

THE NEW YORK HERALD TRIBUNE

OF THE HUMAN MIND. THE SCIENTIFIC OPINIONS OF THE HUMAN MIND. THE SCIENTIFIC OPINIONS OF THE HUMAN MIND. THE SCIENTIFIC OPINIONS OF THE HUMAN MIND.

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THE REV. W. SHARMAN ON DARWINISM.

The Rev. W. Sharman, minister of the Treville-street Unitarian Chapel, Plymouth, lectured to a large audience at Plymouth Athenaeum on Thursday evening on Darwinism. Mr. J. BUCKINGHAM HOWE, president of the Institution, occupied the chair.—Mr. SHARMAN at the outset limited the scope of his lecture to subhuman forms of life. The theory commonly known as Darwinism, he said, taught that all the species of animals now living on the earth were results of the gradual modification of pre-existing species by inheritance and adaptation to changed conditions of life. The doctrine it opposed was the old unscientific theory of creationism, which asserted that every distinct species was the result of a distinct act of the Creator, introducing some new element or more fully developing what already existed. According to this theory the chain of animate life was a mere mechanical thing, every link having been forged by a distinct act of the Creator's will. According to the evolutionist each link was an organic "part of one stupendous whole, whose body Nature is and God the soul." Each later link had grown out from an earlier one and implied a necessary predecessor. Both theories were hypothetical, but in a different sense. The dogma of creationism was a mere hypothesis, whose assumptions were contradicted alike by geology and biology. Indeed the theory of evolution owed its inception to a large measure to the observed insufficiency of the hypothesis it replaced. The objections to the creationist dogma might be briefly summarized. First, the geological record of the life history of the earth did not accord with the order of the succession of the forms of life adopted by its advocates. In opposition to the accepted order of creation—fishes, whales and birds, and afterwards all terrestrial creatures—Mr. Sharman referred to the first occurrence of foot prints of gigantic walking birds, or Megalornis, in the triassic sandstone of the Connecticut valley, and said there was geological evidence of the pre-existence of terrestrial creatures; among which he specified various insectivorous and insectivorous mammal. Far stronger than the arguments of geology against creationism were those furnished by zoology. Against the theory that species are immutable productions, each of which has been created at some point within the area in which we now find it, to meet the external requirements then prevailing, and has subsequently spread as the conditions of life were favourable to it, he advanced that as a matter of fact we found countries presenting very similar physical conditions which were inhabited by very different animals, and in some cases the animals were not those best adapted to the conditions, as was shown by the extermination of the inferior species or the rapid propagation of the superior when either by accident or design the inhabitant of one district was removed to another. The destruction of the British by the Norwegian rat, the rapid multiplication of the horse in America, the successful introduction of salmon into our colonial rivers, and the success of the European over the native Australian bee were illustrations of this. Again, the doctrine of special creation required that each creature should be perfectly adapted to the ends of its being, and fully furnished for them. This was not always the case, many animals having useless or even injurious organs. The rudimentary teeth of the young whale, wings of many birds, and hind limbs of the sea constrictor, the sting of the bee, the use of which involved the death of the creature for whose protection it seemed designed—with many similar incongruities between fact and doctrine had, he said, suggested the doctrine of evolution, which gave the only satisfactory explanation of them. Darwinism, unlike its rival, was suggested by observation, accorded with fact, and had in at least one splendid instance been subject to the test of verification. The evolution theory originated, he said, in observations of Mr. Darwin during the scientific expedition sent out in the Beagle, when he noticed certain facts relative to the geographical distribution of animals which seemed to throw some light on the origin of species. On his return he began to accumulate facts and make experiments, and in 1859 he felt himself justified in putting forward the hypothesis "that existing forms of life are descendants by transmutation of pre-existing forms." The world of animal life, the lecturer said, shows us the operation of two great laws—the law of inheritance and the law of variation. Controversy began with the question—Would these laws explain the origin not only of varieties but of species. Darwinism answered the question in the affirmative. An example quoted from Mr. Darwin's works, was the multitudinous varieties of the tame pigeon, many of which the ornithologist would classify as separate species if they were shown him as wild birds. What man had done in a few instances and in a few years, Darwinism believed that Nature, working through immeasurable ages, and amid frequently and widely varying conditions, had done in many instances. The means by which such stupendous changes had been wrought Darwin formulated and named as Natural and Sexual Selection. To the argument that the time required for the effects attributed to evolution was immensely greater than physical philosophy would place at our disposal, and the conflict between Mr Wm. Thompson and Professor Huxley, as to the period for which the earth has been fitted to be the abode of animal life, he said they were sure of their facts, and when the geologist and the physicist had fought out their battle, and not until then, the evolutionist would be able to say whether the process of evolution had been slow or rapid. One of the most formidable objections to the Darwinian theory was founded on the absence of fossil remains of the connecting links. The answer was twofold; in the first place the geological record was so imperfect that it could not possibly be called in to supply a complete life history of the earth. It was like a work in 100 volumes, the first 54 of which had been burnt, while half the remainder were out of their reach, and those they could get at had lost more than half their pages. The earlier sedimentary rocks—the Laurentian group, attaining a depth of 30,000 feet—had been so changed by igneous action that only one fossil, and that a disputed one, had been found in them, though the presence of graphite gave a strong hint that organic life was abundant when the rocks were formed. In a few instances, however, where the record had been preserved for a considerable period, the evidence was wholly in favour of evolution. The lecturer illustrated his statement by numerous instances, the most important of which, by the aid of a series of diagrams, went to prove the evolution of the horse. The horse, he said, was an extreme modification of the general mammalian plan, deviating widely from the common structure of mammals, and showing very obvious signs of being a special creation, and it had been urged that if the evolutionary theory was true the intermediate forms between the horse and the lower mammals ought to be produced. Confining himself to one strongly-marked divergence—the ear bone of the horse compared with the five toes of the general mammalian form—he said for many years the evolutionists were unable to produce the record of the intermediate changes, the only facts in support of the theory being that hoofs were not infrequently seen with three toes, and that the rudiments of two toes were visible in the skeleton of the horse's foot—the "splint" bones. Within a recent period, however,

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"epitaxial" bones. Within a recent period, however, American geologists had discovered a series of fossil horses leading up to an animal with four toes and a rudimentary fifth, and the discovery of the fifth might be confidently looked for. Huxley said if that was not scientific proof there were no merely inductive conclusions that could be proved. In conclusion, the lecturer acknowledged that Darwinism could not be received without great mental disturbance. It would cause the re-arranging of many forms of thought. Yet not the less the foundations would endure. No principle dear to mankind would perish. But the imperfections that suggested doubt would cease to do so when it was viewed as a more temporary phase of an evolution yet in progress, that through the latter reached over to the best. And the fairness of the world would be yet more fair and its promises more splendid when we regarded it as a last half-opened bud, whose fragrant royal flower and still more royal fruit were yet to come.—At the close the lecturer was warmly applauded.

The discussion hung fire somewhat at first, but eventually became very lively. Dr. PLUMER was first to break the silence, with a declaration of entire belief in evolution.

Mr. HARTOP, who had come into the room rather regarding himself as an anti-evolutionist, said that so far as the lecturer had gone he followed him. (Hear, hear.) However far they went back, however, they came to a point at which they could not fail to recognize another principle at work than that of mere adaptation of the creature to external circumstances. (Hear, hear.)

After some amusing observations from Mr. SWELL in opposition to Darwinism,

Mr. W. J. SHERMAN, confessing himself unlearned on the subject, said he had no doubt there were still many persons living who adhered to the old idea of the creation as enunciated in an ancient and splendid book. He believed they had read that book wrong. It was quite clear the day referred to was not a day of twenty-four hours. That was quite certain. Not only did the grammar of the Hebrew not support the usual reading, it clearly stated what was referred to was an indefinite period of time. Geology showed, too, that the periods were simply periods of time of gigantic space. He asked the lecturer, did Darwinism suppose each species had an individual origin or not?

Mr. SHERMAN said Darwinism denied the genuineness of what were called species, and looked on all species now on the earth as being originated from one, or at all events from very few, original and primitive forms.

Mr. SHERMAN found it very difficult to believe that species merged into species in that way. With regard to one of the lecturer's remarks, he might say that having kept pigeons for many years he knew that when the birds of various breeds were allowed to meet together they fell back into their original state, and lost their special characteristics. It seemed to him a very remarkable thing, too, that man should be the same now as he was so many thousand years ago, except for variations produced by climate or habits. Mr. SQUARE further instanced the increase of males as a fact opposed to Darwinism.

Mr. FINSON observed that the Darwinian hypothesis gave no information as to how variation arose, it being admitted that until variation occurred natural selection could do nothing.

Mr. HERVEY BATE, who was applauded on rising, thought it a very extraordinary thing that the only persons who rose to speak on this important subject in opposition to the theory the lecturer had stated were two persons, one of whom knew nothing at all about it, and the other evidently had never thought anything about it. Yet they pretended to say that Darwin was entirely wrong. Had a young man ventured to say what Mr. SQUARE had said, he would not have been listened to; but for the grey hairs of the speaker such remarks as he had made would be ridiculed. The proposition he had referred to was childish. Such a suggestion as that respecting the number of days was never thought of until Darwin's theory was advanced. When he read "The evening and morning were the first day," he did not know who had a right to say it meant a number of years. To attempt to give it any other meaning was in his opinion to speak against the book which was appealed to. Since Darwin placed the evolution hypothesis before the world as a thing which might possibly be disputed, every evidence which led to its establishment had shown it to be a doctrine which could be built upon. It was not many years since, but the change in the opinion of Europe was immense. There was scarcely a man who had read Mr. Darwin's works who was not a thorough Darwinist. As to the absence of portions of the evidence, there was not a man there who had ever seen a young lobster, and if we could not trace the pedigree of a creature we knew so well, how could evolutionists be blamed if they could not completely trace out such a thing as this. That there were variations of the type of animals through surrounding circumstances was shown by the fact that among the Esquimaux, where the dog was wild and loose straggled, the dog resembled a fox, whereas in the north of Russia it was tamed a wolf. That there were changes going on in the frame of man he himself knew, for the third molar tooth and the second central tooth were gradually being

Mr. W. J. Squares, confessing himself uninitiated in the subject, said he had no doubt there were still many persons living who adhered to the old idea of the creation as enunciated in an ancient and splendid book. He believed they had read that book wrong. It was quite clear the day referred to was not a day of twenty-four hours. That was quite certain. Not only did the grammar of the Hebrew not support the usual reading, it clearly stated what was referred to was an indefinite period of time. Geology showed, too, that the periods were simply periods of time of gigantic spans. He asked the lecturer, did Darwinism suppose each species had an individual origin or not?

Mr. SHARMAN said Darwinism denied the gradation of what were called species, and looked on all species now on the earth as being originated from one, or at all events from very few, original and primitive forms.

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Mr. HARRIS observed that the Darwinian hypothesis gave no information as to how variation arose, it being admitted that until variation occurred natural selection could do nothing.

Mr. HERBERT BATE, who was applauded on rising, thought it a very extraordinary thing that the only persons who rose to speak on this important subject in opposition to the theory the lecturer had stated were two persons, one of whom knew nothing at all about it, and the other evidently had never thought anything about it. Yet they pretended to say that Darwin was entirely wrong. Had a young man ventured to say what Mr. Squires had said, he would not have been listened to; but for the grey hairs of the speaker such remarks as he had made would be ridiculed. The proposition he had referred to was childish. Such a suggestion as that respecting the number of days was never thought of until Darwin's theory was advanced. When he read "The evening and morning were the first day," he did not know who had a right to say it meant a number of years. To attempt to give it any other meaning was in his opinion to speak against the book which was opposed to. Since Darwin placed the evolution hypothesis before the world as a thing which might possibly be disputed, every evidence which could be forthcoming had shown it to be a doctrine which could be built upon. It was not many years since, but the change in the opinion of Europe was immense. There was scarcely a man who had read Mr. Darwin's works who was not a thorough Darwinian. As to the character of portions of the evidence, there was not a man there who had ever seen a young lobster, and if we could not trace the pedigree of a creature we knew so well, how could evolutionists be blamed if they could not completely trace out such a thing as this. That there were variations of the type of animals through surrounding circumstances was shown by the fact that among the Esquimaux, where the dog was wild and fierce and shaggy, the dog resembled a fox, whereas in the north of Russia it resembled a wolf. That there were changes going on in the frame of man he himself knew, for the third molar tooth and the second central tooth were gradually being lost.

Mr. Squires rose, but was anticipated by the President, who said that before the discussion went any further he thought gentlemen had better avoid any reference to a certain ancient book.

Mr. SQUIRE: I think the last speaker did not remember I said I rose to receive instruction. I did not rise to receive discourtesy. (Hear, hear.) I beg him to remember I take discourtesy from no man. It is that which has done damage to the Institution. (Hear, hear.)

Mr. HERBERT BATE: If there has not word fallen from me that is discourteous, I will apologise for it. Mr. Squires said he knew nothing about the subject, yet he opposed the lecturer. But I hold Mr. Squires in too great respect to say anything which would be construed as allusion to him, and if anything of that kind has fallen from me, I apologise for it. As to having damaged the Institution, I deny it. The Institution never stood so high as it does now, and never had such papers. (Hear, hear.)

Mr. SQUIRE: Of course I receive that. I hope you won't speak to me in that way again.

Mr. H. G. ERVENING pointed out that the changes Mr. Squires had spoken of in respect of pigeons favoured the theory of a law of reversion. He questioned whether reversion was not very nearly as strong an element as evolution. Referring to the objections of one speaker to claim descent from the monkey, he asked what the monkeys would say to the relationship.

Mr. STRATH, who said he had been a Social evolutionist many years before Mr. Darwin's book appeared, instanced as a proof of the evolution of moral qualities the timidity of man which birds acquired in successive generations when they became acquainted with him.

After some remarks from Mr. H. SUTHER, who addressed himself to the technical part of the question.

Mr. SHARMAN, in the course of a brief reply, suggested that Mr. Squires's observation as to tame pigeons favoured evolution, inasmuch as the birds altered according to their altered conditions of life.

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