

ARTICLE X.

CRITICAL NOTE.

HOW TO TEST THE STORY OF JONAH.

Not long ago I emitted my scientific opinion that our Sabbath schools should not hastily condemn the narrative regarding Jonah until the facts were better understood than they are by us. And for this I was bitterly criticized in a New York magazine by somebody who knew nothing about the whale or about my opinions. Having made no rejoinder to this, I have been recently asked to summarize the case, in order to explain why it is necessary to take time for intelligent examination.

1. I wish to explain that the case is not to be decided by anybody's ideas of what Inspiration signifies. There was a time when our views of plenary inspiration were deductively applied for all Biblical questions. But I am proud to be able to say that the distinguished leaders of Princeton Theological Seminary have led the way to reforming the methods, so as to give not scholastic routine, but true scientific evidence. The way in this improvement was opened by the late Dr. William Henry Green, in his reply to Colenso's attack on the chronology of the Pentateuch. By the help of historic and scientific evidence, as explaining the Old Testament, Dr. Green showed that Colenso was mostly correct. But the Pentateuch was not wrong: it was the interpreters who had gone astray by printing in our Bibles a so-called Biblical Chronology of their own invention. I wish that our critics could free us from this false chronology which we still find printed in our annotated Bibles.

2. The next steps in the reform were taken by my revered friends Professor Asa Gray of Harvard University and President James McCosh of Princeton University. The first showed how a scientist may be a Darwinian and at the same

time a devout Christian, which McCosh improved by explaining that Darwinism is not hostile to the Bible, but only an attempt, by the help of science and philosophy, to explain, or at least to illustrate, the divine method of creating new species of plants and animals. For all that we know, it may have been applied to the origin of man himself, whom God may have thus created "after his own image."

3. Most important was the appearance of a joint publication by the late A. A. Hodge and Professor B. B. Warfield, and afterwards indorsed by President Francis L. Patton, all from our Theological Seminary, warning us not to permit our interpretations to depend on any special theory of inspiration. We must test their value by comparing the statements of Scripture with all available external evidence, such as ancient history, biology, archæology, geography, and philosophy.

Thus, in a case like that of Jonah, we have a question of fact, which must be settled by an exhaustive and impartial examination of all accessible sources of evidence, both external and internal. This is the scientific method, by which, in the last resort, every question must be tried. And short of this method we can neither verify nor amend the plain words of the Bible. My interest in this subject was first aroused by reading Layard's great work on Nineveh, and his demonstration of the historical accuracy of Old Testament references. And in this opinion I have been further confirmed by the verdict of recent archæologists. Thus I regard the case in which a whale figured very much as I regard the later case in which an apostle was shipwrecked on his voyage to Rome. And I cannot understand how I could accept the later report of a shipwreck, and at the same time without further evidence reject the Old Testament report of a whalewreck.

Every such question, however, must be solved in the last resort according to the rules of scientific evidence. And we must regret that thus far men have substituted ignorance and prejudice, instead of the search after truth in the scientific way, when they approached the somewhat inaccessible subject of the whale. What we want to know is, What, if anything,

occurred during the encounter which the Old Book reports? and, secondly, What happens with young whales during tempestuous weather? Does the mother do anything for their protection or not?

Having been severely attacked for venturing an opinion on this subject by a New York editorial which showed much ignorance of the subject and complete misunderstanding as to my opinions, I made no reply until recently I briefly explained myself to my dear friend Professor George Frederick Wright, who kindly indorsed my views, and asked me to write them for him. The New York critic to whom I privately sent a summary of my views seemed struck by my request that, instead of the unscientific method of condemning without evidence, my only present anxiety was that he and others should assist in securing scientific evidence. But I am sorry to find that as yet he gives us no promise of his help.

Our information as to the internal structure and the physiology of the whale is exceedingly meager, to the very great discredit of biology. The only really useful work on the subject that I know of was Carte and Macalester's paper on the anatomy of a small whale, in the *Philosophical Transactions* for 1869, vol. clviii.

There it appears that, as a whale is exclusively an air-breathing animal, and its food all reaches its mouth carried by the sea water, a curious result becomes necessary. In order to enable the whale itself to breathe, it is necessary to expel from its mouth cavity all superfluous water immediately after receiving the mouthful of whale feed. Macalester shows how quickly and completely this is done by the cooperating influence of the whalebone plates and the large palato-glossal muscle. Now this leads me to an intensely interesting discovery. If any other air-breathing animal should get mixed with the whale food by being shipwrecked or by some other accident, and be carried by the influx of water between the monster's jaws, this accident must immediately rescue the intruding air-breather from death, because the intruder should find itself transferred from the water in which it was drown-

ing into the air supply of the whale itself. This indicates the back cavity of the inner part of the whale mouth (the pharynx) as the location of the intruder. The latter cannot enter the whale's stomach, which has only a narrow inlet (the food that is received into the stomach consists of only minute objects). Nor can the intruder reach the lungs through the larynx and the windpipe. There is one other large chamber which it can reach, and I think it does reach. This is called the great laryngeal pouch. It is no part of the larynx, but starts from below and before the larynx, and opens from the pharynx by a wide door, and then runs down the front of the neck and on to the chest. It has thick, elastic walls, and a cavity abundantly large to receive a human body, and to supply it with air for breathing. Thus whilst the intruding air-breathing guest may not be supplied with food during its sojourn, it is at least temporarily rescued from drowning, apparently by a double provision. It is obvious that after this fashion even a young whale may be rescued, if it be not too large to gain admission along with the incoming mouthful of water. Here my information fails me. I cannot find the precise length of whale calves of different species; or the precise capacity of the pharynx chamber plus the laryngeal pouch of the mother whale of the same species, in order to determine whether she has enough room to entertain her calf during storm tide. These are facts which should be easily ascertained by investigation; and as soon as determined we shall have a settlement of one of the old controversies in the only legitimate way. Meanwhile it is contra scientific to be dogmatic in either direction.

At the same time it is quite according to the rules of scientific evidence to use one's ingenuity in the way of guessing, as preparatory to scientific searching. And what we have suggested, though not yet proved, suggests interesting points for trial. Is the preservation of an animal in the whale pharynx any way parallel with the habit of some land quadrupeds which preserve their young by sheltering them overnight in their cheek pouches? And would the rescue of the

young by a mother whale in her great laryngeal pouch, if the old theory be verified, be comparable with the mother kangaroo, which uses her marsupial pouch for the protection of her young? The necessity of having the whale's pouch in reach of her breathing supply of course would in that case harmonize with its being located towards the head end of the animal.

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THE above interesting Note finds an illustration in the following incident. Some years ago the editor was in New York City at the time a man was spouted out of the tunnel which the Pennsylvania Railroad was pushing under the Hudson River, amid conditions analogous to those under which Jonah is supposed to have been cast out from the whale's belly. The workman, who was in an advance section (filled with compressed air) which had proceeded so far that the covering above was too weak to resist the pressure, was thrown up with a great volume of water upon the surface, but was so much alive that he could keep afloat until he was rescued. He was taken to a hospital, where his recovery from his slight injuries was so rapid that he was able in a few days to go back to his work. This story if told to persons who were ignorant of the uses and capacities of compressed air would be called impossible. But, as in the case of the African chief who pronounced it absurd that water could become so hard that an elephant could walk on it, the critics of the Jonah story may be advertising their crass ignorance rather than their superior knowledge.

"There are more things in heaven and earth, Horatio,
Than are dreamt of in your philosophy."