**THE FUNDAMENTALS: A TESTIMONY TO THE TRUTH**

**VOLUME 1; CHAPTER 18. SCIENCE AND CHRISTIAN FAITH**

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In many quarters the belief is industriously circulated that the advance of "science," meaning by this chiefly the physical sciences - astronomy, geology, biology, and the like - has proved damaging, if not destructive, to the claims of the Bible, and the truth of Christianity. Science and Christianity are pitted against each other. Their interests are held to be antagonistic. Books are written, like Draper's "Conflict Between Religion and Science," White's "Warfare of Science with Theology in Christendom," and Foster's "Finality of the Christian Religion," to show that this warfare between science and religion has ever been going on, and can never in the nature of things cease till theology is destroyed, and science holds sole sway in men's minds.

This was not the attitude of the older investigators of science. Most of these were devout Christian men. Naville, in his book, "Modern Physics," has shown that the great discoverers in science in past times were nearly always devout men. This was true of Galileo, Kepler, Bacon, and Newton; it was true of men like Faraday, Brewster, Kelvin, and a host of others in more recent times. The late Professor Tait, of Edinburgh, writing in "The International Review," said: "The assumed incompatibility of religion and science has been so often and confidently asserted in recent times that it has come to be taken for granted by the writers of leading articles, etc., and it is, of course, perpetually thrust before their too trusting readers. But the whole thing is a mistake, and a mistake so grave that no truly scientific man runs, in Britain, at least, the smallest risk of making it. With a few, and these very singular exceptions, the truly scientific men and true theologians of the present day have not found themselves under the necessity of quarrelling." The late Professor G. J. Romanes has, in his "Thoughts on Religion," left the testimony that one thing which largely influenced him in his return to faith was the fact that in his own university of Cambridge nearly all the men of most eminent scientific attainments were avowed Christians. "The curious thing," he says, "is that all the most illustrious names were ranged on the side of orthodoxy. Sir W. Manson, Sir George Stokes, Professors Tait, Adams, Clerk Maxwell, and Bayley - not to mention a number of lesser lights, such as Routte, Todhunter, Ferrers, etc., - were all avowed Christians" (page 137). It may be held that things are now changed. To some extent this is perhaps true, but anyone who knows the opinions of our leading scientific men is aware that to accuse the majority of being men of unchristian or unbelieving sentiment is to utter a gross libel.

If by a conflict of science and religion is meant that grievous mistakes have often been made, and unhappy misunderstandings have arisen, on one side and the other, in the course of the progress of science, - that new theories and discoveries, as in astronomy and geology, have been looked on with distrust by those who thought that the truth of the Bible was being affected by them, - that in some cases the dominant church sought to stifle the advance of truth by persecution, - this is not to be denied. It is an unhappy illustration of how the best of men can at times err in matters which they imperfectly understand, or where their prejudices and traditional ideas are affected. But it proves nothing against the value of the discoveries themselves, or the deeper insight into the ways of God of the men who made them, or of real contradiction between the new truth and the essential teaching of the Scriptures. On the contrary, as a minority generally perceived from the first, the supposed disharmony with the truths of the Bible was an unreal one, early giving way to better understanding on both sides, and finally opening up new vistas in the contemplation of the Creator's power, wisdom, and majesty. It is never to be forgotten, also, that the error was seldom all on one side; that science, too, has in numberless cases put forth its hasty and unwarrantable theories and has often had to retract even its truer speculations within limits which brought them into more perfect harmony with revealed truth. If theology has resisted novelties of science, it has often had good reason for so doing.

It is well in any case that this alleged conflict of Christianity with science should be carefully probed, and that it should be seen where exactly the truth lies in regard to it.

**I. SCIENCE AND LAW - MIRACLE**

It is perhaps more in its general outlook on the world than in its specific results that science is alleged to be in conflict with the Bible and Christianity. The Bible is a record of revelation. Christianity is a supernatural system. Miracle, in the sense of a direct entrance of God in word and deed into human history for gracious ends, is of the essence of it. On the other hand, the advance of science has done much to deepen the impression of the universal reign of natural law. The effect has been to lead multitudes whose faith is not grounded in direct spiritual experience to look askance on the whole idea of the supernatural. God, it is assumed, has His own mode of working, and that is by means of secondary agencies operating in absolutely uniform ways; miracles, therefore, cannot be admitted. And, since miracles are found in Scripture, - since the entire Book rests on the idea of a supernatural economy of grace, - the whole must be dismissed as in conflict with the modern mind. Professor G. B. Foster goes so far as to declare that a man can hardly be intellectually honest who in these days professes to believe in the miracles of the Bible.

It is overstating the case to speak of this repugnance to miracle, and rejection of it in the Bible, as if it were really new. It is as old as rationalism itself. You find it in Spinoza, in Reimarus, in Strauss, in numberless others. DeWette and Vatke, among earlier Old Testament critics, manifested it as strongly as their followers do now, and made it a pivot of their criticism. It governed the attacks on Christianity made in the age of the deists. David Hume wrote an essay against miracles which he thought had settled the question forever. But, seriously considered, can this attack on the idea of miracle, derived from our experience of the uniformity of nature's laws, be defended? Does it not in itself involve a huge assumption, and run counter to experience and common sense? The question is one well worth asking.

First, what is a miracle? Various definitions might be given, but it will be enough to speak of it here as any effect in nature, or deviation from its ordinary course, due to the interposition of a supernatural cause. It is no necessary part, it should be observed, of the Biblical idea of miracle, that natural agencies should not be employed as far as they will go. If the drying of the Red Sea to let the Israelites pass over was due in part to a great wind that blew, this was none the less of God's ordering, and did not detract from the supernatural character of the event as a whole. It was still at God's command that the waters were parted, and that a way was made at that particular time and place for the people to go through. These are what theologians call "providential" miracles, in which, so far as one can see, natural agencies, under divine direction, suffice to produce the result. There is, however, another and more conspicuous class, the instantaneous cleansing of the leper, e.g., or the raising of the dead, in which natural agencies are obviously altogether transcended. It is this class about which the chief discussion goes on. They are miracles in the stricter sense of a complete transcendence of nature's laws.

What, in the next place, is meant by the uniformity of nature? There are, of course, laws of nature - no one disputes that. It is quite a mistake to suppose that the Bible, though not written in the twentieth century, knows nothing of a regular order and system of nature. The world is God's world; it is established by His decree; He has given to every creature its nature, its bounds, its limits; all things continue according to His ordinances (Psa. 119:91). Only, law in the Bible is never viewed as having an independent existence. It is always regarded as an expression of the power or wisdom of God. And this gives the right point of view for considering the relation of law to miracle. What, to begin with, do we mean by a "law" of nature? It is, as science will concede, only our registered observation of the order in which we find causes and events linked together in our experience. That they are so linked no one questions. If they were not, we should have no world in which we could live at all. But then, next, what do we mean by "uniformity" in this connection? We mean no more than this - that, given like causes, operating under like conditions, like effects will follow. Quite true; no one denies this either.

But then, as J. S. Mill, in his Logic, pointed out long ago, a miracle in the strict sense is not a denial of either of these truths. A miracle is not the assertion that, the same causes operating, a different result is produced. It is, on the contrary, the assertion that a new cause has intervened, and this a cause which the theists cannot deny to be a vera causa - the will and power of God. Just as, when I lift my arm, or throw a stone high in the air, I do not abolish the law of gravitation but counteract or overrule its purely natural action by the introduction of a new spiritual force; so, but in an infinitely higher way, is a miracle due to the interposition of the First Cause of all, God Himself. What the scientific man needs to prove to establish his objection to miracle is, not simply that natural causes operate uniformly, but that no other than natural causes exist; that natural causes exhaust all the causation in the universe. And that, we hold, he can never do.

It is obvious from what has now been said that the real question at issue in miracle is not natural law, but Theism. It is to be recognized at once that miracle can only profitably be discussed on the basis of a theistic view of the universe. It is not disputed that there are views of the universe which exclude miracle. The atheist cannot admit miracle, for he has no God to work miracles. The pantheist cannot admit miracle, for to him God and nature are one. The deist cannot admit miracle, for he has separated God and the universe so far that he can never bring them together again. The question is not, Is miracle possible on an atheistic, a materialistic, a pantheistic, view of the world, but, Is it possible on a theistic view - on the view of God as at once immanent in His world, and in infinite ways transcending it? I say nothing of intellectual "honesty," but I do marvel, as I have often said, at the assurance of any one who presumes to say that, for the highest and holiest ends in His personal relations with His creatures, God can work only within the limits which nature imposes; that He cannot act without and above nature's order if it pleases Him to do so. Miracles stand or fall by their evidence, but the attempt to rule them out by any a priori dictum as to the uniformity of natural law must inevitably fail. The same applies to the denial of providence or of answers to prayer on the ground of the uniformity of natural law. Here no breach of nature's order is affirmed, but only a governance or direction of nature of which man's own use of natural laws, without breach of them, for special ends, affords daily examples.

**II. SCRIPTURE AND THE SPECIAL SCIENCES**

Approaching more nearly the alleged conflict of the Bible or Christianity with the special sciences, a first question of importance is, What is the general relation of the Bible to science? How does it claim to relate itself to the advances of natural knowledge? Here, it is to be feared, mistakes are often made on both sides - on the side of science in affirming contrariety of the Bible with scientific results where none really exists; on the side of believers in demanding that the Bible be taken as a text-book of the newest scientific discoveries, and trying by forced methods to read these into them. The truth on this point lies really on the surface. The Bible clearly does not profess to anticipate the scientific discoveries of the nineteenth and twentieth centuries. Its design is very different; namely, to reveal God and His will and His purposes of grace to men, and, as involved in this, His general relation to the creative world, its dependence in all its parts on Him, and His orderly government of it in Providence for His wise and good ends. Natural things are taken as they are given, and spoken of in simple, popular language, as we ourselves every day speak of them. The world it describes is the world men know and live in, and it is described as it appears, not as, in its recondite researches, science reveals its inner constitution to us. Wise expositors of the Scriptures, older and younger, have always recognized this, and have not attempted to force its language further. To take only one example, John Calvin, who wrote before the Copernican system of astronomy had obtained common acceptance, in his commentary on the first chapter of Genesis penned these wise words: "He who would learn astronomy and other recondite arts," he said, "let him go elsewhere. Moses wrote in a popular style things which, without instruction, all ordinary persons indued with common sense are able to understand. He does not call us up to heaven, he only proposes things that lie open before our eyes." To this hour, with all the light of modern science around us, we speak of sun, moon and stars "rising" and "setting," and nobody misunderstands or affirms contradiction with science. There is no doubt another side to this, for it is just as true that in depicting natural things, the Bible, through the Spirit of revelation that animates it, seizes things in so just a light - still with reference to its own purposes - that the mind is prevented from being led astray from the great truths intended to be conveyed.

It will serve to illustrate these positions as to the relation of the Bible to science if we look at them briefly in their application to the two sciences of astronomy and geology, in regard to which conflict has often been alleged.

**1.** The change from the Ptolemaic to the Copernican system of astronomy - from the view which regarded the earth as the center of the universe to the modern and undoubtedly true view of the earth as moving round the sun, itself, with its planets, but one of innumerable orbs in the starry heavens - of necessity created great searchings of heart among those who thought that the language of the Bible committed them to the older system. For a time there was strong opposition on the part of many theologians, as well as of students of science, to the new discoveries of the telescope. Galileo was imprisoned by the church. But truth prevailed, and it was soon perceived that the Bible, using the language of appearances, was no more committed to the literal moving of the sun round the earth than are our modern almanacs, which employ the same forms of speech. One would have to travel far in these days to find a Christian who feels his faith in the least affected by the discovery of the true doctrine of the solar system. He rejoices that he understands nature better, and reads his Bible without the slightest sense of contradiction. Yet Strauss was confident that the Copernican system had given its death-blow to Christianity; as Voltaire before him had affirmed that Christianity would be overthrown by the discovery of the law of gravitation and would not survive a century. Newton, the humble-minded Christian discoverer of the law of gravitation, had no such fear, and time has shown that it was he, not Voltaire, who was right. These are specimens of the "conflicts" of Christianity with science.

The so-called "astronomical objection" to Christianity more specially takes the form of enlarging on the illimitableness of the universe disclosed by science in contrast with the peculiar interest of God in man displayed in the Christian Gospel. "What is man that thou art mindful of him?" (Psa. 8:4). Is it credible that this small speck in an infinity of worlds should be singled out as the scene of so tremendous an exhibition of God's love and grace as is implied in the Incarnation of the Son of God, the Sacrifice of the Cross, the Redemption of Man? The day is well-nigh past when even this objection is felt to carry much weight. Apart from the strange fact that up to this hour no evidence seems to exist of other worlds inhabited by rational intelligences like man - no planets, no known systems (on this point A. R. Wallace's "Man and the Universe" may be consulted) - thoughtful people have come to realize that quantitative bigness is no measure of God's love and care; that the value of a soul is not to be estimated in terms of stars and planets; that sin is not less awful a fact even if it were proved that this is the only spot in the universe in which it has emerged. It is of the essence of God's infinity that He cares for the little as well as for the great; not a blade of grass could wave, or the insect of a day live its brief life upon the wing, if God were not actually present, and minutely careful of it. Man's position in the universe remains, by consent, or rather by proof, of science, an altogether peculiar one. Link between the material and the spiritual, he is the one being that seems fitted, as Scripture affirms he is, to be the bond of unity in the creation (Heb. 2:6-9). This is the hope held out to us in Christ (Eph. 1:10). One should reflect also that, while the expanse of the physical universe is a modern thought, there has never been a time in the Christian Church when God - Himself infinite - was not conceived of as adored and served by countless hosts of ministering spirits. Man was never thought of as the only intelligence in creation. The mystery of the divine love to our world was in reality as great before as after the stellar expanses were discovered. The sense of "conflict," therefore, though not the sense of wonder, awakened by the "exceeding riches" of God's grace to man in Christ Jesus, vanishes with increasing realization of the depths and heights of God's love "which passeth knowledge" (Eph. 3:19). Astronomy's splendid demonstration of the majesty of God's wisdom and power is undiminished by any feeling of disharmony with the Gospel.

**2.** As it is with astronomy, so it has been with the revelations of geology of the age and gradual formation of the earth. Here also doubt and suspicion were - naturally enough in the circumstances - at first awakened. The gentle Cowper could write in his "Task" of those

"who drill and bore

The solid earth and from the strata there

Extract a register, by which we learn

That He who made it, and revealed its date

To Moses, was mistaken in its age."

If the intention of the first chapter of Genesis was really to give us the "date" of the creation of the earth and heavens, the objection would be unanswerable. But things, as in the case of astronomy, are now better understood, and few are disquieted in reading their Bibles because it is made certain that the world is immensely older than the 6,000 years which the older chronology gave it. Geology is felt only to have expanded our ideas of the vastness and marvel of the Creator's operations through the aeons of time during which the world, with its teeming populations of fishes, birds, reptiles, mammals, was preparing for man's abode - when the mountains were being upheaved, the valleys being scooped out, and veins of precious metals being inlaid into the crust of the earth.

Does science, then, really, contradict Genesis 1.? Not surely if what has been above said of the essentially popular character of the allusions to natural things in the Bible be remembered. Here certainly is no detailed description of the process of the formation of the earth in terms anticipative of modern science - terms which would have been unintelligible to the original readers - but a sublime picture, true to the order of nature, as it is to the broad facts even of geological succession. If it tells how God called heaven and earth into being, separated light from darkness, sea from land, clothed the world with vegetation, gave sun and moon their appointed rule of day and night, made fowl to fly, and sea-monsters to plow the deep, created the cattle and beasts of the field, and finally made man, male and female, in His own image, and established him as ruler over all God's creation, this orderly rise of created forms, man crowning the whole, these deep ideas of the narrative, setting the world at the very beginning in its right relation to God, and laying the foundations of an enduring philosophy of religion, are truths which science does nothing to subvert, but in myriad ways confirms. The "six days" may remain as a difficulty to some, but, if this is not part of the symbolic setting of the picture - a great divine "week" of work - one may well ask, as was done by Augustine long before geology was thought of, what kind of "days" these were which rolled their course before the sun, with its twenty-four hours of diurnal measurement, was appointed to that end? There is no violence done to the narrative in substituting in thought "sonic" days - vast cosmic periods - for "days" on our narrower, sun-measured scale. Then the last trace of apparent "conflict" disappears.

**III. EVOLUTION AND MAN**

In recent years the point in which "conflict" between Scripture and science is most frequently urged is the apparent contrariety of the theory of evolution to the Bible story of the direct creation of the animals and man. This might be met, and often is, as happened in the previous cases, by denying the reality of any evolutionary process in nature. Here also, however, while it must be conceded that evolution is not yet proved, there seems a growing appreciation of the strength of the evidence for the fact of some form of evolutionary origin of species - that is, of some genetic connection of higher with lower forms. Together with this, at the same time, there is manifest an increasing disposition to limit the scope of evolution, and to modify the theory in very essential points - those very points in which an apparent conflict with Scripture arose.

Much of the difficulty on this subject has arisen from the unwarrantable confusion or identification of evolution with Darwinism. Darwinism is a theory of the process of evolution, and both on account of the skill with which it was presented, and of the singular eminence of its propounder, obtained for a time a very remarkable prestige. In these later days, as may be seen by consulting a book like R. Otto's "Naturalism and Religion," published in "The Crown Library," that prestige has greatly declined. A newer evolution has arisen which breaks with Darwin on the three points most essential to his theory: 1. The fortuitous character of the variations on which "natural selection" works. Variations are now felt to be along definite lines, and to be guided to definite ends.

2. The insufficiency of "natural selection" (on which Darwin almost wholly relied) to accomplish the tasks Darwin assigned to it.

3. The slow and insensible rate of the changes by which new species were supposed to be produced. Instead of this the newer tendency is to seek the origin of new species in rapid and sudden changes, the causes of which lie within the organism - in "mutations," as they are coming to be called - so that the process may be as brief as formerly it was supposed to be long. "Evolution," in short, is coming to be recognized as but a new name for "creation," only that the creative power now works from within, instead of, as in the old conception, in an external, plastic fashion. It is, however, creation none the less.

In truth, no conception of evolution can be formed, compatible with all the facts of science, which does not take account, at least at certain great critical points, of the entrance of new factors into the process we call creation.

1. One such point is the transition from inorganic to organic existence - the entrance of the new power of life. It is hopeless to seek to account for life by purely mechanical and chemical agencies, and science has well-nigh given up the attempt.

2. A second point is in the transition from purely organic development to consciousness. A sensation is a mental fact different in kind from any merely organic change, and inexplicable by it. Here, accordingly, is a new rise, revealing previously unknown spiritual powers.

3. The third point is in the transition to rationality, personality, and moral life in man. This, as man's capacity for self-conscious, self-directed, progressive life evinces, is something different from the purely animal consciousness, and marks the beginning of a new kingdom. Here, again, the Bible and science are felt to be in harmony. Man is the last of God's created works - the crown and explanation of the whole - and he is made in God's image. To account for him, a special act of the Creator, constituting him what he is, must be presupposed. This creative act does not relate to the soul only, for higher spiritual powers could not be put into a merely animal brain. There must be a rise on the physical side as well, corresponding with the mental advance. In body, as in spirit, man comes from his Creator's hand.

If this new evolutionary conception is accepted, most of the difficulties which beset the Darwinian theory fall away.

1. For one thing, man need no longer be thought of as a slow development from the animal stage - an ascent through brutishness and savagery from an ape-like form. His origin may be as sudden as Genesis represents.

2. The need for assuming an enormous antiquity of man to allow for the slow development is fio longer felt. And,

3. The need of assuming man's original condition to have been one of brutal passion and subjection to natural impulse disappears. Man may have come from his Creator's hand in as morally pure a state, and as capable of sinless development, as Genesis and Paul affirm. This also is the most worthy view to take of man's origin. It is a view borne out by the absence of all reliable evidence of those ape-like intermediate forms which, on the other hypothesis, must have intervened between the animal-progenitors and the finished human being. It is a view not contradicted by the alleged evidences of man's very great antiquity - 100,000, 200,000, or 500,000 years- frequently relied on; for most of these and the extravagant measurements of time connected with them, are precarious in the extreme. The writer's book, "God's Image in Man and Its Defacement," may be consulted on these points.

The conclusion from the whole is, that, up to the present hour, science and the Biblical views of God, man, and the world, do not stand in any real relation of conflict. Each book of God's writing reflects light upon the pages of the other, but neither contradicts the other's essential testimony. Science itself seems now disposed to take a less materialistic view of the origin and nature of things than it did a decade or two ago, and to interpret the creation more in the light of the spiritual. The experience of the Christian believer, with the work of missions in heathen lands, furnishes a testimony that cannot be disregarded to the reality of this spiritual world, and of the regenerating, transforming forces proceeding from it. To God be all the glory!