

## ADDISON AS A STUDENT OF NATURE.

[*Concluded from THE CHURCHMAN of January, p. 47.*]

[*The following is the second part of the paper written for a Literary Society by the late Rev. G. S. Streetfeild, who kindly sent it to us for publication. We greatly regret that before it was possible for it to appear in these pages he passed away.*]

ADDISON'S reflections on the works of creation may seem to us commonplace, but they were not so to his contemporaries, many of whom would read with bated breath his allusions to the astronomic discoveries of Isaac Newton, or the microscopic revelations of Robert Hooke.

Thus in No. 420 he writes of what he terms the New Philosophy. The New Philosophy was the term applied in Addison's day to the laws of the universe as interpreted by Sir Isaac Newton. The Baconian system of reasoning was known at that time as "the new knowledge," and this may well have been in Addison's mind when speaking of the "new philosophy"; but that he is contemplating the discoveries of Newton and the scientists who preceded him is made clear by the fact that, in 1693, Addison pronounced in the theatre at Oxford an oration in defence of the Newtonian philosophy. This "Defence," translated from the Latin original, was printed as an appendix to *A Conversation on the Plurality of Worlds*, a translation from the French of M. de Fontenelle, who died a centenarian well on in the eighteenth century. In this paper (No. 420) Addison says:

"Among this set of writers (i.e. who appeal to the imagination) there are none who more gratify and enlarge the imagination than the authors of the new philosophy, whether we consider their theories of the earth or heavens, the discoveries they have made with their glasses, or any other of their contemplations on nature. We are not a little pleased to find every green leaf swarm with millions of animals, that at their largest growth are not visible to the naked eye."

One thinks that the writer must have been to some extent drawing on his imagination when he thus wrote. We find a parallel statement in a paper he had a few years before contributed to the *Tatler*, on the revelations of the microscope. It is called "A Morning's Dream," and suggests that disembodied spirits are able to perceive

without mechanical aid, far more than the microscope discovers to man, by sharpening the sight to what degree is thought fit. In this *dream* millions of *species* are descried subsisting on a green leaf.

“ There is something,” continues Addison, “ very engaging to the fancy, as well as to our reason, in the treatises of metals, minerals, plants and meteors. But when we survey the whole earth at once, and the several planets that lie within its neighbourhood, we are filled with a pleasing astonishment, to see so many worlds hanging one above another and sliding round their axles in such an amazing pomp and solemnity. If, after this, we contemplate those wild fields of ether that reach in height as far as from Saturn to the fixed stars, and run abroad almost to an infinitude, our imagination finds its capacity filled with so immense a prospect, and puts itself upon the stretch to comprehend it. But if we yet rise higher, and consider the fixed stars as so many vast oceans of flame, that are each of them attended with a different set of planets, and still discover new firmaments and new lights that are sunk farther in those unfathomable depths of ether, so as not to be seen by the strongest of our telescopes, we are lost in such a labyrinth of suns and worlds, and confounded with the immensity and magnificence of nature.”

Such remarks as the foregoing may to-day seem to savour of the commonplace ; and it seems odd to us that Addison’s vision of the planetary system should stop short at Saturn, but that was as far as the telescope had revealed the universe in his day. Uranus was discovered in 1787, Neptune in 1846. On the other hand, there is nothing surely commonplace in Addison’s observations on instinct, which are as interesting now as they were two hundred years ago. It is, of course, obvious that they were written before Darwin, or even Lamarck, had said their say ; but they are the product of close observation and clear thinking ; and some of the facts brought forward are as incapable of explanation to-day as when they first appeared in the *Spectator*. Particularly important is the distinction he draws between reason and instinct. How deep was Addison’s interest in the subject of animal instinct is shown by two of his contributions in *The Guardian* (Nos. 156, 157) on the life and habits of ants, translations from a publication of the French Academy.

“ I must confess,” he writes in No. 120 of the *Spectator*, “ I am infinitely delighted with those speculations of nature, which are to be made in a country life, and as my reading has very much lain among books of natural history, I cannot forbear recollecting upon

this occasion the several remarks which I have met with in authors, and comparing them with what falls under my own observation : the argument for Providence drawn from the natural history of animals being in my opinion demonstrative. . . .

What can we call the principle which directs every kind of bird to observe a particular plan in the structure of its nest, and direct all the same species to work after the same model? It cannot be imitation ; for though you hatch a crow under a hen, and never let it see any of the works of its own kind, the nest it makes shall be the same, to the laying of a stick, with all the other nests of the same species. It cannot be reason ; for, were animals endued with it to as great a degree as man, their buildings would be as different as ours, according to the different conveniences that they would propose to themselves. . . .

One would wonder to hear sceptical men disputing for the reason of animals, and telling us it is only our pride and prejudices that will not allow them the use of that faculty.

Reason shows itself in all occurrences of life ; whereas the brute makes no discovery of such a talent, but in what immediately regards his own preservation, or the continuance of his species. Animals in their generation are wiser than the sons of men ; but their wisdom is confined to a few particulars, and lies in a very narrow compass. Take a brute out of his instinct, and you find him wholly deprived of understanding. To use an instance that comes often under observation : with what caution does a hen provide herself a nest in places unfrequented and free from noise and disturbance ! When she has laid her eggs in such a manner that she can cover them, what care does she take in turning them frequently, that all parts may partake of the vital warmth ! When she leaves them, to provide for her necessary sustenance, how punctually does she return before they have time to cool, and become incapable of producing an animal ! In the summer you see her giving herself greater freedom, and quitting her care for above two hours together ; but in the winter, when the vigour of the season would chill the principles of life, and destroy the young one, she grows more assiduous in her attendance, and stays away but half the time. When the birth approaches, with how much nicety and attention does she help the chick to break its prison ! Not to take notice of her covering it from the injuries of the weather, providing proper nourishment, and teaching it to help itself ; nor to mention her forsaking the nest if, after the usual time of reckoning, the young one does not make its appearance. A chymical operation could not be followed with greater art or diligence, than is seen in the hatching of a chick, though there are many birds that show an infinitely greater sagacity in all the forementioned particulars.

But at the same time the hen, that has all this seeming ingenuity (which is indeed absolutely necessary for the propagation of the species) considered in other respects, is without the least glimmerings of thought or common sense. She mistakes a piece of chalk for an egg, and sits upon it in the same manner. She is insensible

of any increase or diminution in the number of those she lays. She does not distinguish between her own and those of another species ; and when the birth appears of never so different a bird, will cherish it for her own. In all these circumstances, which do not carry an immediate regard to the subsistence of herself or her species, she is a big idiot.

There is not, in my opinion, anything more mysterious in nature than this instinct in animals, which rises above reason, and falls infinitely short of it. It cannot be accounted for by any properties in matter, and at the same time works after so odd a manner, that one cannot think it the faculty of an intellectual being. For my own part, I look upon it as upon the principle of gravitation in bodies, which is not to be explained by any known qualities inherent in the bodies themselves, nor from any laws of mechanism ; but, according to the best notions of the greatest philosophers, is an immediate impression from the first Mover, and divine energy acting in the creatures."

The subject of instinct is continued in the following essay. It is supposed to be written while on a visit to his friend Sir Roger de Coverley in the country.

" As I was walking this morning in the great yard that belongs to my friend's country-house, I was wonderfully pleased to see the different workings of instinct in a hen followed by a brood of ducks. The young, upon the sight of a pond, immediately ran into it ; while the step-mother, with all imaginable anxiety, hovered about the borders of it, to call them out of an element that appeared to her so dangerous and destructive. As the different principle which acted in these different animals cannot be termed reason, so when we call it instinct we mean something we have no knowledge of. To me, as I hinted in my last paper, it seems the immediate direction of Providence, and such an operation of the Supreme Being, as that which determines all the portions of matter to their proper centres. A modern philosopher, quoted by Monsieur Bayle in his learned dissertation on the Souls of Brutes, delivers the same opinion, though in a bolder form of words, where he says, *Deus est anima bruturum*, ' God himself is the soul of brutes.' Who can tell what to call that seeming sagacity in animals which directs them to such food as is proper for them, and makes them naturally avoid whatever is noxious and unwholesome ? Tully has observed that a lamb no sooner falls from its mother, but immediately, and of its own accord, applies itself to the teat. Dampier in his travels (published 1691) tells us that when seamen are thrown on any of the unknown coasts of America they never venture upon the fruit of any tree, however tempting soever it may appear, unless they observe that it is marked with the picking of birds, but fall on without fear or apprehension where the birds have been before them."

It is in this essay that Addison shows his vital interest in natural

history by expressing the wish that "our Royal Society would compile a body of natural history, the best that could be gathered together from books and observations."

I cannot remember more than one essay in the *Spectator* that has the ocean for its subject. This essay takes the form of a letter addressed to the *Spectator*; but as it is accompanied by a poem of which Addison was the undisputed writer there can be little doubt that the essay was from his pen. It can scarcely be said to be written in his happiest vein, but his mind is full of God as he writes. The immensity of the power of the Almighty seems to him reflected in this object of contemplation. It kindles his imagination and solemnizes his mind. He recalls what Longinus, the illustrious writer on the Sublime, and other classics have said upon the subject, but prefers the words of the psalmist in Psalm cvii. 23 *seq.*: "He commandeth, and raiseth the stormy wind, which lifteth up the waves thereof. They mount up to the heaven; they go down again to the depths; their soul is melted because of trouble. They reel to and fro, and stagger like a drunken man, and are at their wits' end. Then they cry unto the Lord in their trouble, and He bringeth them out of their distresses. He maketh the storm a calm, so that the waves thereof are still." "How much more comfortable, as well as rational," says Addison, "is this system of the psalmist, than the pagan scheme in Virgil and other poets, where one deity is represented as raising a storm, and another as laying it. Were we only to consider the sublime in this piece of poetry, what can be nobler than the idea it gives us of the Supreme Being thus raising a tumult among the elements, and recovering them out of their confusion: thus troubling and becalming nature?"

As we read this paper in the *Spectator* the thought is irresistibly suggested that it was written as an introduction to a poem, or hymn, of ten stanzas, which Lord Macaulay reminds us is a record of the writer's trust in God, and enshrines many memories of travel. In December, 1700, Addison encountered a storm of great fury in the Mediterranean. "The captain of the ship," says Macaulay, "gave up all for lost, and confessed himself to a Capuchin who happened to be on board. The heretic, in the meantime, fortified himself against the terrors of death with devotions of a very different kind." How strong an impression this perilous voyage made on

him appears from the ode, "How are Thy servants blest, O Lord," which was long after published in the *Spectator*.

How are Thy servants blest, O Lord !  
 How sure is their defence !  
 Eternal wisdom is their guide,  
 Their help omnipotence.

The greater part of the hymn describes a dangerous storm—to quote three stanzas :

Confusion dwelt in every face,  
 And fear in every heart,  
 When waves on waves, and gulfs in gulfs,  
 O'er came the pilot's art.

Yet then from all my griefs, O Lord,  
 Thy mercy set me free,  
 Whilst, in the confidence of prayer,  
 My soul took hold on Thee.

The storm was laid, the winds retired,  
 Obedient to Thy will ;  
 The sea that roar'd at Thy command,  
 At Thy command was still.

And so we leave Addison, as we like to leave him, with words of praise and faith upon his lips, and our study of this amiable and talented representative of the era in which he lived closes with an expression of the cheerful spirit of optimism and contentment which characterized him through life, and did not desert him in death.

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*Theology*, reduced in price to one shilling, has, to a large extent, become the organ of the Anglo-Catholic movement. Not that all its articles favour the peculiar outlook of this school, but its Editorial Notes show great sympathy with it, and a recent number published the addresses at one of its Conferences. We always read *Theology* with interest, for its contributors write with knowledge and show courtesy to those who differ from them. All interested in Reunion should make a point of seeing it, for they will then understand more clearly the points of contact and difference between the different advocates of Church Union.