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## A Double Standard?

In earlier times Christians often took delight in real or supposed scientific confirmations of their faith. This attitude is currently changing. In the contribution by Professor Van de Fliert, reproduced in the present Number of this Journal, it has been identified with old-fashioned fundamentalism. Van de Fliert writes: ' . . . It is a fundamental and extremely dangerous mistake to think that our belief in the reliable Word of God could ever be based on or strengthened by scientific reasoning'. To suppose otherwise, he continues, is to reveal a vast 'over-estimation of science'. If we hold the fundamentalist view, 'we lose the Bible as a reliable Word of God completely, because we then make its teachings dependent on the poor state of our scientific knowledge today . . . which will change tomorrow'.<sup>1</sup> 'For the fundamentalist the reliability of the Word of God is related to scientific reliability . . . the question of the reliability of the Holy Scripture can thus be fought out on the scientific field.'<sup>2</sup>

Three reasons in all are given for the repudiation of the older view. Firstly, it is claimed that attempts to support Christianity by appeal to science necessarily imply a double standard. The loyal Christian must decide whether to accept the final authority of the Word of God or of science; he cannot have it both ways. Secondly, it is claimed that science is ever on the move, a shifting sand on which no building can safely be constructed. Thirdly, it is stated to be a fact, familiar to every historian of science, that Christians who pin their faith on science always bring their religion into disrepute. To quote Van de Fliert again, they are in constant retreat, 'the theologians have had to surrender every position they had once taken in this struggle. That's what the history of the warfare between

<sup>1</sup> p. 11.

<sup>2</sup> *op. cit.*, p. 14.

science and theology should have made conclusively clear'.

Let us examine these arguments. Firstly, there is the contention that if appeal is made to science in support of Christian belief, we shall find ourselves encumbered with a double standard of truth, the Word of God *and* science, instead of the Word of God alone.

This argument cannot be accepted as convincing until we have considered its validity in relation to Christian thought on a wider canvas. Supposed double standards of a similar kind are encountered in other connections. If there is a double standard between the Word of God and science, there is also a double standard between the Word of God and conscience. In the latter case, to force a man to declare which of the two is his ultimate standard would be extremely foolish. If he opted for the Word of God he might (with witch-persecuting Christians in the past) interpret it in hideous ways; if he opted for conscience he might declare the inner light sufficient, and revelation redundant.

How, then, do Christians solve this dilemma? Most of us would claim that an appealing feature of the Christian message lies in the harmony which we find existing between Christian teaching on the one hand and the inner light of conscience which 'lightens every man coming into the world' (Jn. i. 9), on the other. This being so, can it ever be right to force a Christian to decide whether the Word of God or his conscience is his final authority? Conscience needs religion and religion needs conscience; we simply ought not to think in terms of setting the one up against the other.

Science affords another analogy. The scientist claims that he constructs his theories on the basis of ascertained fact, yet, in framing them, he has an eye to what seems reasonable and possible, perhaps also (as in mathematical physics) as to what is aesthetic. Which then is his real authority? Fact? Or his inner feeling of propriety? It would be unfair to persecute him with the dilemma. The two, he believes, work together.

The position between religion and science appears to be similar. The old adage that true religion and true science can never conflict is more than a cliché: it is the expression of a conviction of their interdependence. Like the Psalmist we may

see the laws of nature and the laws of God in harmonious synchronism (Ps. xcii.).

The difficulty in the case of Christianity and science seems to arise from a confusion. If we say that the Bible *or* the Word of God is the sole authority for faith we do not mean precisely and literally what we say. The revelation of God does not exist in a vacuum: it stands in relation to man. It is *we* who are called upon to understand the revelation: it is the Spirit of God who enables us to do so.

In the last resort, then, the Spirit of God is our authority. He may make use of the revelation previously given by God, but also of conscience, a sense of propriety and of reason by which we gain understanding both of the Word and of science. It is semantically confusing to speak of two ultimate standards. In the last resort there is one standard and only one: the standard of God Himself who reveals Himself to man. If we do not usually speak in these terms it is because we cannot directly settle issues by appealing to the Holy Spirit, so that in practice, as in science,<sup>3</sup> we must appeal to derivative standards. But we have no right to assume that there cannot be more than one derivative standard and in fact Protestants hold that there are at least two, the Bible and conscience, while Roman Catholics accept the Church and conscience.

In the Providence of God many factors may operate to persuade a man to become a Christian; it is wrong to limit God by claiming that agreement between the Bible and science may not be one of them. A man who is weighing up the pros and cons of a course of action may be tipped one way or the other even by an argument which in itself is not weighty. But science can offer more than this. Some men, at least, are so impressed by the coherence between incidental scientific teaching contained in the Bible on the one hand and scientific findings on the other, that for them this agreement constitutes one of the grounds of their belief in God. To minimize this fact

<sup>3</sup> For example the atomic weight of an element was originally defined as the mass of an atom of the element relative to the mass of an atom of hydrogen. But this presupposes an impossible experiment. Cannizzaro's derivative definition was therefore adopted – the atomic weight is the least weight in grams in one molecule of any of the volatile compounds of the element.

on account of a preconceived notion that it *ought* not to be so, because science *might* change, or because it is illogical to prove the greater by the lesser, is to ignore known facts about the ways in which men do in fact change their minds.<sup>4</sup> The stepping stones in a river bed may be slippery and unstably embedded, yet bring a man to firm ground on the other side. In the case of science, however, the Bible assures us that some at least of the stepping stones are unusually firm, the invisible things of God 'being clearly seen by the things that do appear' (Rom. i. 19-20).

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We turn to the second argument, best known through its brilliant development by Karl Heim;<sup>5</sup> the argument that science and religion must never be closely linked because science is a shifting sand.

To the writer, at least, it is difficult to understand how anyone can bring himself to make so sweeping an assertion, unless indeed, his knowledge of science is substantially confined to the border lands of science – in particular the atoms and the nebulae – or derived from sensationally minded journalists.

Inevitably, *at its boundaries*, science is ever in a state of flux. But its boundaries extend and, as fresh territory is conquered, areas of considerable stability are established. It is possible to say with some confidence that over a very large area of scientific knowledge neither we nor our progeny will witness great changes. Does anyone suppose that, in days to come, it will be discovered that the heart does not pump blood round the body, that the planets do not go round the sun after all, that Avogadro's Law is false, that benzene does not consist of molecules containing six atoms of carbon apiece arranged in a ring, that chromosomes and genes are irrelevant to heredity, or viruses to disease?

<sup>4</sup> See, for example, Bernard Dixon (Ed.), *Journeys in Belief* 1968. Also standard works on Christian conversions, eg. R. O. Ferm, *The Psychology of Christian Conversion*, 1962.

<sup>5</sup> Karl Heim, *The Transformation of the Scientific World View*, 1953.

Going back in history, it is often startling to note how much good science was known in the past. The fact that the earth is a sphere was common knowledge in the middle ages; ancient Greeks wrote of the running down of the universe in language which might be mistaken as belonging to the modern era;<sup>6</sup> even if the ancient Hebrews did not know how to formulate the inverse square law, they *did* know that there were laws or ordinances that governed the movements of the planets;<sup>7</sup> despite belief in magic the ancient Romans reckoned that it had its limitations for there were things which even magicians could not do (for example, make a river flow backwards<sup>8</sup>); the arguments used by the Stoics in support of natural theology show a good appreciation of the laws of probability and the illustrations used are not unlike those in use today. Added to a considerable volume of biological knowledge of a descriptive character, and much deep psychological insight, the sum total of ancient knowledge was not negligible.

It is evident that the notion that there is no stability in science is false and should be resisted. We should beware lest we attach our religion too firmly to the band wagon of the very latest scientific speculation, or to popular scientific philosophies which cannot be reconciled with established scientific principles, but this said, science may lend support to Christianity, and Christianity to science.

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Thirdly, let us consider the statement that theologians have had to surrender every position taken in the warfare of religion and science.

This view, much favoured by modern atheists who will not allow Andrew White's *History of the Warfare of Science with Theology* to be forgotten, is open to attack on two fronts. Historically, as J. Y. Simpson showed many years ago,<sup>9</sup> the

<sup>6</sup> See A. O. Lovejoy and G. Boas, *Primitivism and Related Ideas in Antiquity*, Baltimore, 1935.

<sup>7</sup> *Jer.* xxxi: 35; xxxiii: 25; *Job* xxxviii: 33.

<sup>9</sup> R. McQ. Grant, *Miracle and Natural Law in Graeco-Roman and Early Christian Thought*, Amsterdam, 1952, p. 57.

extensive material collected by White does not warrant his conclusion. Such warfare as we find, was, in each generation, not primarily between theology and science but between older and younger scientists. Older scientists tended to uphold traditional views dogmatically; younger ones to question them and to achieve new insights. Young Rutherfords in every generation are told that they bring their universities into disrepute. Simpson provides many instances of the kind. Inevitably outsiders, *including theologians*, tend to adopt the views of older well established investigators.

If, despite all, it is necessary to speak of a Victorian battle between science and Christianity, let us speak also of the battles between politics and science, philosophy and science, medicine and science, and law and science. Politicians, philosophers, doctors, lawyers, all, have often seized upon the latest findings of science and used them in support of views which they believed to be correct. If Christians sometimes misapplied science, as when (in 1834) Sir John Hershell set up a telescope at the Cape of Good Hope and showed a local resident a blood red star, only to hear in a sermon a little later that the Bible must be true because Sir John himself had seen the 'very place where wicked people go'<sup>10</sup>, it is also true that politicians have seized upon science in support of war, neglect of the poor and sick, and race extermination. A liaison of the latter kind is infinitely more harmful than an occasional unfortunate Christian speculation. But atheist influence is now so strong that these other issues are simply ignored. No one speaks of the warfare between other disciplines and science, or tells politicians, philosophers, doctors and lawyers that they ought not to hang their conclusions on science for fear that today's science will change tomorrow.

In another form this third and last argument tells us that the history of science shows that when Christians link their faith with their science the result is a fiasco: they usually fail to back the winning horse and are left with a discredited theory.

The picture we are asked to visualize is that of the Christian a

\* J. Y. Simpson, *Landmarks in the Struggle between Science and Religion*, 1925.

<sup>10</sup> A. de Morgan, *A Budget of Paradoxes*, 1872, p. 179.

century or so ago appealing to the doctrine of the fixity of species in support of the biblical doctrine of creation, or to the older geological theories of catastrophism and Neptunism in support of the Genises Flood. But science proved fickle and cruel: it left him stranded.

How representative is this picture? In answer it must be said that it is not at all representative. No one who has studied the relations of science and religion in the Victorian era can doubt that geology and biology account for only a relatively small part of the total picture. Yet when we turn to other fields, it is simply not true that theologians or theologically minded scientists were in the habit of backing the wrong horse. They often backed the right horse, but since no controversy was occasioned the fact is overlooked.

Joule, the physicist, was transported with delight as he reflected on the ways in which energy is apportioned in the universe and ascribed the arrangement to God; Faraday contrary to the usual view, linked his religion with his science quite closely and found great scientific incentive in looking for evidences of God's care in nature; Prout, the chemist, saw signs of God's hand in many facts of chemistry; Lord Kelvin, Tait, Maxwell and other physicists of the time believed that the science of heat confirmed the truth of the biblical doctrine of creation; Babbage thought the computer he had invented might provide a model of the way God had ordained the occurrence of miracles; Boole the mathematician, was fascinated by the psychology of thinking and argued cogently that it made materialism untenable. Many nineteenth century excursions into theology were highly productive in the scientific field. Prout's *Bridgewater Treatise* written to draw attention to God's handiwork in nature is now a classic in the history of chemistry. To Faraday and more especially Maxwell, it seemed quite wrong to suppose that God would have created the universe for the most part out of nothing at all (mere empty space), a reflection that led to the study of the properties of space and so to the prediction of wireless waves. Much more might be said along the same lines.<sup>11</sup>

<sup>11</sup> A documented manuscript on the subject is in preparation. See also *Faith and Thought*, 1967, 96 (i), 3.

Except in the case of geology, and evolutionary biology where clashes of personalities were involved, there is little in the nineteenth century science and religion relationship to suggest that the theologically minded people who took up definite views in science were later forced to retract. A case might, indeed, be made the other way. For example, Christians of a century ago often pointed to the remarkable property of water in expanding when it freezes as an example of Providence, while contemporary atheists retorted that as molten bismuth behaves likewise and yet occupies no obvious niche in nature, it was illogical to invoke God. Today all would agree that the properties of water are not less but a great deal more wonderful than earlier Christians had supposed.<sup>12</sup> Our wonder at the design to be found in nature has increased immeasurably with the passage of time. Christian anticipations of the way that science would go have proved on the whole more often right than wrong.<sup>13</sup> Moreover, as we have noted, Christian involvement in science led in many instances to direct and wonderful advances in science itself.

Perhaps when the whole story has been told, it will transpire that the struggle of Christianity with science will turn out in large measure to be the product of Andrew White's fertile imagination, and that positions taken up in science as a result of theological interest did not have to be abandoned unduly often.

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Thus objections to a close liaison between theology and science prove unconvincing on examination. How then, we ask, should they co-operate?

In this connection the parallel with ethics is instructive. Humanists tell us that kindness, compassion and sympathy do

<sup>12</sup> For discussions of teleology in chemistry see L. J. Henderson, *The Fitness of the Environment*, N.Y. 1931; R. E. D. Clark, *The Universe, Plan or Accident*, 1961; A. E. Needham, *The Uniqueness of Biological Materials*, 1965; C. F. A. Pantin, *The Relations between the Sciences* (Tarner Lectures), 1968.

<sup>13</sup> R. E. D. Clark, *The Christian Stake in Science*, 1967.

not need external justification. In a sense they are right but there are times in the lives of all of us, and for some people these are not rare but common, when the intuition that we *ought* to recognize right and follow it proves woefully inadequate. The voice which says, 'This is the way, walk ye in it' becomes a whisper; hope of immediate pleasure or worldly gain seems far more relevant than conscience. It is then that we desperately need a second standard: the love of God, the law of God, the hope of reward, even the threat of punishment (an unworthy motive to be sure, but vastly better than none at all). If we sin persistently, conscience becomes weak or distorted, or may disappear. On the other hand if, in moments of peril, the second standard keeps us on the narrow road, conscience will reassert itself in due course. Much of the tragedy of our world today lies in the failure to realize that two standards are necessary.

Perception (or awareness as Lord Brain prefers to call it<sup>14</sup>) affords another parallel. Many modern philosophers<sup>15</sup> now recognize that when we see an object we may know in two distinct ways that it is there; by a direct intuitive awareness mediated through the senses and by a process of reasoning which enables us to interpret signals received through our sense organs. In the psychological field the difference between them has been focused by Michotte's experiments on the direct perception of causality in the outer world which is in contrast to the causality which we suppose to exist as a result of a reasoning process.<sup>16</sup>

These two kinds of perception are subject to alternation: normal perception is direct and intuitive, but when feelings of unreality are uppermost (culminating, perhaps, in an unreality or derealisation syndrome) we fall back on reason. We always use reason, in addition, to test the validity of direct perception which, like reason, may fail to provide us with the right answer, the possibility of illusion being familiar to us all. Once again a

<sup>14</sup> In J. R. Smythies (Ed.) *Brain and Mind*, 1965; *Science and Man*, 1966.

<sup>15</sup> See, for example, G. M. Wyburn, R. W. Pickford and R. J. Hirst, *Human Senses and Perception*, 1964.

<sup>16</sup> R. C. Oldfield, *The Perception of Causality*. For a translation of A. Michotte's paper see M. D. Vernon (Ed.), *Experiments in Visual Perception*, 1966, pp. 235 ff.

two-fold standard is necessary: confidence is strong when intuition and reason work together.

These examples afford close parallels with science and religion. The Christian may know intuitively that he trusts the Word of God but his intuition falters at times. By reason the door is kept open for faith to return and when it does return, now supported by reason, it is stronger than before.<sup>17</sup>

The Bible abounds with instances of the way reason steps in when faith is dim. 'My God, my God, why hast thou forsaken me?' is followed by reasoned argument: 'In thee our fathers trusted . . . and thou didst deliver them . . . thou art he who took me from the womb . . . (Ps. xxii). When the Prodigal Son had lost all hope he reasoned to himself; 'How many of my father's servants have bread enough and to spare, but I perish here with hunger.'

What, then, is the upshot of this discussion? Surely it is this; that we should link our religion with our science as closely as we are able – just as we link other interests with science. Sometimes, no doubt, we shall make mistakes; our science or our biblical exegesis will be at fault. Sometimes the passage of time may show that arguments we have used in support of the Christian faith are wrong, yet if we have used them in all honesty may they not be profitable in their time? Does it matter if a generation yet unborn (or even those in ten years' time) will sometimes have cause to smile at what we said and wrote? Do *we* Christians of today feel that our side has been let down because Christians who lived centuries ago preached sermons about red stars, or mistook crystals formed from the ashes of plants for a resurrection of the plants and saw in such chemical experiments an enactment of the final resurrection? Of course mistakes will be made. But do those who take a different view of science and Christianity forget that mistakes are *equally*

<sup>17</sup> *Jn. V*: 46–54 affords an illustration. The official 'believed the word that Jesus had spoken to him.' Nevertheless, on returning home, he decided to apply a simple scientific test to his intuition that the healing of his son was our Lord's doing. He ascertained the time at which the boy began to recover, and learned that it was at the same time as Jesus had said to him, 'Your son will live'. This greatly confirmed his faith: 'he himself believed and all his household.'

easily made in exegesis? Man can misunderstand the Bible as easily as he can misunderstand nature: he can link his faith to false interpretation as easily as to bad science. By parallel reasoning to that which is now being offered in many quarters it would be wrong to preach from the Bible because this might imply a double standard between the Word and our interpretation of the Word, or because we might interpret it wrongly and interpretations are a shifting sand which may change tomorrow. Arguments against linking science with Christianity are arguments which may be turned against *all* preaching, all witnessing, all constructive thinking in the Christian field.