The fourth question, why a dog licks itself, if stung or hurt, is answered simply by the fact that it has inherited instinct to do so, based upon the curative effect of its cleansing saliva, although it knows nothing of this. Its nerves inform its brain of the injury and its brain automatically directs its muscles to the proper line of conduct. This is the means by which all animal actions are performed, and no argument as to consciousness or reason can be based upon them.

Again the reason why—in answer to the fifth question—a dog which has once been stung by a wasp may exhibit symptoms of fear when it merely hears the buzzing of a bluebottle, is simply that all animals have inherited the useful and natural instinct to avoid that which has been found to be injurious. Without this instinct no race of creatures could continue to exist; but there is no need to suppose that the creatures are conscious of their reason for avoiding that which has been found to be

injurious. To seek what suits them and to reject what does not, is the fundamental principle of life among plants as well as animals; and there is no ground for assuming that an animal has consciousness because, when it has been stung by a wasp, its brain retains a record of antipathy against all buzzing insects.

The sixth question—why a bird often dies when robbed of its young—does not need answering; because our common experience teaches that birds do not die from that cause.

Indeed, the indifference of birds to the loss of their young, their eggs, or their mates, would be amazing if we could not see how useful this habit of indifference must be to the race. Supposing that only a single pair of ravens or eagles are known to breed in a large tract of wild country, and one of the pair is shot; the survivor will return in a very few days with a new mate, though where the third bird comes from is always a mystery.

When a pair of woodpigeons are robbed of their unfledged squabs, they only go to nest again the sooner.

From the natural point of view we can see

the beauty of this indifference to domestic bereavement. It is good for the race that when the first effort of reproduction has failed, a second should be made without delay. From the human point of view, on the other hand, such conduct seems callous and wrong; and we are readier to believe that birds mope and die when they lose their young, because it harmonises with our false ideals of nature.

“Why that look of terror in a chased creature’s eye?” is the seventh question; and this is based on the mistaken idea that the eye expresses emotions. The eye does not change; and the emotions which we connect with it—the wide eyelids of terror, the brow-darkened eye of anger, the narrowed eye of merriment, and so on—are all expressed by the play of the facial muscles, which have each their utilitarian meaning and origin. So, if a hunted creature shows the whites of its eyes as it flees, this merely means that instinct teaches it to look backwards as much as possible without checking its flight.

Because we should be conscious of terror in like case is no reason for presuming that

animals, which spend their lives in alternate spells of panic and quiet grazing, are similarly conscious of knowing that they suffer the pangs of fear. Experiences that might wreck a human being's nerves for the rest of his life are matters of everyday occurrence to wild things.

“Why does a worm wriggle when being threaded on a hook?” For the same reason, of course, that it wriggles with equal violence when it is held so gently as not to injure it at all, but merely to restrain it. It has the instinct of self-preservation, implanted in it for the good of the race; and a race of worms which did not wriggle with all their might when held in restraint or injured would soon become extinct.

The ninth and last question presupposes an uncanny amount of intelligence on the part of cattle and sheep, because it implies that, when they are being driven to the slaughter-house, they know what is in store for them. Of course they do not; and on Blackfriars Bridge, in London, I have often seen large flocks of sheep being driven to the slaughter-house. There is

certainly no sign of prophetic fear on their part. On the contrary, the contented ease with which they allow themselves to be shepherded out of the way of omnibuses is only surpassed in interest by the keenness with which they adapt themselves to their new surroundings and hunt along the gutters, when they have the chance, for banana-skins or anything else which might be eatable.

Cattle, I admit, have almost always a scared look when they are being driven through the streets, but what can you expect from creatures whose lives are entirely guided by the instinct of self-preservation for the good of the race—though they do not know it—when they are suddenly transported from quiet pastures, where they have been accustomed to see nothing more alarming than skylarks and hares, to streets roaring with traffic and crowded with men hurrying on all sides?

With wide eyes gazing in every direction and wide nostrils sniffing up a score of strange and mysterious scents, they are obeying their natural, overruling instinct to save their lives if they can. But above the roar of the traffic

comes the drover's familiar shout of command, and the great beasts lumber on. It has always been good for them, if they would avoid thwacks, to obey the drover's voice; so they obey it still, automatically.

I have taken these nine questions one by one, as a fair sample of the obstacles which those who have not investigated this subject from a scientific point of view, encounter when they try to realise that there may be a wide gulf between the emotions of men and those of other animals.

We have been so accustomed by mental habits ingrained in the race, in the days before the great truth of evolution was discovered, to interpret nature from the human point of view, that we find great difficulty in adjusting our mental vision to the new perspective which scientific accuracy demands.

It is especially in connection with the behaviour of favourite horses, dogs, and cats that we find it difficult to realise that they act unconsciously. Yet every creature has the natural instinct to do the best that it can for itself, and therefore it is natural that horse,

dog, or cat should repay us for the supply of food and for other acts of kindness by evident liking for our company and for our caresses. This is the ordinary limit to the friendly relations subsisting between horses, dogs, or cats and their human owners; and there is nothing whatever in it which cannot at once be understood as the working of an animal's natural instinct to do the best for itself, because this habit has worked down through its ancestors for the good of the race. The animal is, of course, quite unconscious of the meaning of its conduct. With all our learning we, human beings, could not understand it until Darwin unlocked the door of knowledge of evolution.

But although the affection of domestic animals for man may ordinarily be limited as above, all readers who are really fond of horses, dogs, or cats know that sometimes it seems to go much further. They see nobility of character in the horse which, though a timid animal by nature, will brave any peril in its master's service. They see even greater nobility in the character of the dog, which, in spite of ill-usage often, will follow its owner faithfully to the

end, even refusing perhaps to leave his grave. In the cat, too, they see pathetic devotion when it returns over long distances, footsore, weary, and hungry, to its old home.

Yet it is only because we insist upon looking at the actions of animals from the human point of view that such conduct appears to transcend the limits of mere animal instincts. Scientifically regarded, it furnishes us instead with evidence of instinct's limitations.

Take the case of the horse, for instance. As a gregarious animal, whose ancestors lived for ages in herds accustomed to act in unison upon a warning given, the dominant instinct of the horse is to obey its leader blindly and unquestioningly. By domestication and training the horse is taught to transfer this allegiance to man, whose guidance it will follow into the roar of battle as unhesitatingly as its wild ancestor would have followed its leader over a precipice.

Sometimes, indeed, when a number of horses are together, the old wild instinct to obey the leadership of their own kind will reassert itself in a disastrous stampede, when in a moment

all their acquired obedience to man is thrown to the winds, and even the well-trained mounts of a whole cavalry corps will rush headlong through the crowded camp, injuring themselves and everything that they encounter, just in the old way when the beat of flying hoofs told their ancestors that helter-skelter, follow-my-leader flight over the open plain was the only way to escape from the pursuing wolves.

In this respect the dog is a more reliable "friend of man," because his natural instincts are, like ours, those of a hunting animal, involving much more complex obedience and assistance to the leaders of the pack.

And this throws a very interesting light upon the otherwise inexplicable phase of canine devotion to a bad master. Every one must have had occasion to notice that a dog is often peculiarly devoted to a owner who ill-uses it. Dickens has illustrated this well in the relations between Bill Sikes and his cur.

The reason of it is, of course, that the leader of the pack of the dog's wild ancestors only kept his place by his readiness and ability to fall upon any other member of the pack who

incurred his slightest displeasure. The more tyrannical his conduct, the more fawning became the submission of the rest. You may see this process at work for the good of the race—because thus the strongest and most cruel become the type of the hunting animal—among the packs of pariah dogs in India.

By the light of the foregoing we understand, too, the third curious phenomenon of domestication referred to above, namely the contrast between the devotion of a dog to its master and that of a cat to the place where it lives. If a man, owning both a dog and a cat, were to remove from his home to another house, say, half a mile away, taking only the cat with him, and if both animals were let loose at the same time, it is more than likely that they would actually pass each other on the road, the dog going to rejoin its old master and the cat returning to its old home.

The reason of this is that, while the dog is descended from a roving, gregarious animal, and has transferred to its human owner the allegiance which its ancestors always gave to their leader, the cat is descended from a wild

animal of solitary habits, which depended for safety upon the possession of a lair to which it could always retire to rest for the day.

In a state of nature the central fact of a wild dog's roving life was a leader to follow, that of a wild cat's existence a safe den to retire to; and to-day the dog will follow its human leader wherever he goes, but the cat will return to its home. If we try to read conscious human emotions into their conduct, we cannot explain the contradiction; but regarding it as the automatic result of inherited instinct, it appears perfectly natural. This is only a passing illustration, but it will serve to show how much knowledge of nature lies open to us if we can only persuade ourselves to view the phenomena of nature from the natural—*i.e.*, not the civilised human—point of view.

And, viewing the conduct of the higher animals, the least observant of us must often be forced to conclude that they have no sensibility at all.

A terrier will tear himself repeatedly among thorns in pursuit of a rabbit, and still be keen to enter them.

If his back itches he will rub it into a sore, and continue to rub the sore whenever he has nothing else to think of, until he has caused a wound that makes one shudder to look at. Yet he goes on rubbing the bleeding flesh all the same. Evidently the instinct which should impel him not to aggravate the wound is altogether obliterated by the instinct which impels him to ease an itching spot by rubbing.

I have seen a monkey who, through sheer ennui, ate his tail inch by inch; and I have stood before his cage watching him nibble at its bleeding stump, until I felt quite certain that in the satisfaction of his instinct to be always busy his instinctive aversion to injury—which a human mind would translate into terms of “pain”—was at rest. Nor was this in any way a case of deranged intellect on the part of an individual monkey; because it is well known to practical naturalists that there are certain kinds of monkeys—especially those known as “Jews” and “bonnets”—which are not worth the trouble of keeping, simply because they *will* nibble their own tails.

I could multiply instances; but my point is

merely to show that whereas it is only in exciting moments that man ceases to be conscious of mental pain, and is thus thrown down for the instant to the level which other animals always occupy, they instinctively resent injury to their bodies as much as we do, and express their instinct in very similar fashion, yet almost any other instinct seems strong enough to make them neglect the injury—as when a monkey, or a dog, or a dormouse, or a parrot, will lacerate its own live flesh for want of something better to do.

SOME POPULAR ERRORS

“Nature and truth are one, and immutable and inseparable
as beauty and love.”—MRS. JAMIESON.

CHAPTER V

SOME POPULAR ERRORS

Fairy Stories—Small Birds and the Cuckoo—"God's Cock and Hen"—Naturalist Storytellers—Dog and Boy—Cleverness of Dogs—"The Cad" and "the Jester"—"Tears of Anguish"—Prescient Cattle—The Working of old Instinct—Misleading "Science"—Brushing Cows—Horse and Burning Stable—Moaning of Dog—Intelligence of a Cock—A Dog's "Remorse"—Hooked Fish.

THE most fruitful source of the difficulty which we all encounter in trying to take a right view of animal life is perhaps the nursery fairy story. I do not refer so much to avowed fairy stories like "Puss in Boots"—which illustrates, by the way, how a cat by cunning thefts and shameless lying won a fortune and "happiness ever after" for its master!—or Little Red Riding Hood—the moral

of which appears to be that your grandmother may be eaten by a wolf and welcome so long as you escape yourself—as to the stories full of worked-up sentiment about robins and other familiar birds, written with the good intention, no doubt, of making children kind and sympathetic towards wild life, but at the same time starting them in life with the totally wrong impression that small birds and other animals act and think and talk to each other like human beings.

Such notions, acquired in the nursery, remain at the back of one's mind all the rest of one's life: and it is only by a resolute effort of reason that one can force one's self to see nothing "unnatural" in the conduct of a small bird which takes no notice of its own children, sprawling and starving slowly by the side of its nest, while it stuffs the solitary young cuckoo who threw them out.

To us this seems "unnatural," because it is contrary to our nature—we being well able to succour our infants when they get into trouble—but if we recognise the truth that the birds have not human sentiments, this abandonment

of their young dovetails admirably into the scheme of nature. Yet, so far as it concerns the young small birds thrown out by young cuckoos, it is one of "nature's mistakes." As with the grey moths which "hide" on black palings, nature has not yet been able to teach the small birds to discriminate. The parasitic habits of the cuckoo are too new for instinctive habits of defence to have been acquired yet by its victims.

The day may yet come when small birds, on finding a struggle going on in their nest, will throw out the aggressor and so save their own young. But there is no sign of the fortunate beginning of such a habit yet, although it is evident from the partly formed habit of the cuckoo to lay eggs resembling those of small birds, that the latter are beginning to defend themselves a little; for the cuckoo would not have acquired this peculiar power if the small birds accepted the strange egg always without question. Once the egg is hatched, however, they can still only act upon nature's general principle that it is a waste of time and labour, which might be used in the interest of the race,

to attempt to succour a newly-hatched bird which has fallen out of the nest.

Thus nature seems to us to be at war with "herself"—taking advantage in the cuckoo of "her" own defective rule in the matter of the small birds' parental instincts—and it is a fruitful source of error in our views of the world around us that we will persist in thus regarding "nature" as a sort of personage—an uncanonical Providence—who arranges things at large for the good of the greatest number. What we should realise is that nature is different and separate in every living thing. A creature may become extinct because its nature is not up-to-date; and in the matter of the cuckoo and the small birds it is quite possible that in the long run the small birds will win and the cuckoo will become extinct, though perhaps some of its more gullible victims will become extinct first.

To return, however, to the animal fairy story; most of our popular traditions about wild life are really of this class. The other day I was taken to task by an old lady for informing a correspondent that the wren is not the female

robin. The old lady had been taught at school that the wren was the female robin, and she had loved the birds all her life under that impression. No doubt the old saying, "The robin and the wren are God's cock and hen," coupled with the fact that young robins are mottled and brownish, like wrens, was at the bottom of the error; but you cannot expect people to take a scientific view of nature, when their minds are biassed by the well-intentioned nonsense of the nursery.

And the worst of it is that the fairy story about animals—endowing them with a complete set of human emotions and touching language to express them in—has become exceedingly popular of late. It pays better than any other kind of nature-writing; because parents, having delightful recollections of the pleasure which they derived in nursery days from stories of Cock Robin and Jenny Wren, and so on, are never tired of buying such gift-books for the young.

In America the state of things is worse. There a whole school of "Nature-study" advocates has arisen, mainly encouraged by certain

books of fairy stories about animals, whose aims and ideals are not only *unscientific*, but deliberately *anti-scientific*. Although the plain, unvarnished facts of nature, truly told in simple language, can be made to possess a satisfying interest such as these romances must always lack, it is easier for a skilled writer, with a limited supply of facts, to make a thrilling story, full of human emotions, about a hedgehog or a lynx or a wild duck. Yet the effect upon the minds of readers is that they look upon nature through so distorting a medium that every step of inquiry thereafter leads them blundering into quagmires of doubt.

Now, "nature-study" must be undertaken in the scientific spirit of the searcher after truth, or it is of no value whatever; and it is not possible to calculate the harm which these fairy-stories about animals are doing. A child—or a grown-up person—who reads these tragedies or comedies of animal life, told with infinite skill and invested with a false halo of human sentiment, becomes almost mentally incapable of understanding any truth of nature with which he may be confronted.

Accustomed always to regard animals as actuated by human motives, they cannot understand—to take an instance—that the shamefacedness of a dog which has done wrong is not exactly the same as that of a boy in like case. It is only the same in so far as each has done that which gives offence to a more powerful animal (its master in the case of a dog, its schoolmaster or parent in the case of the boy) and each dreads the consequences.

But here comes in the difference between the human being and the mere animal. If the boy knows that what he did was morally right, although it was a breach of the rules, he holds his head high. Even if he is punished he is proud of it. The dog cannot think about its own thoughts. The offence against the rules is plain, and that is all that it can see, and it takes its punishment, like a dog, as a matter of cause and effect.

That a dog's mind can make such connections of ideas and trace the relation of cause to effect, no one should attempt to deny: but it can do this without being at all self-conscious of the fact that it is exercising reasoning power.

I will quote a couple of instances which have been related to me in this connection, to show how easy it is to mistake mere animal instincts for human intelligence: in one case, of an old and slow dog which, when its younger and swifter companion started after a cat, did not fatigue itself in hopeless pursuit but went straight to a gap through which the cat must return; and, in the other case, of a fox-terrier, which accidentally rang the bell one day, bringing the servant to the door, and afterwards used to ring on purpose when it wanted to be let out.

I call both of these actions "instinctive" (for want of a better word) because, although they are undoubtedly "clever," they do not go beyond the animal's natural power of taking the best advantage of a connection of ideas. The return of the cat through the gap had been witnessed before; therefore it was to the gap that the slow dog, with all the inherited cunning of a hunting animal, went to wait for it. The opening of the door had been observed to follow the ringing of the bell; therefore the dog, knowing how to ring the bell, procured the opening of the door.

From my own experience I can tell a story of even greater cleverness, I think, on the part of a dog.

I had two fox-terrier pups, brothers. One was a clever little dog, like its mother, whom I called "The Jester"; the other was larger, a strong, stupid, and ugly dog, like its father. It was called "The Cad." A small bowl of food was brought always for "The Jester," and a larger one for "The Cad": but in India where this happened dogs lead exciting lives and often the meal was interrupted by hot pursuits of sneaking pariah dogs which came sniffing round the verandah. In these pursuits "The Jester," being small, was always left far behind, and, returning first, used to manage to get a mouthful or two from the wrong bowl before "The Cad" came swaggering back, after discomfiting the enemy.

Thus "The Jester" learnt the trick, whenever the dinner was brought, of raising a false alarm, by rushing around the verandah, barking at nothing. At once "The Cad" was agog for war and, following his brother's treacherous clue, dashed across the compound in search of the

non-existent enemy—while “The Jester” hurried back and gulped down as much as he could of his brother’s dinner.

This was repeated daily; but the big dog, up to the time of his death—for both were carried off by an epidemic of dumb rabies which raged through Lahore—never discovered the trick that was daily played upon him.

And it was a useless trick after all; because there was always plenty for both, and the little dog’s appetite was soon satisfied, so that when the big one had finished what was left in his own bowl he could turn to the other untouched bowl, and eat his fill from that.

I have come across no other case which, to my mind, so satisfactorily exemplifies at once the extent and the limitations of what I call “instinctive” cleverness.

The little dog, it seems to me, had enough brains to use guile in order to decoy the big one away from its dinner; but not enough to sit in judgment on its own conduct and realise, not only that it was a sneak and a thief, but that it gained nothing in the end by sneaking and thieving. It was its instinct to be as clever as it could in getting food.

A human being would have recognised his duty to his brother, as well as the fact that, where there was plenty for both, it would have been much more sensible to eat his own dinner quietly and in comfort.

Having now for some time made no secret of my belief as to the feelings of animals, I have naturally become the recipient of letters which illustrate various kinds of popular error on the subject. One correspondent writes, for instance, describing an accident which happened to a bullock causing "tears of anguish" to come from its eyes. But for incidents like this, my correspondent says, he would be able to accept the theory that animals do not know that they "suffer"; and can I explain why, if the bullock was not conscious of suffering, it shed "tears of anguish"?

Now, the repetition of that phrase, "tears of anguish," shows how difficult it is for us to think on new lines.

Of course, if the bullock's tears were tears of conscious anguish, there is an end to the argument; but, as I have been at some pains to show, all our human expressions of emotion

are utilitarian in origin. Our smiles are by origin merely the relaxation of muscles previously taut in readiness for self-defence with the teeth; and our frowns merely the automatic drawing down of shaggy eyebrows to protect the eyes in combat.

Our tears are utilitarian also by origin, and probably analogous to perspiration. They relieve the brain from sudden pressure, as perspiration relieves the body. We human beings, associate them with "anguish," because that is ordinarily our conscious feeling when tears are flowing, but we may also shed tears from laughter, or from sneezing, or from a bad cold. In each case they give relief from pressure on the brain by emptying the space from which they come; and the tears shed by the bullock in the story served the same purpose. To describe them, however, as "tears of anguish" is to beg the whole question.

Some correspondents go even further and attribute to animals not only the consciousness of trouble, but also some mysterious foreknowledge of it. Thus one writes: "Have you, Sir, ever tried to drive an ox into a slaughter-

house? I have often done so, and have been convinced that the reluctance of the animal to enter arose from its knowing, by some wonderful power, what would happen to it therein."

As a matter of fact, I have never tried to drive an ox into a slaughter-house, but I have seen them driven; and sometimes they will go in unconcernedly, or even gladly to escape the noise and hustling outside. At other times they shrink back from the entrance in such a way that a sympathetic observer may be excused from crediting them with fore-knowledge of their fate.

Once, indeed, I suggested this to a drover, who was perspiring from his efforts to force a number of reluctant bullocks through the gate; but his opinion was that it was just as difficult to drive stock into a new bullock-shed on a farm as into a slaughter-house. To them, as hunted animals by ancestry, the unknown is always terrible; and they dread entering where exit seems barred and everything is strange to them.

On the other hand, it must often happen,

of course, that there may be some smell of blood lingering about a slaughter-house; in which case no one could expect cattle to go in without great compulsion.

Wild instincts die hard in our domesticated animals; and at sight or scent of anything which even remotely recalls ancestral perils the perturbation of the cattle is sometimes great. When the ancestors of our cows were wild—so long ago that we hardly guess who their ancestors were—life-saving instinct taught them to become furious and crowd together at the scent of blood. For blood on the grass or a corpse on the track meant the near presence of the dreaded tiger; and only in close order with hysteric rage could they trample the striped fiend into the earth.

Centuries upon centuries of lives of sloth passed uneventfully between pasture, stall, and milking-shed, have not robbed them of this fierce, wild instinct. So now, you will often hear that strange, low bellow by which a bull or cow announces the discovery of death in the way, and see the herd galloping together

at the summons, and then standing, uncertain, gazing at the beast which raised the alarm, while for the space of several minutes it carefully and critically sniffs up the odours of a dead rat which the crows have torn open. Surely, then, it is not necessary to credit an ox with the gift of mysterious foreknowledge of death, if it sometimes displays reluctance to enter premises tainted with blood?

Of course, the most dangerous class of popular errors are those which are propagated by writers of great scientific repute, who, being engrossed in the work of discovering proofs of human intelligence in insects, do not pause to discover that the facts upon which these proofs are based do not exist. In the schools where "nature-study" is made a speciality, he who would dispute certain authoritative dogmas about the reasoning powers of ants and so on would be only a futile voice crying in the wilderness. Yet in these schools are being educated the men and women of the next generation.

Another very fruitful source of popular error is the newspaper paragraph, cleverly written

from facts by a journalist who knows little or nothing of natural science, and consequently jumps to absurd conclusions.

A paragraph of this kind lately went round the press, describing how a wounded partridge had sagaciously plucked feathers from its own breast and had carefully laid them upon its injured leg in such a way that the soft ends alone covered the injured part.

I obtained, however, a photograph of the "bandaged" leg, showing that what had manifestly happened in the case was merely that the ends of some of the body feathers stuck to the bleeding wound every time the bird squatted to rest.

Yet, by jumping to the conclusion that the bird had bandaged its own wound, the reporter of the incident to the papers has doubtless imbued thousands of readers with the idea that a bird knows how to select material for bandaging a wound and how to apply it skilfully. It is the circulation of tales like this which makes it so difficult for the average reader to get a proper understanding of nature.

It is only because almost all literature on the

subject of nature is so tainted with this false human sentiment that I receive so many letters from unknown correspondents, asking for explanations of simple phenomena, which they would find no difficulty in explaining for themselves, if they could look at the matter from the right point of view.

I will quote an instance or two. One correspondent wrote: "During the winter I brushed four or five cows that I saw occasionally only for an hour or so at the week-ends. I soon noticed this: that they asked for it, and as soon as I got the brush would strike each other with their horns to be first brushed; one, a red one, was so masterful and skilful in horning the others' ribs that I had to brush her first, and tie her up while the others had their turn. Now if these cows did not feel pleased with the brushing, would they have struggled to be brushed? The expression of their faces of perfect satisfaction was unmistakable, also the way they asked for more and more, even when I was aching with the vigorous exercise."

The answer to this is that there is no need

to suppose that the cows knew that they felt pleased with the brushing. This was good for them, and their instinct guided them to seek it, ill-using each other if necessary in order to get a larger share of it. But this is only the same action which flowers perform when they spread their petals wide and thrust themselves above each other to get as much of the good sunlight as they can.

The converse of the action is shown in the conduct of the cows which retired in the background when "horned in the ribs," and of the Sensitive Plant which shrinks from a touch.

But we need not, either in the case of the animal or the plant, presuppose self-conscious knowledge of the meaning of these useful actions.

Another correspondent wrote: "I am a confirmed believer of your theory about animals not suffering conscious pain; but one point I would like to be enlightened upon is why a horse cannot be led out of a burning stable unless blindfolded. Yet another case which offers difficulty is why a dog, when prostrated with some internal disease, moans.

It was formerly a gregarious animal, and if hurt, would howl for help ; but moaning would serve no such purpose in the case of internal disease."

When a horse refuses to be led out of a burning stable, so long as it can see the flames, it is because in moments of panic the old wild instinct to flee *from* danger rises above the acquired habit of obedience to man, and it refuses to be led *past* the flames. When blind-folded it finds one direction as good as another, and submits to be led.

When a dog which is ill moans it merely follows the gregarious instinct to attract the attention of comrades to its distress. The dog cannot consider the meaning of its own actions, and, even if it could, nature has not given it the power of distinguishing between those kinds of distress which comrades can relieve and those which they cannot. Even human beings instinctively weep when distressed, without the slightest conscious knowledge of the proper and original meaning of their lamentation.

A third correspondent sent an interesting account of what he took to be reasoning on the

part of a cock. It occurred during a fight between a white Leghorn and a dark cross-bred bird:—

“Finding himself getting the worst of it, the dark cock turned and ran for a holly-bush, whose branches grew within five or six inches of the ground. Ducking under the branches himself, he came out on the other side of the bush. The white cock, coming full tilt after the other, was caught by the branches and sent head over heels by the springiness of the branches, and was barely on his feet when the dark one came round the bush and attacked him again. This same trick was repeated ten or a dozen times, and invariably with the same result, until the white cock was completely ‘knocked out of time.’”

Bearing in mind that our poultry are descended from jungle fowl, it might not be unreasonable to suppose that they inherit a certain adroitness of intellect in taking advantage in their frequent combats of such obstructions as branches of trees may offer; but I think that in this instance the bird was actuated by the simpler motive which we may

see at work any day now in the fights of partridges in the fields.

When one bird bolts and the other pursues the fugitive has a good view of the ground ahead, and easily gets over clods of earth, ruts, and other obstacles. The pursuer, with his eyes fixed upon his enemy, often stumbles over these, thus losing ground; and the instant that he stops the other is ready to turn upon him. Thus the fight nearly always consists of absurd alternations of flight and pursuit on the part of the two birds.

Similarly, in the fight between two cocks, described above, the fugitive immediately became the assailant on finding the pursuer checked, and he naturally followed tactics which had answered so well time after time. Yet we can hardly credit him with sufficient intelligence to have designed the trap for his opponent deliberately, since the other—a bird of the same species—had not sufficient intelligence after two or three experiences to duck his head when he came to the bush.

Here is yet another letter: "When I was a small boy my brother bought a spaniel, which,

on arriving at our house, proved to be so savage that it was necessarily chained up in an out-house. So vicious was it, indeed, that the person who fed it (I remember) put on leather wood-cutter's gloves before venturing to push the bowl of food within the dog's reach. After having been chained up for several days, somehow 'Dash' managed to break loose, and came into the kitchen with the other dogs. Seeing him there, I thoughtlessly patted him on the head. Instantly with a growl, he sprang up and seized me by the arm. Having on an apron with long sleeves I fortunately was able to pull myself free without hurt, and bolted into the back yard. Finding 'Dash' did not follow up the attack, I went to a water-trough and began washing my hands. Presently, on looking round, I was horrified at seeing him coming slowly towards me. 'Now,' thought I, 'he's coming to finish me off.' But, strange to say, as he drew near he began wagging his tail; then, crouching down at my feet, rolled over on his side and looked up in my face with an expression which said as plainly as possible, 'I'm so sorry I behaved as I did just now!

Please to forgive me !' It was some time before I could summon courage to touch him. But when I did poor 'Dash' showed unmistakable signs of joy, dancing round and putting his paws upon me in the most demonstrative manner. Ever afterwards we were the best of friends, and he never again seemed to have any return of his former ill-temper. Now, Sir, whether dogs reason or not, the foregoing incident shows plainly to my mind that 'Dash' was capable of feeling remorse and forming a determination to make amends for the past, which seems very like what we term moral feeling—and morality would seem even a step in advance of the reasoning faculty. Is it not so?"

In this case it is not at all necessary to credit the dog with remorse, but merely with change of mood. Of course, "Dash's" later behaviour was that which is natural to a spaniel, and he had probably been very much teased before to make him so bad-tempered for a while. His return to the fawning ways natural to a spaniel on finding that he was not ill-used for snapping was sudden, but that is always characteristic

of animals' changes of mood, when one natural instinct overcomes and replaces another.

So far I have dealt only with errors which are liable to arise in our minds from our natural tendency to look at things from the human point of view—a tendency which has been mischievously encouraged by nursery teaching, by popular “nature” writing, and by many scientific authorities.

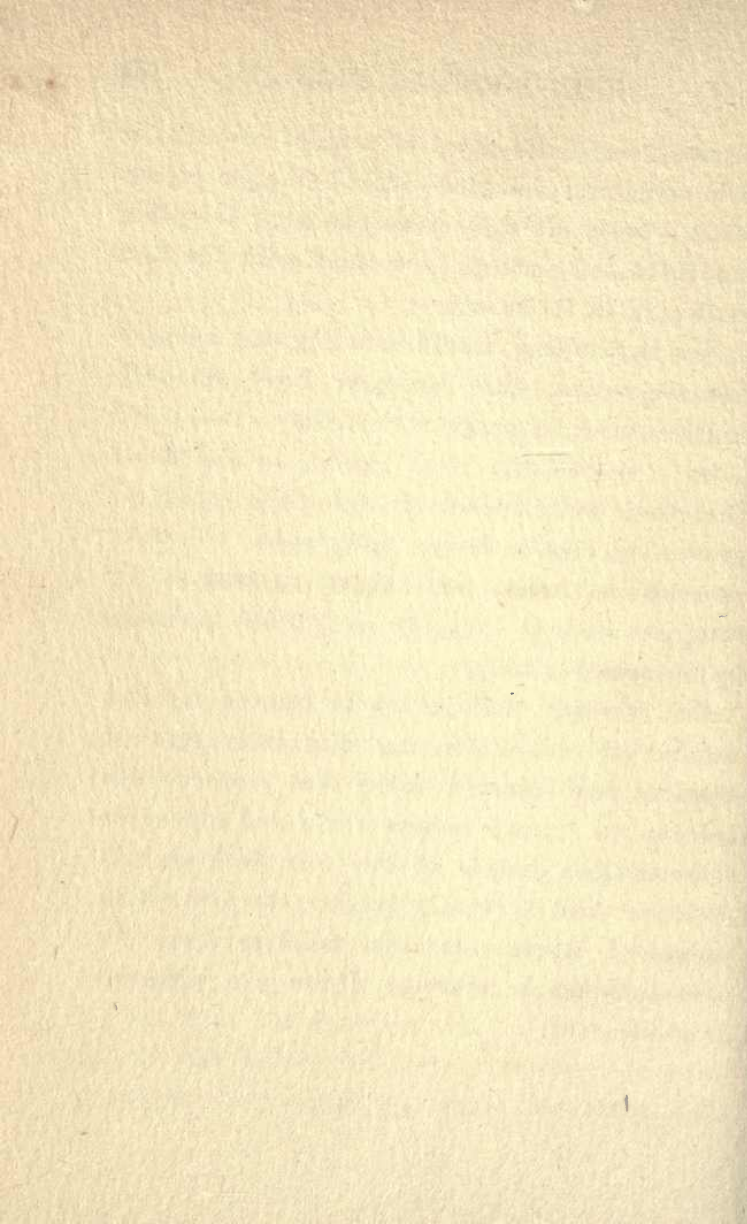
It is possible, however, to fall into error on the other side. For instance, several correspondents—independent observers of nature to whom my conclusions appeal—quote, in support of these, instances of hooked fish breaking away but subsequently taking another bait, with the first hook still in their mouths, as evidence that they do not feel pain. But it is not real evidence.

A fish must eat to live; and we may be sure that, neither in taking the first bait nor the second, did the hooked fish suspect a hook. Something indeed must have seemed to be wrong with the first mouthful; but it did not satisfy the creature's hunger and there was no precedent for supposing that the same un-

pleasant accident—what it was, of course, the fish could not imagine—would happen again. So it would naturally take the next tempting mouthful and perhaps be secured with the first hook still in its mouth.

Nor, by the way, would it in any way advance my argument, that animals have no self-consciousness, to suppose that they cannot feel pain. Undoubtedly they feel it, in the sense that their body resents it and their brain, as governing their body, telegraphs to their muscles to resist and fight against it by struggles and, if they are gregarious animals, by outcries for help,

But, though their brain is thus a perfect mechanism for defending the body against accident and injury, it lacks that power which belongs to human beings alone and makes us self-conscious judges of our own feelings and actions. And it is only because we can sit in judgment upon our own feelings that we personally know whether these are pleasant or unpleasant.



THE RISE OF CONSCIOUSNESS

“ There lives and works
A soul in all things, and that soul is God.”

COWPER'S *Task*.

CHAPTER VI

THE RISE OF CONSCIOUSNESS

Why Man alone has Knowledge of Pain—The Use of Suffering—Man always finds his Level—Summary of the Argument—Evidence that Man alone is Self-conscious—Language—Self-decoration—Bowerbirds and Motmots—The Religious Sense—How Consciousness began—Concerted Action—Bees—Wolves—Rooks' "sentinels"—The Human Foot and its Story—Rising by Hardship—Beginning of Concerted Action—Self-restraint and the Moral Sense—Stupendous Consequences.

EVERY animal, as we see it to-day, is the product of its evolution up-to-date. We can state with scientific certainty how most of its attributes were acquired by its ancestors.

No kind of creature can possess any characteristic habit or any detail of structure which has not been useful to its ancestors. All the apparent symptoms of pain and seeming fear

of pain which animals exhibit can be explained as habits which have proved useful to the race in safeguarding its members from injury; but what could not be so explained would be any self-conscious knowledge on their part of "pain" itself, as we feel it.

There is no other animal besides man to whose ancestors the real horror of pain that we feel could have been useful. On the contrary, there is no animal to which it would not have been a serious disadvantage in the struggle for existence.

We, commanding all the resources of our civilisation, are wisely cultivating—as it were—the feeling of pain to the utmost. There is no trifling bodily ailment for which we do not apply—and, as a rule, successfully—to the doctor. There is nothing which shocks us so much as the idea of pain. In our middle age, when in a state of nature we should be liable to be driven in the background by our juniors—being probably killed in the process—we are patched and mended by our doctors, and we are surrounded with the shield of the law in such wise that, wherever you look, you shall

see the old and feeble amongst us ruling the young and strong.

We have, in fact, reversed nature's rules of the struggle for existence to our own benefit, and the chief factor of our success has been the growing dislike of mental and physical "suffering" which impels civilised men always to surround themselves with moral and material safeguards.

Other animals—I except those which are domesticated and cared for by man—have no safeguards. They must fight always to keep their place; and nothing could be worse for them than to have a nervous dislike of "suffering." The avoidance of injury when possible is, of course, a cardinal principle of animal existence, but the horror of "suffering" could only be a drag upon the evolution of any creature other than man. We have seen that living things, like the Sensitive Plant, have acquired the useful habit of shrinking from a touch, although they have no conscious sense of personal suffering; and if other living things had acquired this sense they could only have done so because it was useful to them.

What, then, is the use of the sense of "suffering" and unhappiness? Undoubtedly its use is to impel the creature concerned to seek a remedy and apply a cure. But animals other than man have no means of doing this. Their instinctive habits of avoiding and resenting injury exhaust their resources in this direction; and a subsequent sense of suffering, which they could not alleviate, and unhappiness, which they could not lighten, would be a serious drawback to them, unfitting them to do their best in the next crisis of the struggle of existence.

Therefore it is scientifically certain that such animals cannot have acquired a conscious sense of suffering; because we know that the lowest creatures do not possess it, and it could only have been introduced into the scheme of nature as an "improvement."

But we have seen that (except in the case of human civilisation) it would have been a drawback, and not an improvement. Therefore it could not have been introduced at all. The first animals to exhibit it would have been handicapped in the hard struggle of

natural existence, and would have become extinct. They would have been too "soft."

With civilised man the case is entirely different. He has raised himself above the natural struggle of existence and moves on a higher plane, where the conscious personal effort to distinguish between good and evil and to win happiness by earning it, is the sole means by which he rises. For him, therefore, the constant spur of suffering and discontent has been extremely useful. He is never happy or even contented for long. He must always be striving to improve his lot and to secure the happiness which seems just beyond his reach.

Thus the races of civilised men have travelled far upon an upward road on which no other kind of animal has entered. And, as is always the rule in nature, the higher we go the swifter becomes our progress, and the more keenly we feel the incentives which spur us on.

Sometimes in the stress of our complicated existence and the turmoil of civilisation, we are inclined to envy the savage, who has

advanced so short a distance above the level of other animals, because he finds his food with little labour, needs no clothes, and has no worries.

The savage, moreover, feels pain much less than we do, and scarcely knows what it is to be melancholy. The abhorrence of the civilised world for slavery was the inevitable outcome of civilised modes of thought; but the slaves—as many survivors from that period have admitted—were not more unhappy than the free negroes of to-day, who have votes and have to earn their own living. Thus always we see that even human beings are adapted to their environment; and that it is foolish to invest low creatures with our own civilised sensations. These we have acquired as the means whereby we rise on our higher plane.

Thus, to any one who is impartially observant, the conscious sufferings of human beings do not constitute a stumbling-block to religious belief.

In the East and the West, as well as here at home in England, I have studied men as I have watched the beasts and birds, trying

to discover from their conduct the solution of this great problem; and year by year the conviction grew upon me that a human being who is fortunate or unfortunate unconsciously and automatically adapts himself to the level of his good or bad fortune, and that from that point his happiness or unhappiness depends upon what happens next.

We make the same sort of mistake in looking at men and women who have been unfortunate, as we do in looking at other animals. We regard them from our own particular point of view, which throws everything that concerns them out of perspective.

Every reader of these lines has his own standpoint on his own level. He envies those who are far above him because they seem to have all the elements of happiness at command. He pities those who are far below him because their lives appear sordid and miserable. Every reader will, I think, admit this.

Yet between the very highest and the very lowest levels of human life there are a great many grades which are envied as "happy" by those below, and at the same time are pitied

as "unhappy" by those above. The office-boy who turns up his collar at Waterloo Station in preparation for a wet walk over the windy bridge, envies his employer, who jumps into a hansom; while that employer, compelled to risk his health and suffer discomfort in coming to office in town in all weathers, is pitied by his neighbour, a man of wealth and leisure.

But all this has many times been better said than I can say it. The point upon which I want to insist here is that similar grades are to be seen from every point of view of human life, but from no two points of view are the grades the same.

For, besides classifying men by their wealth and position, you may classify them by their health, by their domestic felicity, or by any other scale which occurs to you. The result is the same: each one envies every one higher up the scale, and pities every one below.

In other words, each one of us measures happiness and unhappiness by the footrule of his own experience; and each time that our experience changes we make a new footrule to suit it.

Go into any old peasant's hovel, any common lodging-house, any hospital—and the same amazing contrast always strikes you, between the misery of the place—as it appears to you—and the contentment and resignation of its human tenants. The fact is that they are all taking their level from their experiences of the moment; and from that moment every improvement in their circumstances is happiness and every deterioration is unhappiness: and in the life of every man the happiness largely prevails because we are all hoping to improve our lot, and all meet with some success.

In the common lodging-house the language may be coarse but the jokes are enjoyed. In the hospital the smiles may be wan, but the sense of peace and hope inspires them.

There are men, of course, whose temporary "misery and agony" are such that they will take their own lives rather than endure the torture: but I hold that even in such cases a balance-sheet of each life would show a large credit on the side of happiness, and that even the last madness of self-destruction—and the contemplation of the act beforehand—was

sweetened by anticipation of lasting peace beyond the grave.

I do not believe that *positive* unhappiness or suffering exists in this world. I believe that it is all comparative, and that the comparison is always in our favour in the long run.

At the same time I believe that by these alternations of happiness and unhappiness we are all urged upon a road which leads always upwards; and that the advancement and civilisation of man is entirely due to his pursuit of "happiness," which is always in some respect just an inch above his condition at the moment, no matter what his condition may be. We all know plenty of people who, judged by our standards, ought to be miserable: but they are not.

In my own experience I have at times plumbed the depths of physical and mental suffering: and I know that "unhappiness" cannot exist in the mind of man as a permanent sentiment. During times of suffering and misfortune he finds his level almost at once, and thereafter he is buoyed with constant hopes of rising.

Let me sum up my argument before proceeding further. It will be remembered that a correspondent, concealing from the public a well-known personality under the name of "A Freethinker," challenged the right of any one who studies nature to adopt the religious note which he had observed in some of my writing, because, as he laboured at some length to show, the study of nature's ways reveals so much cruelty and suffering at every step as to be incompatible with belief in a merciful Creator.

Now this was no idle statement. The author is a man of known ability, a good naturalist, and perfectly honest in his opinion that knowledge of nature and belief in religion are incompatible. The point which he raised was one which has been an insuperable stumbling-block to many.

Nor is there in the works of any theologian or man of science such an explanation of the apparent cruelty in nature as will satisfy a logical mind.

Now this would be a very terrible state of things if it were allowed to continue, because we are encouraging nature-study in all our

schools; and yet, unless an explanation of the cruelty of nature is forthcoming, we shall, by means of nature-study, be making it very difficult for all those who are guided by reason in their beliefs to grow up as religious men or women. Not to put too fine a point upon it, unless a direct and logical connection between science and religion can be established, we shall be in growing danger of educating a nation of atheists and materialists.

But it so happened that, after many years of thought given to this subject, I had gradually discovered for myself a satisfactory solution of the problem; and so I found myself able to accept "A Freethinker's" challenge, and to undertake to prove that earnest study of nature and true religious belief, instead of being antagonistic, are really inseparable.

I based my case upon evidence which proves that man alone possesses that gift of consciousness which causes him to know when he is happy or unhappy.

If *all* animals possessed it, then all plants must possess it, too; because there is no line of distinction between the lowest animals and

the lowest plants, while some of the higher plants exhibit sensitiveness, others catch living food and hold it tight, and others perform many "clever" actions. But it is absurd to credit plants with consciousness of happiness or unhappiness. Therefore all animals cannot possess the gift,

Next I showed that we cannot draw the line of consciousness between plants and such an animal as the sea anemone, which behaves like a plant and bears division like a plant. Then, going higher up the animal scale I showed that even the most striking actions performed by insects, such as wasps and ants—actions which have often been quoted as evidence of conscious affection and intelligence—are purely instinctive and unintelligent. Going higher still I showed that we are wrong to credit birds with our own conscious sentiments and motives, because, by endeavouring to kill their own young after they have reared them, and by taking no notice of their own young when these have been cast out of the nest, they show that they have not the same feelings.

Lastly, I showed that we cannot even credit

other mammals with consciousness such as we possess, because all the actions of horses, dogs, cats, &c., which are ordinarily quoted as evidence of such consciousness, really prove, when examined, to be the outcome of instinct only. Many of these actions would not be performed by mammals if they were conscious of their purport.

I also showed that other animals than man cannot possess our consciousness of suffering and unhappiness because they can only possess such gifts as have been useful to their ancestors. Man possesses it because it has been useful in the moral evolution of his ancestors; but to the ancestors of other animals it would have been injurious rather than useful. Therefore they cannot possess it.

Thus I have shown that in the whole range of life from the lowest vegetable up to the highest animal there is no point, until we come to man himself, at which we can pause and say, "Here consciousness begins"; and without consciousness there can be no personal valuation of happiness or unhappiness.

The animal instinctively resists and resents

that which is bad for it, while it seeks and enjoys what is good for it. But, beyond the fact that each experience is retained by the memory and used by the brain for future guidance, the sensations end where they began, because there is no conscious personality to weigh up the good and the bad as so much happiness and unhappiness.

There is one point which I have not dealt with. Objectors may say that there is no evidence to show that I am right in placing the limit of self-consciousness at the boundary-line which separates man from other animals. They may say that tense and nervous self-consciousness—which makes us feel pain and sorrow so acutely—is rather the peculiarity of civilised man, and that when we follow the human scale down to savages and cannibals, we find creatures with very slight sensibility to pain and apparently no knowledge of sorrow as an abiding sentiment. Therefore, they hold, there is no evidence to show that these very low human beings are more self-conscious than the higher animals of other classes.

Now, this is a very difficult point to deal with, because we cannot obtain direct evidence by questioning horses and dogs on the point; and in the case of the savages, the more you interrogate them the more you are impelled to regard them as mere animals. When you come across a tribe of islanders who have half a dozen words to describe different methods of putting a captive to death, but not a single word to express mercy, gratitude, or any moral virtue, it is not easy to hold to the faith that man alone is made in the likeness of God.

In so many respects your faithful dog seems superior to the debased human savage that you are reluctant to erect between them a mental barrier which shuts off the dog among the lower animals, and admits the savage into the select company of beings with the likeness of God in their consciences.

But you must remember a similar difficulty arises in classifying all orders of animals.

When, for instance, we have been studying the wonderful ways of ants, bees, and wasps, whose actions seem to rival the highest efforts

of human intelligence, and to be instinct with virtuous affection, it is a shock to come to the class next above them and find such things as sea-mats there; or, passing over these and the still higher classes, containing slugs and snails, oysters and cuttlefish, to come to the sea-squirts—things like mere bottles with two necks. But we cannot deny that in its earlier stages the sea-squirt resembles a tadpole with a central rod inside its body, which we must recognise (from analogy with the tadpole itself, which becomes a vertebrate frog, and the queer little lancelet, which leads us to the kingdom of fishes) as probably the first sign visible to us in nature of the evolution of the backbone, which in its highest development encloses the brain and vital column of man himself.

If we were as interested by personal sentiment in the ants and the bees, as we are in our dogs and horses, we should more strongly resent the compulsion thus put upon us by science to place our favourites so far down on the ladder of progressive life. It is this personal sentiment, arising out of our fondness for creatures that we cherish and admire so much,

which constitutes the great difficulty in the way of our belief that the lowest man belongs to a separate, higher class than the highest of other animals, simply by virtue of his possession of self-consciousness.

And this difficulty is the harder to combat because anatomy provides no evidence in the matter. You can dissect out the original rudiment of a backbone, but you cannot cut out a dead man's self-consciousness and put it under the microscope and say, "There!"

But if other animals had self-consciousness, *i.e.*, if they thought about things, including themselves, we should long ere this have been able to invent a language of sounds and signs in which we could converse with them upon all sorts of subjects. But they cannot think *about* things, only *of* them; so our converse with them as well as their converse with each other is limited to expressions of simple animal emotions.

The possession of language, as a means of expressing thoughts other than mere emotions, thus offers definite evidence that man alone is self-conscious.

Another definite proof that man alone is self-conscious is provided by the fact that man alone decorates his person.

Certain creatures, such as the bower-birds, might seem to have some artistic tendencies in the elaborate decoration of their bowers; but this is only a curious development of the instinct of courtship for nesting purposes encouraged by nature for some useful reason. And I have little doubt that this reason would easily be discovered by any one who, for that purpose, made an intelligent study of the habits of bower-birds in their natural surroundings.

The racket-tailed motmots, a species of South American birds allied to the bee-eaters, have a habit which comes nearer to personal decoration. They nibble away the webs of their two central tail feathers for an inch or an inch and a half, leaving the bare shaft with a large racket at the end of each, which adds greatly to their decorative appearance in the antics of courtship.

This unique habit on the part of a single species of American birds looks at first sight

very like conscious self-decoration, but a moment's consideration will show that the bird who first did it could not have known that its work would have a decorative effect in flight and in the antics of courtship. There must have been some other reason; and probably the bird who first nibbled off part of the feathers merely suffered from excessive vitality and restlessness, which is a common characteristic of most birds which catch insects on the wing.

Feathers which have become racket-shaped by natural evolution are, however, frequent adornments of birds, showing that in past ages such ornaments have appealed to the instinct of the females to favour the handsomest suitor.

Therefore this exceptionally vigorous ancestor of the motmots was doubtless fortunate in his love affairs and begat children with a tendency to repeat his habits. Nature needs no more than a lucky accident of this kind to work upon; and we can easily understand how the habit has become stereotyped as the characteristic of a flourishing species.

It was, of course, highly improbable that such

a habit should have been inherited in the first instance; and the fact that only one kind of bird in the whole world does anything of the kind shows how very extremely improbable it was. Had it been otherwise, we should have scores of kinds of birds inheriting accidentally decorative habits.

If, too, there were any intentional decoration in the habit, there would be variations and improvements in design. As it is, however, every motmot, on attaining a certain age, instinctively nibbles off a certain part of the two longest feathers in his tail. He does this because it has been a hereditary habit in the species ever since its ancestor gained an accidental advantage in life from doing it.

The human savage, however, differs from all other animals in his desire to make himself look better than he is, by decorating himself with feathers, shells, coloured earth, skins, flowers, &c. This he would not do if he were not self-conscious; nor would other animals, such as apes, leave it undone if they were self-conscious.

Thus we see how the very slight essential

difference between man and other animals—in man's conscious habit of thinking *about* things, instead merely *of* them—has given him not only language, but also the instinct of artificial decoration. From these combined acquirements have come all literature and knowledge, all art and poetry, all clothing, fashions, and industries.

And the greatest of all human gifts, the religious sense, has been acquired in exactly the same way.

The natural consequence of thinking about himself, as an individual capable of producing manifest effects by his own efforts, was that he thought about the way in which other manifest effects were caused. To scare an enemy he would utter a terrible war-cry; whose war-cry then, he would ask, was the thunder rolling terribly across the sky? He could fling handfuls of water this way or that; who then drove the mighty rivers along and tossed the waves of the sea? He could blow a flower to pieces; whose breath shattered the forest trees?

Thus, by thinking about himself, man could not help thinking of some mysterious being or beings who controlled vaster forces than he.

These, in one shape or another, became his gods, whom he tried to propitiate.

Age by age the lamp of religion thus humbly lit has burned more brightly, with a purer flame, until in the great revealed Faith, that man has been made in the likeness of God, the whole civilised world is united.

There was only danger lest the ever-growing number of those who studied nature and abhorred its apparent cruelty, as well as those who could not reconcile the demonstrated truths of science with the revealed truth of religion, should fall away.

If I can help some few to realise, firstly—that nature is not cruel—because, lacking self-consciousness, other animals cannot consider whether they suffer or not—and, secondly, that science and religion at last go hand-in-hand, because the self-consciousness evolved in man is his likeness to God, and the foredestined end of his evolution is to reproduce God upon the earth, I shall not have written idly.

Having thus briefly explained the grounds on which we are justified in concluding that self-consciousness begins with man and is not

possessed by the higher animals of other classes, I will now answer the last and most difficult question of all, namely, how, if I am right in saying that no other animal than man is self-conscious, did self-consciousness begin in man?

I do not at all admit that failure to answer this question would invalidate my argument. Having produced evidence to show that man is self-conscious and other animals are not, inability to explain the origin of these facts would not affect their reality. But it is not in any way difficult to answer the question satisfactorily: and I regard it as the best evidence of the complete soundness of my argument, that it almost automatically answers every question and satisfies every objection raised against it.

The answer is that man alone of all animals acquired the ability to take concerted action with his fellows towards a common end. We sometimes witness conduct which looks like concerted action among other creatures, it is true; but the likeness is only superficial.

All the inmates of a beehive, for instance, appear to be working in concert towards a

common end: but each individual is really working independently, obeying the imperative instinct with which it is endowed by nature; and the fact that its work dovetails in so well with the work of the other members of the community is due to the evolution of the species as a gregarious insect.

In the body of the individual bee we see a curiously close parallel to the organisation of the community in which it lives; for the bee, with its nerve-centres placed at intervals down the length of its body, has no central brain directing the harmonious action of its various limbs and organs. These act so independently of each other that if the body is cut off when the bee is drinking syrup, the legs will continue to cling to the rim of the vessel, while the mouth continues to suck up the liquid, neither being aware that this pours out at the severed waist as fast as it is taken in at the head. At the same time the severed body, which ought to be receiving the syrup, will be darting its sting in and out in futile obedience to the instinct of self-defence.

Similarly, during a great battle of the large

ants which are found in hot countries, you will see warrior ants, whose bodies have been bitten off, swaggering about in the absurdest manner and challenging all comers.

In the same way that the different parts of an insect's body work in harmony, although each is moved by an independent instinct—which is only inherited habit or tendency—so the different members of an insect community work in harmony, although there is no concert between them, and each is merely going on steadily with the work that it was born to do. In the same way with higher animals, other than man, there is no concerted plan of action in their communities; but each individual follows its own instinct, which is good for the community: otherwise it would not have been inherited.

Thus, when wolves hunt together they do not hunt in concert. Each pursues the prey to the best of his ability, and the combined ability of the pack generally runs the prey down. Beavers, constructing a dam, work all together for a common end: but each member is vigorously obeying his own natural instinct only.

We sometimes read, indeed, about herds of animals or flocks of birds putting out sentinels to give them warning of danger. If they did so this would be concerted action; because in such herds or flocks there are not special types or individuals born with the instinct to act as sentinels, nor are there any born with the authority to set the others to their duty. And observation shows that sentinels are never posted, as has been supposed.

What happens is this. Suppose that there is a party of rooks plundering a sown field, you will almost certainly see one or two rooks perched in neighbouring trees, and, as you approach, these will utter a warning "caw," and all the marauders will be off. Superficially viewing the incident, you may, if you like, go into raptures over the intelligence of the rooks, who always post sentinels to give them warning of danger.

But, if you really observe what occurs, you will see that there is no posting of sentinels. The sentinels are entirely self-appointed, and they think only of their own interests. That by doing so they safeguard the community is

merely one of those fortunate little coincidences of which nature always takes full advantage.

Each rook, being a wary bird, is uneasy so long as there is a risk of his being taken unawares by an enemy. Some, no doubt, are more wary or more nervous than others; and when a flock descends to plunder a cornfield, one or more of these nervous ones will prefer to alight in a neighbouring tree and take a prolonged scrutiny of the neighbouring landscape. Usually there is some man moving about somewhere in the distance, and the nervous rooks watch him.

All this while the other rooks are feeding. Their instinct bids them to eat all they can so long as there are some rooks up in the tree on the look-out.

But presently the rook in the tree is satisfied that there is no danger anywhere—besides which, he is very hungry—so he descends and joins the others. Some of these, having partially satisfied their hunger, feel more nervous than they did; and they fly up into the trees. After a time they again descend, and others, actuated by the same fears, take

their places. So it almost always happens that some birds are in the trees when rooks are plundering a sown field; but all of them are acting entirely on their own account, not knowing that nature has crystallised this habit in them for the good of the community.

In fact, nowhere in nature, except where man is concerned, will you find any evidence of deliberately concerted action appropriate to the circumstances of the occasion. How, then, did man acquire this remarkable faculty? The answer is, through hardship—through the stress of a severe struggle for existence, sharpening his natural ability.

For, if a man looks at himself, he finds plain evidence that he once belonged to the highest class of animals next to himself. His feet, with toes which are still more or less prehensile in infancy and among savage races—even the people who inherit the ancient civilisation of India will astonish you sometimes by picking up a spoon that has been dropped or replacing a coal on the fire with their feet, and the Indian tailor habitually holds his thread with his toes as he squats on

your verandah—are manifestly modifications of the climbing hind-hands of four-handed ancestors, whose other descendants are still apes.

On the other hand, our flat soles and the disconnected bones in some of our toes show that many ages have passed since man used his feet for grasping purposes in climbing. What, then, caused the change in his habits? We may never be able to answer this question with certainty. It is in the last degree improbable that a creature admirably adapted for climbing trees should have abandoned the practice while still dwelling in the primæval forests; because there all the fruits and the honey and the wild life are to be found on the sunny outside of the dense mass of vegetable growth.

The probability is that man's predestined abandonment of arboreal life came about through the gradual change of climate in the region which he inhabited, converting what was once tropical forest into wind-swept plain.

Whatever the cause may have been, it is

evident that man was compelled to break from all the traditions of an arboreal race, and to find his living on the open ground. Here, instead of gathering the fruits of the forest trees, he would learn to pick out the seeds from low-growing plants, and to this is probably due the original cleverness of human fingers: for it is an invariable rule of nature that hardship confers upon all creatures which successfully come through it some valuable quality which raises them in the scale of life.

And this was especially true of the greatest hardship which man, under his changed conditions, was compelled to encounter. This was the winter, when the supply of fruits and seeds growing in the open was exhausted. Doubtless he dug up roots; but his chief reliance during those hard times must have been upon animal food. To obtain this, a conspicuous, erect, gregarious animal, with poor running powers, must have depended upon the collective intelligence of his community. To make up for the tireless speed of the wolf he had, so to speak, to make the best use of the intelligence of the monkey.

He would find that one individual by himself did not catch enough to live upon; that two working together did better; that three were better than two, and so on. Also he must have found that the hunters, by keeping a certain distance apart, so that they covered a wider space without allowing the game to break through, always obtained better results. Thus we seem to see the several stages by which this race of intelligent creatures, compelled to find a living in the open country in winter, would acquire the habit of hunting in bands, each individual following a line of his own but in touch with his comrades on either side.

And it is just at this point, I take it, that the superior intelligence of the four-handed folk would come in. Accustomed always, as gregarious animals, to follow the guidance of their leader—as any one may see to-day in the conduct of the flocks of monkey-folk in India—they would watch and listen for his signals—not, like the wolves, crowding together behind him in pursuit of the flying quarry, but always ready to take their cue from him.

and from each other as to the proper course to adopt. There are many creatures of solitary habits which are very cunning in pursuit of their prey, and there are many of gregarious habits which simply follow their quarry by scent or sight and run it down; but the ancestors of human beings were probably the only animals compelled by circumstances to turn their gregarious instincts to concerted use.

In this way they learned the meaning of words of command. They recognised the note which told them to rush forward. The signal which meant that the quarry was attempting to break through the line was plain to them. In other words, they learned to obey; and those who know how to obey have learned how to rule and to rise in the world.

For obedience to a leader's signals meant sometimes that they should control their own instincts. The signal for rushing forward must often have seemed to some eager spirits to have been postponed too long. But they had to learn to wait for it. Otherwise the whole hunt was spoiled and the community suffered; and nature is inexorable in her dealings with a

community which suffers through the fault of its members. Museum shelves are full of "extinct" species which erred in this way.

Man, however, came through the ordeal with the conspicuous success which had marked his previous rise to the highest plane of animal life. Otherwise I should not be writing about him to-day. He not only discovered how to make a living under new conditions during the hard time of winter, but he also acquired the invaluable instinct of obedience, which means self-restraint, and self-restraint means civilisation.

The leader of a pack of wild wolves, wild monkeys, wild deer, and so on, secures obedience of a sort. When he is enraged he lets his followers know it, and they are glad to scamper out of his way. But it was reserved for the ancestors of man to secure that concerted obedience from their followers, which leads to success in difficult enterprises.

And the consequences have been stupendous—immeasurable.

Self-restraint, which is the outcome of obedience, means that you check your own

individual instincts in deference to some higher law. You recognise that what you may want to do, obeying the instinctive dictates of your nature, is not the right thing to do, and that you must, or ought to, do something else.

Here is the whole origin of the moral sense which actuates mankind, the subordination of selfish instincts to a sense of duty. It is also—which is more important for the purpose of my argument—the origin of self-consciousness.

When our human ancestors first recognised the necessity of controlling their individual instincts in obedience to their leader, they became self-conscious. They became possessed of a will-power which was able to control their own animal instincts; and, whenever these came into conflict, they could not help being aware that, as individuals, they had a choice of courses to follow—their natural instincts leading one way, and their duty to the community another.

We must not suppose that at that early stage of human development our ancestors were able to distinguish between instincts and duty. But for the first time in the history of animal life

there were creatures who no longer followed their instincts blindly and unthinkingly. They had to *choose* what they would do : and nature, ever vigilant on behalf of the race, was always prompting them to do the right, to follow the line of duty.

This was the birth of conscience and the creation of man in the likeness of God. From this point the upward course of man has been as plain and straight as a highway through a dark wood into sunlight.

GOD IN MAN

“The Lord of all, Himself through all diffused
Sustains and is the life of all that lives.
Nature is but a name for an effect
Whose cause is God.”

COWPER'S *Task*.

CHAPTER VII

GOD IN MAN

What is Consciousness?—Imperfections of Language—"The Likeness of God"—The unity of Nature—Types of Evolution—The Birth of a Chicken—Story of the Gall—Human Progress—The Creation—Conflicting Critics—Science's Limitations.

WHAT, then, is this human consciousness which makes so enormous a difference between man and other animals? With this question we leave the fringe of the subject and touch the connecting link between religion and science.

Consciousness is the power of considering our own actions and estimating our own feelings from a judicial point of view, of discriminating between good and evil, and of controlling our natural instincts accordingly. This power is the

distinguishing feature of humanity. It is that which justifies our claim to have been made "in the likeness of God." One impulse of an animal may be checked by a stronger impulse, as when a hungry dog refrains from taking meat from fear of its owner's displeasure; but it is only man who looks out sadly or happily upon the world around, always in his consciousness approving that which is good and right, however bad his own conduct may be.

This is the "likeness of God" in man, which will in time supersede and displace the animal in him.

For we know, of course, that, like all other creatures, we are even now only passing through a stage of evolution, though our religions date from times when evolution was unknown.

It was, therefore, not possible for our great religious leaders, however directly they may have been inspired by the great truth, to express it in words—or even to conceive it in thoughts—which would stand the test of modern analysis. He who was inspired to teach that man is made in the likeness of God his Father taught truth; but those who accepted and pro-

mulgated the doctrine could not understand the real meaning of the truth because human knowledge had not then reached a stage in which the truth could be expressed in intelligible words. Indeed, I am not sure that it can be so expressed even now.

Before we can express it we must understand it; and before we can do this we must get rid of the idea that the "likeness of God" refers specially, if at all, to our physique—our bodily peculiarities as animals. The point in which we especially, perhaps solely, resemble God is our consciousness, the independence of our minds from the control of bodily matter. There is in us the germ of a superior existence—something which lifts us above the world of matter by which we are surrounded; something which convinces us that our souls are independent of our bodies with all their weaknesses.

This is the crown of our evolution so far; but it is only a passing phase. There is more to follow; and each successive generation will see more clearly its relationship with God.

How far it is possible for us to see at present is what concerns us; and I think that the best

medium through which we can look is the analogy of nature.

The great lesson to be learned from nature is its unity. From the lowest up to the highest there is no break in the chain. All things are subject to the working of the same law of evolution; and in the development of each living thing we see a summary of the entire evolution of its race. Thus we see that the highest plants and animals, even men themselves, have each their individual origin in a single cell contained in the body of the parent; and the evolution of that cell into the perfect creature repeats stage by stage—though in a blurred and imperfect way—the evolution of the race to which the creature belongs, from the original, lowest type of life—the simple, one-celled creatures, neither plant nor animal, which were first endowed with life by God, when the earth was void.

Since, then, natural evolution thus reproduces its great processes in each small thing and summarises the work of ages in the life of each individual, we are justified in looking around to see if there are any cases in which evolution

has, so to speak, proceeded so far as to give us a clue to the mystery of the future. If everything works according to the same rule, may there not be some small things which complete their evolution before our eyes? In other words, are there no "little worlds"—for every organised body is said to be a "microcosm," or little world—which give us a clue to the mystery of the future of this great world and its inhabitants?

As a matter of fact such clues are offered to us on every hand, if we study nature.

The everyday occurrence of the birth of a chicken from the egg is the crown of a complete evolution in miniature; for it shows how the germ of life in an infinitely small cell in the substance of the egg gradually permeates and brings to its use all the contents of the egg, until the force of life within bursts its bounds and the live bird comes forth to join its parent, leaving behind only the empty egg-shell, whose dead substance will be used again in the evolution of other life. Here we have a clear parallel of the completed evolution of life in the world. When the spark of eternal

spirit which God the Father gave to the world shall have completed its evolution it will leave the world and join its parent, leaving the dead matter of the earth to be used again in the evolution of other life.

We see another completed evolution, and another parallel, in the history of any common gall created by a parent insect upon a plant. Very wonderful in its complicated structure, and often very beautiful, is the gall; but it only serves its purpose as a wonderful and beautiful "little world" in which a germ of life placed there by a parent-fly completes its evolution. And from it at last a perfect fly comes forth, in the likeness of its parent, and leaves behind it the dead "little world," the substance of which will be used again in the evolution of other creatures.

In these and other instances which leap to the mind from every survey of nature, we can surely trace, in a blurred and imperfect way, the natural parallel of our own evolution, the great truth of science which religion has always taught—that in due time man shall leave the world and rejoin his Father.

What we have to bear in mind, however, is that we cannot guess from the appearance or character of any creature at one stage of its evolution what its perfect state will be. The germ of an egg bears no resemblance to a chicken, the grub is utterly unlike the fly. So, when we try to think what the nature of man will be when his evolution shall have been completed, we must dismiss from our minds all thoughts of the character of man in his present stage.

We have indeed one clue, offered to us both by religion and science.

We know that the evolution of man, in so far as it is different from that of other animals, is the result of the development of his mental and moral powers. His advance is solely in the direction of the control of mind over matter. He recognises his body as only the temporary vehicle of a conscious power of thought which has no limits in space or time. His sympathies are worldwide, and he is daily discovering and using new means for bringing the minds of all men into sympathy and union. We have little conception really of the great pace at which this evolution of man is proceeding now.

Every day records some new control established by mind over matter. We employ forces of whose strength we are ignorant as yet; and on many lines of mental inquiry we are proceeding rapidly towards a common meeting-point, whither we shall find that all religions and sciences, all philosophies and all wanderings in the darkness in our search for truth, have always tended—that point where man, perfect in knowledge of truth and conscious power of mind, will complete his evolution and be worthy to join his Father, leaving the husk of the dead world behind to be used again in another evolution.

Thus the science of religion—or the religion of science, call it which you will—teaches that God exists in this world in the human mind and that each of us is a temporary vehicle of a spark of the Spirit.

Raised above the natural struggle for existence, man has no longer need for those incessant slow processes of physical improvement which other animals achieve to enable them to keep level with jostling rivals. His advance is entirely on the Godlike side of his

being, in his intellectual and moral qualities, where he has no rivals; and, contrasted with the imperceptibly slow rate of physical evolution, his progress has been marvellously rapid and grows faster year by year.

As an animal, man needs no improvement to fulfil his high destiny; as a man, with self-consciousness in the likeness of God, he is still far from fit to leave the world and meet the God who made him.

But our present pace of progress is so swift. The miracles of yesterday—X-rays, wireless telegraphy, &c.—are the commonplaces of to-day; and there will be new, undreamt-of miracles to-morrow.

In a very few generations all mankind will be civilised and educated.

Savages will have ceased to exist.

All humanity will realise, from the study of nature, its kinship with God and its destiny to return to God. It will not be long, then, before man shall be fit and ready to leave this old world and go to meet his Father.

If I adhered strictly to the declaration in my preface I should stop here; because I have

reached the limit of my subject so far as it can be dealt with by means of argument. But so many inquirers have begged for more light upon the connection between this scientific argument and the truths of Christianity, that I will write a few words here.

The point of difficulty, of course, is how to reconcile the gradual evolution of God in man with the Scriptural creation of man in the likeness of God. Yet it is not a real difficulty. Everything that has happened in this world since time began has been the working of God in the world; and the day came when—the world being already full of varied animal life—man was created, as a creature differing from all other animals by the conscious possession of an immortal soul, which will rejoin God, its maker.

If we believe that this creation of man as a superior creature, by his endowment with a conscience, in the likeness of God, was achieved by a continuation of the same process which had previously created all other animals, we do not begin to doubt the Biblical narrative. We merely begin to understand it.

We do not detract anything from the working of God in the world, by comprehending that the creation of man came as the harmonious climax to an ordered, predestined series of progressive changes. We merely become competent to realise and wonder at the marvel of it.

Even if we regard our evolution as incomplete now, there is no need to suppose that our bodily form, dignified for ever in the Bible narrative in its assumption by the Son of God, will be changed before the end of the world comes to us.

Although I have been accused of "attempting to bolster up the effete creed of Christianity," I know that many good Christians must have found that my argument, tracing the evolution of man towards God, leads them over strange ground, where they cannot recognise any of the familiar Scriptural landmarks.

They cannot, for instance, see where, in a strictly scientific argument, based upon evolution, room can be found for the miracles which form the basis of Christian faith.

But science cannot say a word against the possibility of the miracles of the Bible: because it cannot presume to limit the future operations

of a Power of whose qualities it has, by scientific methods, learned nothing whatever so far.

Years ago—when men of science were dogmatic because their knowledge was so small—science would flatly have denied the possibility of many things which are done as matters of course to-day.

A ship is in mid-ocean, and it gathers from the air the news which is being told that day on land a thousand miles away.

You see a little glazed room at a railway station, or a post-office, labelled "Public Telephone." You walk in and tell a friend a hundred miles away the joke which some one has just told you at the club. Then you walk out again as if you had done nothing wonderful.

Yet there was a time when men—learned, righteous, and God-fearing men, too, according to their dim lights—would have burned you at the stake for saying that such things could possibly be done.

Science to-day, grown wiser, does not use the word "impossible": least of all in connection with the working of a force of which it knows

nothing and can only recognise its vehicles and its results.

And if science cannot say that man, grown Godlike in power and purity, may not in the future achieve what would be regarded as miracles to-day—seeing that the commonplaces of to-day would have been miracles in the past—who can presume to say that the spirit of God did not, on one great occasion in the history of the human race, act directly to produce pure offspring of God in human form?

It is not my business to enlarge upon this theme, any more than it falls within my province to do more than briefly indicate that the gradual evolution of man to God does not conflict with the Biblical account of the Creation and salvation of man.

If, in following the gradual rise of man, we can recognise the point at which God endowed him with a living soul, *i.e.*, with the self-conscious sense of duty, which is conscience: it does not detract from the marvel of the fact, that it came as the natural crown of work which had been going on from the beginning of the world.

ANATOMY NO GUIDE

“It was his faith—perhaps is mine—
That Life, in *all* its forms, is *one*;
And that its secret conduits run
Unseen, but in Unbroken line,
From the great Fountain-head Divine,
Through man and beast, through grain and grass.”

LONGFELLOW.

CHAPTER VIII

ANATOMY NO GUIDE

The Brain and the Mind—Anatomy's Limitations—Minds of Monkey and Man—An Imaginary Incident—The Growth of Language.

A DIFFICULTY which some minds encounter in trying to understand how man alone possesses the power of conscious thought is the fact that anatomy reveals no difference between his nervous structure and that of other animals.

This, however, presents no real difficulty. The nervous organisation of animals is needed for the proper protection of their bodies from injury and for the guidance of their muscles; and there is no reason why dissection of a human brain should reveal the seat of conscious

thought, because almost all qualities of the brain have so far evaded discovery by knife and microscope. Of course, the general difference between such a brain as conceived the dramas of Shakespeare and that of an ape might be demonstrated in diagrams; but no demonstrator could explain what it is that endows one of the two brains with possibilities of genius.

And why should any of us wonder that the seat of conscious thought is not conspicuously located in the human brain, when science cannot even point out the seat of life?

Between a living man and a corpse there is all the difference which we see between machinery working at full blast and the same at rest. But in the case of the machinery we know exactly where to apply the match to light the fuel that will start the engine; whereas we have no man of science who, if he were dying and some mysterious power placed in his hands a spark of new life, would know in which part of his body it should be placed.

Thus, even if the acquisition of the power

of conscious thought were so wide a departure from the line of mere animal intelligence as the magnitude of its consequences might seem to suggest, there would be no reason to expect to find traces of it in the bodily structure of our brain and nerves.

But the truth is that the departure which savage man has made from the line of animal intelligence is very slight indeed. Perhaps we can sum up the difference most simply by saying that man, even in a savage state, thinks *about* things, while other animals merely think *of* things. By connections of ideas the animal is able to adopt a line of action which seems to indicate what we call intelligence, but such actions are only of the kind which nature can crystallise, if they prove useful to the race, into instinctive habits.

Man, in his lowest type, goes a little further only than this. His connections of ideas do not necessarily end in action, like those of other animals. One connection leads to another, and thus he follows a train of thought which leads his mind away from matters of the moment and away from his bodily needs or

desires. Thus he is constantly being reminded of his own individuality as the central point to which his wandering thoughts invariably return.

When he is pleased or when he is hurt he thinks about his sensations, and is happy or unhappy in consequence. It is the marvel and beauty of natural evolution that great results grow gradually from such very slight beginnings; and at first, no doubt, man's power of abstract thought went very little beyond that futile wandering of mind which is often apparent on the face of a monkey when it sits alone, apparently oblivious for a while of its surroundings, with a far-away look in its eyes. But the mind of the monkey returns from its wanderings empty-handed, so to speak—or, rather, drops its gain on the threshold because there is no conscious personality at home to receive it—whereas the mind of man eagerly grasps new knowledge from each excursion of its thoughts.

Perhaps an imaginary incident will bring out this difference clearly. Let us suppose that a leopard had been the terror of a wood which was haunted by a troop of monkeys

and a company of savages, and that in a final encounter with either of these it had been beaten off, fatally wounded and bleeding from the lungs. Now, it is practically certain that a monkey which chanced to come upon the blood on the ground later would at once recognise the dreaded scent of the leopard and bound away in terror, chattering to his tribe to flee. A man, on the other hand, would note the bright colour of the blood, and, knowing by experience that creatures always die when they shed blood of that colour, he would joyfully summon his comrades to come and search for the corpse.

Thus man, from his power of thinking *about* the leopard instead of merely thinking *of* it, would gain a great advantage; and similar advantages would await him at every turn of circumstance. The habit, moreover, of thinking about things would necessitate the use of language. What you think *of* a thing can always be expressed by a single ejaculation of fear, pleasure, contempt, &c., such as other animals use; but what you may think *about* it can only be expressed in human speech.

In many other ways the human habit of thinking just a little further than other animals—of using connections of ideas as stepping-stones to knowledge—must have had the effect of causing man to converse; and the use of language must have given him wider range of thought, since it placed all the experience and the knowledge of his tribe at his service.

We can see, then, how easily and rapidly he would go ahead of all other animals in mental and moral evolution, and how he would inevitably acquire the habit of thinking more and more about his own sensations, causing him to feel happy or unhappy in circumstances which would scarcely have affected the equanimity of his ancestors. He would, in fact, cease to be an animal of impulses and instincts, and become a conscious human being.

I think, therefore, that there is no need to disbelieve that this difference exists between men and other animals, merely because the dissecting-knife reveals no important difference in their nervous structure.

AUTHORITIES IN SUPPORT

“Some say that in the origin of things,
When all Creation started into birth,
The infant elements received a law
From which they swerve not since;
That under force of that controlling ordinance they move
And need not His immediate hand who first
Prescribed their course, to regulate it now.”

COWPER'S *Task*.

CHAPTER IX

AUTHORITIES IN SUPPORT

A Personal Explanation—Descartes' Theory—Darwin's remarkable Admission—Atheists and Ultra-humanitarians—Kant's Testimony—David Hume as a Witness—Some Modern Thinkers—Letters from Correspondents.

WHEN I commenced this argument I had no idea what remarkable and welcome support my conclusions would gather from the works of some of the greatest thinkers of the past, such as Descartes, Kant, and David Hume. I was even unaware that Darwin had partially enunciated the basis of my argument.

Perhaps some explanation of my ignorance, especially my ignorance of Descartes' ancient theory that animals are mere automata, may not be uninteresting, because, curiously enough,

it arose from the fact that I had unwittingly adopted Descartes' own method for arriving at truth.

As a boy I was a greedy devourer of books which might throw a light upon the mysteries of natural history; but it was not until I had read Darwin's "Origin of Species" and "Descent of Man" that I found any light at all. And after these the works of all other writers seemed confusing and futile. So, like Descartes, I abandoned the reading of books and sought to find truth by my own unaided speculations.

Perhaps it was a natural consequence that, like him, I should soon have arrived at that point of knowledge whence the fundamental difference between man and other animals becomes plainly manifest, although I reached it from an opposite direction.

For Descartes, with the ruthless accuracy of his philosophic methods, came straight to the conclusion that man, by his conception of God, proves himself to be the sole possessor of a rational soul and that other animals are therefore mere automata: whereas I, with the advantage of the two-and-a-half centuries of

research which had culminated in Darwin's great works, was laboriously seeking for an explanation of the apparent cruelty in nature, and made my way from fact to fact, beginning from the very lowest forms of life, until at last I, too, found myself in possession of the great truth that, because man alone has, in his likeness to God, a self-conscious soul, he alone knows the meaning of unhappiness, which is a spur to his development as the direct offspring of God.

“*Cogito: ergo sum*”—“I think: therefore I have conscious existence”—was the basis of Descartes' argument. “I have conscious existence: therefore I know that I come of God” is the conclusion of my own.

And because Descartes, living so long before the dawn of the truth of Evolution, could merely aver that animals had been finally created as mere automata, the acceptance of his teaching, with its inexorable logical consistency, undoubtedly led to cruelty in practice: whereas I have perfect confidence that no such consequence will follow from the proper understanding of the truth in its newer shape, that

it is God within us which has raised us above the other animals, though they are rising, too.

Take my own case. Years ago, when I still believed that animals suffer as we do, I used a gun for sport. Now, though I do not condemn the sportsman whose mind permits him to enjoy the sport of killing, because he is not yet enlightened by the truth, I cannot shed blood, except of necessity and with regret.

Sir Edwin Arnold, after years of intense and sensitive study of Buddhism—a religion which may be described as a mystic blend of Christianity with evolution—gave us in poetic phrase the maxim, as I hold that it will be, of the religion of the future in its relation toward animal life:—

“Kill not, for pity’s sake: and lest ye slay
The meanest thing upon its upward way.”

I quote these lines elsewhere: but they are lines which cannot be quoted too often.

In Darwin’s “Descent of Man” (second edition),

page 69 and the following fourteen or fifteen pages, the question of the mental similarity of other animals to man is fully discussed. In these pages Darwin, with his inimitable genius for taking pains, piles up evidence to show that other animals exhibit anger, fear, memory, affection, &c., in the same way as man does. No one questions this nowadays; but Darwin was undertaking a Herculean task in proving it a generation ago.

Exactly thirty years have passed since I read the book; and I admit that I was pleased, on taking it down from the shelf again, to find that Darwin stopped his argument, that man and other animals are alike, exactly at the point where I say that men and other animals become different.

After fourteen or fifteen pages crammed with facts arrayed to prove that the mental qualities of other animals are not different from ours, Darwin says: "It may be freely admitted that no animal is self-conscious."

It is true that he defines a man's self-consciousness as the power of reflecting upon "such points as whence he comes and whither he will

go, or what is life and death, and so forth"; but the "so forth" is an elastic phrase. It certainly covers such questions as what is pain and pleasure, happiness or unhappiness, "and so forth."

You must remember that Darwin was labouring to trace the mental *likeness* of man and other animals, for the purpose of establishing his theory of the descent of man; and it is characteristic of the absolute fairness of his mind and the dry impartiality of his conclusions that he frankly abandoned the argument when he reached the human faculty of "self-consciousness."

Darwin conceded this, although he was striving to establish an unpopular doctrine—now firmly established in all scientific minds—by heaping up evidence in its favour. Now we, on the other hand, who have accepted his doctrine of evolution as the mainspring of the machinery of existence, are more concerned in discovering the checks and limitations which modify its working. And I think that it is little short of marvellous that in the honesty of his intellect and in spite of his urgent desire

to establish the absolute identity of animal and human emotions and mental powers Darwin should have written these words: "It may be freely admitted that no animal is self-conscious."

It is never possible for any one to please everybody, least of all when he ventures upon the debatable ground of the relation of religion to science. Extreme atheists, who do not wish to believe that there can be a merciful God, and extreme humanitarians, who are so consumed with pity for animals as to refuse to believe that God can be merciful to them in sparing them the self-conscious knowledge of their sufferings, are, of course, irreconcilable. "Comical" and "amusing" are the epithets applied by one humanitarian journal to my earnest attempt to convey to my readers the faith which enables me to look out upon the world of wild nature as a scene of ever-changing interest without unhappiness.

How far apart in creed may be the atheists, whom the sufferings of men impel to deny the Creator, and the humanitarian, who insists that man, made in the likeness of God, is more brutal than the beasts, I cannot say: but if aught that

I have written enables some to study nature without denying and doubting God, I have done a good work; and it was a great pleasure to me to find that in the main basis, at any rate, of my argument I had the support of Darwin's master mind.

Next let me quote from the writings of Kant, probably the greatest of all philosophers of modern times, the one significant passage: "The dog distinguishes roast meat from bread because he is affected differently by them (for different things produce different sensations), and the sensation of the former is the source of a different desire in him from that of the latter, in consequence of the natural connection of his instincts and his ideas. From this we draw the suggestion to study more carefully the essential distinction between rational and irrational animals. If we could discover what that secret faculty is by which judgment is possible we should solve the difficulty. My present opinion inclines to this, that this faculty or capacity is nothing but the power of the internal sense—that is, the power of making our own ideas the object of our thoughts."

As a footnote to the first sentence quoted in the above, Kant wrote: "It is, in fact, of the greatest importance to attend to this in an inquiry into the nature of the lower animals. In observing them we are aware merely of certain outward actions, the difference of which indicates a difference in the determination of their desire. But it by no means follows that this is preceded in them by such an act of the faculty of knowledge that they are conscious of the agreement or disagreement of what is contained in one sensation with what is contained in another."

Now, Kant died in 1804; and, magnificent as his intellect was, it was not possible for him to anticipate the triumphant theory of evolution propounded by Darwin half a century later. Had it been otherwise I think that there is little doubt that he would have recognised that this power of self-conscious thought—"the power of making our own ideas the object of our thoughts"—which Darwin freely admits that animals other than man do not possess, has been evolved in man by the pre-ordained process of his natural evolution; and that the power of

thinking about our own thoughts, and feeling happy or unhappy in consequence, has been gradually acquired, beginning with that simple difference which I have pointed out that man thinks *about* things and other animals only think *of* them.

Thus, man's thoughts do not end with their first objective—the satisfaction of the instinctive impulse of the moment—but travel from one connection of ideas to another, return always to “himself” as the central factor of his existence: “himself” not being his body only but a conscious person residing in it and judging its sensations in terms of happiness and unhappiness.

All this, I am sure, would have been visible at a glance to Kant's keen insight, had he lived in these days. It is most encouraging to me to find that what I have tried to explain is only the corollary, so to speak, of the teachings of these great men.

The quotation from Kant brings to memory Huxley's pregnant words, spoken at Edinburgh in November, 1868, regarding Hume: “The most acute thinker of the eighteenth

century, even though that century produced Kant," and the ninth section of Hume's thirty-ninth essay on "The Reason of Animals" contains some very remarkable references to my subject.

I reproduce them here, because they so admirably express and define that difference between man and other animals which I have been trying to explain.

These, then, are extracts from the ninth section of David Hume's thirty-ninth essay on "The Reason of Animals":—

"And any theory by which we explain the operations of the understanding, or the origin and connection of the passions in man, will acquire additional authority if we find that the same theory is requisite to explain the same phenomena in all other animals."

"It seems evident that animals, as well as men, learn many things from experience, and infer that the same events will always follow from the same causes."

"Animals are not guided in inferences by reasoning; neither are children; neither are the generality of mankind in their ordinary actions

and conclusions. . . . Nature must have provided some other principle, of more ready and more general use and application ; nor can an operation of such immense consequence in life as that of inferring effects from causes, be trusted to the uncertain process of reasoning and argumentation."

"But though animals learn many parts of their knowledge from observation, there are also many parts of it which they derive from the original hand of nature, which much exceed the share of capacity they possess on ordinary occasions, and in which they improve little or nothing by the longest practice and experience. These we denominate instincts, and are so apt to admire, as something very extraordinary and inexplicable by all the disquisitions of human understanding."

"But our wonder will perhaps cease or diminish when we consider that the experimental reasoning itself, which we possess in common with beasts and on which the whole conduct of life depends, is nothing but a species of instinct or mechanical power that acts in us unknown to ourselves, and in its chief

operations is not directed by any such relations or comparisons of ideas as are the proper objects of our intellectual faculties. Though the instinct be different, yet still it is an instinct, which teaches a man to avoid the fire as much as that which teaches a bird with such exactness the art of incubation and the whole economy and order of its nursery."

Could anything be more perfect and lucid than the crescendo of argument expressed in these extracts? And the fact that they merely crystallise in virile English the truths which I have been trying to express encourages me greatly. It cannot be mere accident that great minds, such as those of Kant, David Hume, and Darwin, all arrived by their separate paths of straight, converging thought at the point where my argument started—the fact, namely, that animals are not conscious of the reasons for their actions.

Among modern thinkers of course there are many who have questioned the extent to which animals can be conscious of feeling pain.

Alfred Russel Wallace says: "The supposed torments and miseries of animals . . . are the

reflections of the imagined sensations of cultivated men and women in similar circumstances."

In his "Miracles of Unbelief" Frank Ballard speaks about the "grossly and sentimentally exaggerated mysteries of pain."

I do not like to quote, as a rule, from the letters of living correspondents to myself, but these brief extracts from two letters may, perhaps, express the truth better than I have been able to. Here is one:—

"DEAR SIR,—I am afraid that many will never be convinced by your arguments, simply because they will not set aside for the moment their own preconceived ideas on the subject and endeavour to follow to their logical conclusion the arguments you bring forward. The point is that no one has ever before attempted to explain the apparent cruelty in nature, which must prove a stumbling-block to religious belief, and it is of vital importance that theologians should be prepared to deal with the subject, and the manner in which it has been ignored and glossed over is not to the best interests of our faith in a merciful Creator."

The other letter runs:—

“SIR,—May I venture to remark that perhaps if the relation of the phenomenon of consciousness to the nervous system were explained it might help towards a better understanding of an animal’s relation to suffering. Most of us fail to realise the great amount of mental and bodily activity that goes on outside consciousness. Of course, this applies to animals with greater force than it applies to man, because animals have a much more limited sphere of consciousness. Also, we overlook the fact that a man’s nervous system will respond to a stimulus from without, and a state of consciousness (*e.g.*, pain) may be brought about as a result, while an animal’s nervous system will respond to the same stimulus and no state of consciousness (*i.e.*, no pain) will result. Therefore, we do not see the fallacy, although there is one, in believing that consciousness must be associated with a series of complicated actions performed by an animal to effect an end.”

I have quoted the foregoing because, while it admirably expresses the correct scientific point of view of the matter, it illustrates my

difficulty in the expression of new ideas by means of old words, since the writer uses the word "pain" as equivalent to a form of consciousness, and I have been using the word "pain"—no other word being available—as equivalent to a bodily sensation, which may or may not be "conscious."

The point of real importance, however, is that there is this vital difference between the feelings of man and other animals, that we are self-conscious—we know what we suffer—and they are not. In this conclusion we shall all be merely making a practical application of the truth at which Kant, Hume, Darwin, and other great thinkers arrived by following different lines of profound thought.

CRUELTY TO ANIMALS

“I falter where I firmly trod,
And falling with my weight of cares
Upon the great world’s altar-stairs
That slope thro’ darkness up to God.

I stretch lame hands of faith and grope,
And gather dust and chaff, and call
To what I feel is Lord of all,
And faintly trust the larger hope.”

TENNYSON’S *In Memoriam*.

CHAPTER X

CRUELTY TO ANIMALS

Humanitarian Objectors—Cruelty and Civilisation—Trying to hide the Light—A Dog's Lapses—Nobility of Domestic Animals—"The Larger Hope"—Our Educative Influence.

THE hostility of some extreme humanitarians to the view that animals are mercifully spared self-conscious knowledge of their sufferings arises from the fear lest acceptance of the facts will encourage cruelty to animals, or at least will diminish the enthusiasm of those who support the movement for the prevention of such cruelty.

Now this is not the case.

True religious feeling and cruelty cannot exist in the human mind together; and the greatest obstacle hitherto to religious

feeling has been the apparent cruelty of nature.

Moreover, the growth of our human tendency to be kind to animals is a process which cannot be checked. It was only the imperfection of human creeds which caused the cruelties that have disgraced our ecclesiastical histories. To be human, to be humane, to be Godlike—are the three stages of our evolution as conscious beings; and discoveries of truth are only an index of our progress.

Besides, even if it were true that belief in the fact that animals suffer unconsciously would tend to make the thoughtless more cruel in their actions, this would be a far less evil than that those who think should find their knowledge of nature a stumbling-block to religion. The thoughtless can be made to think by proper teaching, but the thinker can be aided only by the light of truth; and to refrain from telling him the truth for fear of being misinterpreted by the others would be one more instance of the fatal error of putting out the light to save the moth. The light of truth must shine in the end, and the

attempt to hide it, from fear of present trouble, would be cowardly and cruel to the best of the rising generation.

But the suggestion that belief in the fact that man alone is self-conscious will tend to encourage cruelty arises from a misapprehension of the nature of cruelty.

Cruelty is that animal quality lingering in man—the joy of a hunting animal in possession of a victim—which civilisation is stamping out, replacing it by a worldwide sympathy with everything that breathes.

To understand the lives of other animals—even if that understanding compels us to recognise that they have not our human consciousness—is to sympathise with their struggles and difficulties; and the idea of being cruel to them, should you entertain it for a moment, would betray to your own mind your unfitness to regard yourself as a civilised being. It would make you contemptible in your own sight.

When the true knowledge of nature is universal, there will be no cruelty.

Many people seem to think that this desirable

state of things can be hurried on at once, and that cruelty to animals can be suppressed by constant appeals to sentiment. They therefore hold that it is bad policy to reveal the truth—that animals other than man are not self-conscious—because it will give the cruel an excuse to continue in their cruelty. I have received numbers of letters saying in effect: “No doubt your argument is perfectly sound; but why publish it? Think of the harm it will do!”

But all this is a mistake. No great cause can be won on sentiment, which is matter of opinion; because human opinions must always vary. Logic and truth, however, are arguments which no human mind can resist: and when the truth has been universally understood and acknowledged that our human consciousness is that in which we bear the likeness of God—that we stand to the lower animals as the representatives of their God—cruelty will be impossible in any human mind. I wish that the avowed humanitarians would recognise how much stronger their position would be upon this higher plane; because there is wisdom in

the old saying, "Omnia dat qui justa negat"—"He who denies the truth gives his whole case away."

Before leaving the subject of the feelings of animals I would say a word or two to those who are passionately fond of animals, such as dogs and horses or other pets.

In following the straight line of my argument, I have drawn a strict distinction between man and "other animals," because I believe it to be true that no other animal than man has gone through the ages of mental discipline which resulted in the development of self-consciousness.

But I cannot help admitting—nay, loving animals as I do, I am glad to claim—that like causes must always produce similar effects, and that in demanding obedience from our domesticated animals and in permitting them to take concerted action with us in sport, agriculture, domestic life, &c., we may be on the way to endowing them with self-consciousness and morality.

A well-trained dog's lapses may be deplorable and totally inconsistent with morality: some-

times even they are incompatible with the possession of any conscious intelligence.

The other day there was a great partridge drive in my neighbourhood, and it so happened that one bird flew against a telegraph wire with such force that one of its wings was cut cleanly from its body. An exceptionally clever retriever was sent to fetch the bird, and it returned, perfectly satisfied, with the wing, refusing to go and look for the bird again.

Now, here was a manifest instance of the natural instinct satisfied by the acquisition of a mouthful of feathers which had the right smell, accompanied by complete ignorance of the meaning of the whole business. I do not think that a human ancestor of man would have been content to come back with a handful of feathers instead of a bird.

This is only a casual and imperfect illustration of the way in which the most intelligent dog, a creature that we have perhaps accustomed ourselves to treat almost as an equal, will suddenly throw us back to the beginning of all things, by showing that he

has not really the faintest notion of the meaning of his own cleverness.

Yet, on the other hand, there are many moments when those who love animals seem able to read in their conduct, in their honest eyes, and their loving human ways, something which no argument can touch.

This, I believe to be, in some mysterious way, the spirit of God which we, possessing it, have been privileged partially to communicate. All this is at present surrounded with a haze of mystery. But I do believe that man, who is now the representative of God upon the earth, has a destiny and a power in relation to other animals which he has not yet learned to achieve and to exercise. I believe that our growing sympathy with animal life is only the beginning of our realisation of this fact. I believe that the yearning look on the face of a dog is a responsive echo to this truth. And I live in "the larger hope."

So I will add this postscript to my argument regarding men and other animals and the connection between science and religion. I desired

to carry the argument to its logical conclusion, before pausing to consider what man, as the representative of God, will hereafter be able to effect for other animals; and I admit that we have very little in the way of evidence to go upon, beyond the undoubted fact that we are able to educate animals and to elevate them. By this I do not refer so much to the cleverness of trained animals as to the noble characteristics which devotion to man seems to bring out in them. We know so little of the home life of wild creatures that we cannot say what germs of such nobility the ancestors of our dogs and horses may have possessed; but I believe that our natural feelings towards animals which we love—those feelings which have caused many to regard my argument with hostility—are right and true. I believe that we are justified in thinking that there is the germ of something more than mere animal instinct in their conduct towards us.

And I would not draw any hard-and-fast line of separation between different classes of other animals in their capacity to exhibit improvement of character arising from devotion

to man. There are few classes of animals which have not at one time or another been kept as pets by human beings; and the invariable testimony of the owners of such pets—donkeys, pigs, geese, squirrels, rats, tortoises, parrots, canaries, sparrows, mongooses, snakes, &c., &c.—is that they exhibit many charming qualities and acquire unexpected intelligence.

This is a very important fact, suggesting that all other animals possess latent capabilities of a higher order than those which their natural surroundings bring to the surface; and there may be no reason why, if we only understood how to do it, we should not be able to help other animals across the boundary-line which now separates them from us.

Our knowledge increases every day, and to future generations the means whereby the power of conscious thought can be awakened in other animals may be a commonplace, both in theory and practice.

But perhaps such power can only be possessed and exhibited by animals which have been raised by our aid above the natural struggle for existence. We have seen how man

himself, when he reverts to the habits of a hunting animal, loses not only all sensibility as to the feelings of other animals, but also ceases to "suffer" from his own hardships. We have seen, too, that savages have risen very little above the level of animal existence, although in their use of language, the habit of self-decoration, and the religious sense, they possess all the germs of civilisation.

Nor, in spite of the enormous advances which we have made in other ways, can we ourselves claim to have left the savages far behind in our attitude towards other living creatures, since even now many of the most exalted and respected members of civilised society find their favourite pastime in killing for sport.

They are not necessarily to be blamed for this. They are merely following a natural instinct which civilisation has not yet eradicated. But each generation is more humane than its predecessor was, and it may not be long before man shall assume his proper *rôle* as the beneficent governor, protector, and teacher of all wild life.

CONCLUSION

“Oh, world as God has made it!—
All is beauty,
And knowing this is Love, and
Love is duty.”

BROWNING.

CHAPTER XI

CONCLUSION

Summary of the Argument—The Creed of Nature—The Next Step?

IN order to show that in the preceding chapters I have not been reasoning loosely, nor obscuring the question with literary flourishes, I will here lay the bare chain of my argument before my readers so that they may test for themselves the strength of each of the nineteen links of which it is composed, as follows:—

1. There can be no unhappiness or “suffering”—in the human sense of anguish, agony, pain, torment, torture, &c.—unless one knows what one feels.

2. There can be no knowledge of what one

feels without self-consciousness—that is to say, without the power of thinking about one's feelings.

3. The lowest forms of plants such as the green, slimy film which spreads over a damp paling, and is composed of myriads of microscopic one-celled plants, which multiply by splitting up, cannot have the power of thinking about their "feelings." When you brush against an old fence and make your coat-sleeve green you do not cause hundreds of thousands of these to think about the "pain" that they have suffered. (All will, I think, admit this: but I have enlarged upon it, because it is the only link in my argument which is not logically self-evident.)

4. Since the lowest forms of plants cannot think about their own feelings, neither can the lowest animals: because there are some of these very low creatures which are, according to zoological definitions, "animals" at one time and "plants" at another, and others which some rules of science class as plants and others class as animals.

5. Since there is no distinction between the

lowest animals and the lowest plants, the sensitive movements of an animal of a slightly higher class, such as a sea-anemone, afford no evidence of conscious knowledge of its feelings, because the Sensitive Plant shows equal sensibility.

6. The sea-anemone's method of capturing its prey affords no evidence of conscious thought, because the sundew plant catches prey by the same method.

7. The sea-anemone's method of defending itself by stinging affords no evidence of conscious thought because the nettle-plant defends itself by the same method.

8. No other of the ordinary, instinctive actions of animals afford evidence of conscious thought because none are more "clever" than the movements of the organs of many plants to secure cross-fertilisation, &c.

9. Even those actions of higher animals which do not at first sight seem to be instinctive, but appear to furnish evidence of moral sense and intelligent motive, are found, upon examination (in the preceding pages), to be instinctive and unintelligent. The instances

purposely selected to illustrate this have been those which are usually quoted by authorities as evidence of animals' moral sense and reasoning power; namely:—

(a) The solitary wasp's care of its young.

(b) The care of aphides by ants.

(c) Birds' care for their young.

(d) The dog's devotion to its master.

(e) The cat's devotion to its home.

(f) The docility of the horse.

(g) The brain-power of the monkey.

10. Thus we find that no actions performed by any animals afford evidence of the power of conscious thought. On the other hand, they unquestionably demonstrate the absence of conscious thought.

11. But the actions of the very lowest types of men demonstrate the power of conscious thought; such as:—

(a) The use of language to express such thought.

(b) The use of personal decorations, which would not be possible without conscious thought of personal appearance.

(c) The conception of religion, which could only arise from realising the existence of a

power or powers greater than those known to our senses ; which, in turn, could only be realised, by conscious thought about one's own limited power.

12. Therefore the line of separation, to mark where self-consciousness begins, may confidently be drawn between the lowest man and the highest of other animals. (This is the meaning of the "likeness of God" in man.)

13. Therefore, man alone can "suffer" (in the ordinary sense of the word) because man alone can know what he feels, being the only animal endowed with self-consciousness.

14. Therefore there is no "cruelty" or "suffering" in nature, except where it exists in the thoughts of men.

15. And the suffering of men is the spur which urges them upwards, the life of every man having a credit balance on the side of happiness.

16. Therefore beneficence is the keynote of the history of the world and of man. (This proves the beneficence of man's Creator.)

17. Man, moreover, is conscious of the superiority of his soul, and as he becomes civilised he

becomes humane; *i.e.*, consciously beneficent towards all life in his thoughts and actions.

18. Thus man becomes more Godlike age by age, and is by this process destined to complete his evolution in power and purity and to rejoin God.

19. Thus are science and religion united.

[As I have pointed out, the only link in this argument, which is not logically self-evident, is No. 3; because, though some persons who seem to imagine that they hold a brief for "suffering humanity" against its Creator would contradict No. 15, *every man* knows in his own heart that *his own* balance of happiness in life is on the right side. Therefore the only ground on which my conclusion can be assailed is that, when you accidentally brush off the green film from a rotten paling with your coat-sleeve you cause hundreds of thousands of plants to *know* that they feel pain: which, as Euclid would say, is absurd.]

It only remains for me to outline briefly the basis of the creed which is the offspring of this union of religion and science.

It is that all the forces of nature whose

operations have so far been observed and chronicled by man are manifestations of one primal force, the spirit of God, working in the world from its dark beginning towards its glorious end.

The attractions and affinities of matter are among the widest and oldest of these manifestations; while the workings of the human mind are the highest and newest—the very highest of all being those direct inspirations which from time to time have given to mankind the revealed truths of religion and those abstruse speculations which have resulted in the ascertained truths of science.

Between these extremes of our present knowledge of the working of God in the world there is no reason why Christians should not read with reverent belief the Bible story of the Creation, recognising it as the direct revelation of the truth by the spirit of God in man, expressed with as much scientific accuracy as the ideas and language of the age allowed.

For in it we see how God first created the world in a nebulous shape—"without form and void"—and how the spirit of God, implanted

therein and working by processes which we have accepted as laws of nature, brought the land and the sea into their places, absorbing the primeval vapour, so that the light of the sun and the moon and the stars shone upon the earth. Next we see how the working of the same spirit of God in the world became further manifest in the beginnings of life; and how by successive stages of evolution the various classes of the vegetable and animal kingdoms were created, the great work culminating in the creation of man as a self-conscious being "in the likeness of God."

From this point we see how man rapidly advanced in knowledge and power, until one race was distinguished above all others by the inspiration of its prophets with the revealed truth.

From a worldly point of view the fortunes of the chosen people were thereafter less brilliant than those of some other races who knew not the truth of God working in them: and when the great shock of conflict occurred between truth and untruth—when the very spirit of God incarnate in human form appeared as Christ, the Teacher of the world—untruth

temporarily triumphed and stood with its heel upon the neck of truth.

But man, even in spite of himself, is the chosen vehicle of the highest working of the spirit of God in the world, and in time the downtrodden truth permeated and ruled the whole civilised world.

Meanwhile, however, the same spirit of God working through the brain of man in other ways brought within our reach certain great portions of the truth, which, as formulated and catalogued by modern science, seemed at first sight to conflict with the main truth as revealed by direct inspiration in unscientific times.

This apparent disagreement between religion and science has led many good men astray: but, as I have shown, the disagreement is not real: because, when rightly viewed, the truths of science and the truth of religion are one and indivisible.

.

I have concluded my present task: but I have the courage to believe that many of my readers will be as unwilling as myself to let this matter end here—in the publication of a book.

I believe that they will feel with me that this "Religion of Nature" is a real thing, and that we ought to strive to make it universally accepted as the very truth.

Its mere promulgation in this little unpremeditated volume is nothing, compared with the consequences which follow from its acceptance. Already I have a mass of material which has rolled in upon me from many directions and ought not to be wasted.

Standing, moreover, on a threshold which seems to offer to our reason and our conscience safe shelter from all storms of controversy and doubt, we should enter boldly and make our home there, if further examination and experience prove it to be as storm-proof as it appears.

What should our first step be, is the question: and I would suggest that all readers who are deeply interested in this subject and would like to follow it further, should write to me, sending any thoughts, inquiries, or suggestions which the reading of this book may have brought to their minds.

As I have no facilities for dealing with large

personal correspondence, I would ask all who may write, kindly to look for *ad interim* acknowledgments and notifications on the subject in *The Country-Side*.

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NORTHGATE HALL, WARHAM, WELLS, NORFOLK.

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