

## REVIEW ARTICLE:

*Shubert Spero*

Rabbi Shubert Spero, one of our frequent contributors, is Rabbi of Young Israel of Cleveland and lecturer in Philosophy at Western Reserve University.

### DOES THE SCIENCE-RELIGION CONFLICT REST ON A MISTAKE?

Attempts to work out a theory that would make a place for both the religious and the scientific views of life in such a way as to prevent conflict between the claims of the theologian and the claims of the physicist, are at least as old as Descartes. For the Cartesian dualism regarding mind and matter as distinct substances was designed to accomplish precisely this. But if the Cartesian compromise must be deemed a failure, Descartes at least made it clear what a formidable task his successors faced. No matter how you slice the pie of reality — mind and matter, or the spiritual and the physical, or the real and the ideal — the components seem to intersect in man and in God's action in history. Liberal religion, however, with its minimal claims in these areas, was more successful with this "distinct spheres" approach. Thus, in 1930, before the dawn of linguistic analysis, Rabbi A. H. Silver was able to write: "The conflict between religion and science is more apparent than real. There is no fundamental issue between them. . . . As soon as religion and science discover

their legitimate sphere, the conflict ceases. . . . Science investigates, religion interprets. One seeks causes, the other ends . . . science is the response to the human need for knowledge and power. Religion is the response to the human need for hope and certitude."<sup>1</sup>

For thinkers who identified religion primarily with values there was also no problem in applying the "distinct spheres" approach. Thus Joad, "Science by observation and reasoning, by experiment and inference, explores the natural world, determines its basic structure and seeks the answer to the question: *How* does the natural world function? The supernatural world is the sphere of religion. The question which religion seeks to answer is: *Why* does the universe work as it does? Essentially its business is the determination of values."<sup>2</sup>

Within Traditional Judaism, however, where we had to account for all the diverse assertions of the Torah, the response was piecemeal and took one of two forms: rejection of the implications of the scientific world view or reinterpretation of the Biblical view.

## TRADITION: *A Journal of Orthodox Thought*

Recently there appeared *Science and Religion* by Dr. Sol Roth\* who attempts to challenge the fundamental assumptions on which the conflict between science and religion is based and to show by philosophical analysis that the propositions of science and religion belong to different universes of discourse precluding the possibility of contradiction. He charges that "the centuries old conflict between religion and science is fictitious and is based on misunderstanding" (p. 24). Dr. Roth's approach is certainly an advance over methods we have been forced to use in the past and is to be welcomed. In fact, his conclusion that "the controversy between science and religion may be removed from the arena of live philosophic debate and consigned to the grave of history" (p. 56) sounds almost too good to be true. Since, however, philosophic analysis with its penchant for *dissolving* philosophical problems rather than *solving* them, has an unfortunate record of premature death announcements of various problems which appeared later in apparent robust health, it might be a good idea to examine carefully the arguments of Dr. Roth before we rush out and celebrate.<sup>3</sup>

Dr. Roth lists the following as fundamental premises upon which the religion and science conflict is based: 1) Literal meanings must be assigned to the descriptive propositions of both science and religion; 2) The term "knowledge" is used in an identical sense when applied to the propositions of both science

and religion; 3) Scientific and religious knowledge intersect, that is, some of the propositions of science and some of the assertions of religion deal with the identical subject matter" (p. 24).

Roth then goes on to imply that if any *one* of these premises is denied then the conflict between religion and science cannot arise. He states, "Now it is evident that if the descriptive declarations of religion need not be taken literally *or* if the meaning of knowledge . . . *or* if the knowledge of science fails to intersect. . . ." By using the disjunctive it seems clear that these three conditions are viewed as independent of each other so that any one of these negations is sufficient to prevent a conflict between religion and science. (On p. 53 he is quite explicit about this but on p. 55 he seems to say something else!) But is this so? Now the negation of premise 3 would appear to be sufficient to prevent any conflict from arising, independent of the negation of premise 2. Indeed this is a quite straightforward rebuttal and needs no help from analysis. If I say, "The coat is red," and you say, "It is not the case that the coat is red," and it turns out that I am talking about the outside of the coat and you are referring to the lining, then clearly there is no conflict. It seems clear, therefore that a denial of premise 3 is sufficient to eliminate the science and religion conflict. Let it be noted, however, that it does so without reworking the meaning of "knowledge".

Let us now examine the denial of

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## *Does the Science-Religion Conflict Rest on a Mistake?*

premise 1. In its positive form it reads, "Propositions of the Bible may be assigned metaphorical rather than literal meaning" (p. 25). Although this is certainly nothing new, Roth draws a sharp distinction between the *ad hoc* procedures that have been followed in the past and his own proposal to which he appends an "objective standard" to guide us in our choice of metaphorical meanings.

It is hard to see how an ability to assign some metaphorical meanings to Biblical assertions is sufficient to prevent conflict from arising between religion and science. Roth states that propositions which have been assigned metaphorical meaning remain "true in the sense of correspondence" and therefore cognitive (p. 41). To use one of Roth's examples: If God is reported as saying, "I will redeem you with an outstretched arm" it is to be taken as metaphorically true. But if the expression is a symbol or a metaphor for some meaning we should be capable of specifying the symbolizandum which in turn implies that it should be possible to say this in non-symbolic, non-metaphorical language.<sup>4</sup> The question, therefore, will still remain whether what is being asserted, is or is not in conflict with the assertions of science. True, God does not have an "outstretched arm." But if this phrase assures us of God's Providence and His intervention in the events of history, it may still conflict with the propositions of science. Attribution of metaphorical meaning does not, in itself, constitute a preventive of the religion-science controversy, as im-

plied by Dr. Roth.

Again, it should be noted that as in the case of premise 3, should a negation of premise 1 (the assignment of a metaphorical meaning) successfully avert a conflict with science, it would not be due to any analytic operation on the concept of knowledge but simply to the old method of reinterpretation.

Since this negation of premise 1 is supposed to operate independently, let us see how Dr. Roth applies this principle to the cosmological issue which he formulates thus: "According to the Biblical account, the universe came into being in a process consisting of several discontinuous events taking place over a period of six days. Scientific theory informs us that it developed entirely in accordance with natural law during a period of millions of years. Man, the Bible teaches us, was formed out of clay fused with the breath of life. According to evolutionary theory man emerged out of another form of animal life. If taken as literal accounts these declarations of science and religion cannot be reconciled" (p. 18).

Now let us see how Dr. Roth *dissolves* this problem: Such is the power of modern philosophy that he is able to do this with one sentence — "Let it be noted that the Biblical chapter on Creation has correctly been assigned a metaphorical interpretation by many thinkers . . ." (p. 53). But certainly we are entitled to know *what* metaphorical meaning has been assigned? Surely not every metaphorical interpretation will avoid conflict with scientific theories! Roth sends us scurrying via a footnote to Hertz's

## TRADITION: *A Journal of Orthodox Thought*

commentary on the Pentateuch where we are told that since the Torah is only interested in the "*fact* of creation" but not "*the manner* of creation", evolution is compatible with the Torah.<sup>5</sup> But if the *fact* of creation remains as the irreducible content of the meaning of Genesis, albeit metaphorical, then it still might conflict with a scientific theory such as the continuous creation or "steady-state" theory of people like Hoyle. Biblical assertions do seem to commit us to a theory about the origin of the universe which is a problem dealt with by science.

The question of the origin of man seems to be even more difficult and Hertz's position on this, more problematical. If, according to Jewish theology, the soul of man alone is rational, moral, spiritual and immortal and was infused by God so that it is to be considered "a portion of divinity", it is difficult to see how man evolved from the animal. Furthermore our theological requirements in regard to man compel us to adopt a view of the self as *agent* and as *subject* which bring us into conflict with several psychological theories.<sup>6</sup> There seems to be some radical discontinuity here between the human soul and the order of nature. Also would not the Biblical account as well as its corollary of the brotherhood of man require us to posit the existence of a unique human ancestor which would put us into conflict with polygenesis theories in paleontology. In short, contrary to Roth, the ability to assign some metaphorical meanings to Biblical assertions is not sufficient to pre-

clude the possibility of conflict with science.

In discussing the cosmological issue, Roth points out that it can be attacked from the side of science as well. He claims that evolutionary theory in science has only "limited confirmation" and that compared to the theory of gravity it is an "example of unrestrained speculation". But here Roth sounds exactly like the Rebbe of Lubavitch who in a masterful essay to a perplexed young man shows that in the conflict between the truth of Torah and the cosmological theories of science, Torah is to be preferred because of the weak evidence and tenuous inferences of the latter.<sup>7</sup> But these are the old methods of taking sides after the conflict has been joined! Where is the promised "preferred method" of preventing the conflict from arising?

Let us now examine premise 3 a bit closer: "That some of the propositions of science and some of the propositions of religion deal with identical subject matter" (p. 24). This, according to Roth, is what is meant by "having scientific and religious knowledge intersect." In the next paragraph we are told what is meant "if the knowledge of science fails to intersect with religious knowledge," namely, "if their methods of gaining truth as well as the results at which they arrive, differ." There seems to be some confusion here, as the problem of different methods would appear to be quite different from the problem of different subject matters. On the following page, Roth elucidates what he means by different subject matters in our context and con-

## *Does the Science-Religion Conflict Rest on a Mistake?*

cludes as follows: "Science provides only a practical knowledge of things and makes no claim to revealing the structure of the realm it investigates" (p. 25). This point is developed at length in a chapter entitled "Knowledge in Science" where prominent scientists are quoted to reinforce the view that the relations described in scientific laws and the abstract entities that figure in scientific theories, "do not mirror the actual world, do not reveal the nature of things" but merely point to practical consequences and are employed because they further the goals of science which are prediction and control. The propositions of religion, however, give us knowledge of the nature of things; "are blueprints of reality." Hence science and religion deal with different subject matters.

As it stands, this is essentially a formulation of the classic Kantian position which distinguished between the worlds of phenomena and noumena — the world as it appears and is apprehended by the categories of mind and the world as it really is. Science deals with phenomena and religion gives us insight into reality. Such an approach could be effective when applied to the problem of God or of the nature of moral and esthetic values, where it can be argued that science does not report such entities because it is equipped methodologically to handle only the phenomenal world. Roth, however, chooses to use this principle in resolving "the opposition between religious propositions purporting to describe man, the universe and the relations between them and the propositions of

science" (p. 52), and in particular to the ethical issue of freedom versus determinism.

On the basis of what has been said so far, we would expect this issue to be resolved in the typical Kantian manner, i.e. the acting subject viewed as phenomenon is subject to causality and determinism while the same subject conscious of himself as "a thing in himself" (noumenon) considers his existence not subject to time conditions and from that aspect is free. If this is what Roth has in mind then 1) he hasn't advanced the question beyond Kant and 2) his solution will be subject to all the criticism that his famous colleague's was.<sup>8</sup> Indeed how can the very same act be free and not free at the same time! If, as Roth insists, the freedom required by Judaism is in conflict with universal determinism and asserts the possibility of contra-causal freedom which means that even a complete knowledge of all the antecedent conditions could not have resulted in a correct prediction of the outcome, then all terminological differences aside, religion and science on this question are dealing with the same subject matter. Since you are dealing with the question of prediction and causality both the propositions of religion and science are operating here on the same wave length! Calling scientific knowledge regulative and religious knowledge constitutive does not change the matter before us in the least. A religious proposition which denies which denies universal determinism is quite clearly in conflict with a scientific proposition which affirms

## TRADITION: *A Journal of Orthodox Thought*

it or implies it. The same Bertrand Russell, whose views on science Roth quotes approvingly, states, "Psychology and physiology so far as they bear on the question of free will, tend to make it improbable."<sup>9</sup>

If we examine Roth's language carefully, we notice that he has without warning injected another argument altogether. He states: "The resolution of this conflict therefore depends on the possibility of rejecting the principle of scientific determinism as a constitutive principle that holds *without exception over the entire realm of nature.*" But the possibility to reject any universal empirical generalization flows not from its being considered regulative but from the general weakness of inductive inference. Strictly speaking, the principle of universal determinism has simply never been proven. Wherever science has investigated, it has found determinism to hold (except perhaps in Quantum physics with Heisenberg's famous Indeterminacy Principle) but science has not been everywhere and certainly not in the inner recesses of the human psyche. We therefore feel ourselves justified in affirming indeterminism as holding in some small area of human volition as required by moral and religious responsibility because science hasn't really proven universal determinism.<sup>9a</sup> Thus has the ethical issue of freedom and determinism been resolved. But again we must ask -- is this the great dissolution we had been promised? Once again we appear to be using the same approach as the Lubavitcher Rebbe!

Roth attempts to support his

view that religious and scientific propositions "fail to intersect" by tracing their differences to differing conceptions or definitions of truth of which the three most frequently mentioned are the Correspondence Theory, the Coherence Theory and the Pragmatic Theory. Roth claims that the descriptive propositions of the Torah; "its record of historical and biographical events, philosophical propositions, descriptive generalizations dealing with God, man and the universe are to be construed as true in the sense of correspondence with reality" (p. 38). However, when confronting the propositions of science we are to apply the pragmatic conception of truth: "a proposition is true if and only if it is useful." Says Roth, "Now it is evident that if we subscribe to the pragmatic conception of scientific truth, there can be no conflict between science and religion in regard to the nature of things for this reason at least, that the propositions of science asserts nothing in regard to the nature of things" (p. 27).

There is something very odd going on here. To whom is Roth attributing the pragmatic definition of Truth? Is he asserting that 1) scientists as a group subscribe to this definition or 2) is he suggesting that *we* should so regard scientific truth. If he intends 1) then it must be pointed out that it just so happens that many of the very people he quotes do not subscribe to the pragmatic conception of truth but adhere to some modified correspondence theory.<sup>10</sup> As a matter of fact there are few philosophers today who hold any of these three

## *Does the Science-Religion Conflict Rest on a Mistake?*

theories in their "pure" form as formulated by Roth because of the weighty arguments that can be brought against them.<sup>11</sup> On the other hand, if Roth is proposing that we subscribe to a correspondence definition of truth when talking religious language, and espouse a pragmatic definition when using the language of science, he is making a most irregular and stultifying suggestion. Each of these truth theories are analyses or definitions of what is meant by the word "true" in all of its cognitive occurrences. Roth is in effect proposing that we coin a new term to be called "scientific truth." Would this therefore mean that when reporting on the Bible I say — "It is true that the Jews spent many years in Babylon" and when we hear a general historian say: "It is true that the Jews spent many years in Babylon," that the two sentences mean something different! (The question of the definition of truth, which is what Roth is talking about, should not be confused with the related but different question of the criterion of Truth.)

Actually scientists usually assume realism in their work. Astronomers, geologists, biologists, and chemists almost always take theories to represent events in the world. "Dinosaurs are held to be creatures that actually roamed the earth, not useful fiction with which we organize the fossil data."<sup>12</sup> There is no point at which one could draw any sharp line between amoebae and viruses and molecules and electrons. As Quine admits: "For my part, I do, *qua* lay physicist, believe in physical objects."<sup>13</sup> Most scientists un-

derstand themselves to be dealing with the structure of events in the world. They see science as a path to understanding and not just as a tool for prediction and control. For, as Nagel argues, "a theory is an effective tool of inquiry only if things and events are actually so related that the conclusions the theory enables us to infer from given experimental data are in good agreement with further matters of observed fact."<sup>14</sup> The epistemological view that would appear to reflect most faithfully the scientific enterprise is a sort of critical realism which would acknowledge the abstract (inventive) character of theoretical physics and the necessity of experimental observation which anchors its concepts to reality if only "at the edges" (see the quote from Quine in Roth, p. 34). Such a view would recognize that no theory is an exact description of the world but at the same time would acknowledge that the world is such as to bear interpretation in some ways and no in others. Science has forced us to the realization that the real is a combination of the intelligible (coherence) and the observable (correspondence) which give rise to experimental verification (pragmatic).

It is not accurate therefore to refer to scientific knowledge as useful instruments for certain programs. Scientific language does refer to the world if only symbolically and partially. This is of some help to religion. Possible conflicts, however, between religion and science cannot be ruled out.

So far, we have not been able to discover any wholesale elimination

## TRADITION: *A Journal of Orthodox Thought*

of the religion-science conflict. When religious propositions are descriptive of man and the universe they are dealing with the same subject matter as scientific propositions. The possibility of interpreting Biblical assertions metaphorically may solve some conflicts, but cannot in principle eliminate the possibility of conflict. As we have shown, Roth's application of these methods to the only two issues which he discusses — the cosmological and the ethical, are of the old-fashioned garden variety.

But perhaps the expected achievement is to be found in the third premise: "The term knowledge is used in an identical sense when applied to the propositions of both science and religion" (p. 24). Its negation is expressed thus: The *meaning* of knowledge differs in a crucial way . . . or in terms of what Roth will try to demonstrate: "Religious knowledge is expressed by two radically different types of descriptive propositions and the term 'knowledge' is applied to each of these in a way that prevents a logical contradiction from arising between them and the propositions of science" (p. 25). It appears (p. 46) that the two types of propositions are 1) those dealing with man, the universe, and the relations between them and 2) those dealing with God and His relation to the universe. In regard to proposition of type 1, Roth has nothing new to say and merely sends us back to the metaphorical approach (premise 1) or to the "failure to intersect" approach (premise 2) which we have already discussed. What remains then are propositions of

type 2 or propositions about God and His relation to the universe.

Roth points out quite correctly that since God is categorically unique we cannot meaningfully predicate any universals of Him. In short, He cannot be described. In what sense, therefore, can we have knowledge of God? Roth proposes two answers: 1) the negative theology of Maimonides which does not give us any knowledge of the essence of God but informs us that God does not have any of the deficiencies that are objects of our experience; and 2) the existential approach of thinkers like Martin Buber who maintains that we do not have cognitive knowledge of God but yet as a result of an I-Thou encounter relate to Him in a sort of total involvement which cannot be verbally communicated. Roth concludes, "On both interpretations we may be said to know God but not in the same sense as we know the claims of science" (p. 55).

Now it may be admitted that on the basis of linguistic analysis which says, "Don't ask for the meaning, ask for the use" and "Every language — game has its own logic," assertions about God in religious language have a special use and therefore a special meaning. To be sure, statements do perform many and diverse functions: descriptive, prescriptive, performatory and expressive. But it is not enough to say that in religious language, "knowledge" is used differently or that religion does not compete with science. If knowledge of God is not cognitive knowledge what kind of knowledge is it?

Indeed the real need that faces



## *Does the Science-Religion Conflict Rest on a Mistake?*

theology today is not to show that "religious knowledge is incommensurate with scientific knowledge" but to refute the often heard contention that God talk is not meaningful at all. Dr. Roth is concerned with the problem of truth, but theology may be dead on arrival, if it doesn't survive the battle of meaning. It is of the utmost importance for religion that we make out a case for the claim that true religious propositions are knowledge in the same sense in which true scientific propositions constitute knowledge. To hope to show that the two types of knowledge are "incommensurate" is to purchase immunity from science at the prohibitive cost of lapsing into obscurantism. Prof. C. J. Ducasse once put it very bluntly, "There is a game called Pursuit of Knowledge, and the rules which define its nature and differentiate this game from others, are called The Rules of Evidence — specifically, the rules of observational, experimental, inductive, deductive, circumstantial and testimonial evidence. Nobody is obligated to obey these rules, but whoever flaunts them is automatically then playing a different game; and if he, nevertheless, continues to employ words which have meaning only in terms of those rules — words such as 'true', 'false', 'probability', 'knowledge', etc. — then the game he is actually playing is that of *cheating at the pursuit of knowledge*.." <sup>15</sup>

While the essence of God is unknowable, Maimonides stated that we can know God through His actions in the universe. <sup>16</sup> At the very least this must mean that we can attribute certain events to the agen-

cy of God: for example, "The Exodus from Egypt was caused by God." Does Dr. Roth suggest that this proposition also be construed as some sort of non-cognitive knowledge?

In a recent study, it has been argued, quite successfully it seems to me, that the question "Does God exist?" or "Does the name God have a referent?" is a question which can be handled in a rather straightforward way. <sup>17</sup> It is necessary to specify the relevant set of conditions associated with the name and then determine whether anything or anyone satisfies the conditions of the set. In reference to God, these conditions might be omnipotent, omniscient, eternal, creator of the world, the cause of itself, etc. These conditions have some degree of intelligibility as, for example: If something is the creator of the world, then prior to its act of creation, the world did not exist. If our religious beliefs are beliefs about what is and if these beliefs are true, then we may be said to have achieved knowledge. Of course this may put us into conflict with the scientific outlook. Ziff, for example, while granting the intelligibility of God-talk, nevertheless, pronounces it false. "In answer to the question, 'does God exist?' we can only say— There is excellent reason to suppose that no such being exists." But it is precisely here that we must make our stand and employ the tools of linguistic analysis to show that given the special character of religious questions, its peculiar logic justifies "belief in", even though "belief *that*" by scientific criteria may not be warranted.

## TRADITION: A Journal of Orthodox Thought

### NOTES

1. Silver, Abba H., *Religion in a Changing World*, New York, 1930, p. 29.
2. Joad, C. E. M. *God and Evil*. London, 1943, p. 144.
3. See M. Schlick in his *Problems of Ethics*, p. 143, where he unmasks the "pseudo-problem" of freedom of the will, and G. Ryle in *The Concept of Mind*, Chapter I, where he lays low Descartes' Myth of the "Ghost in the Machine." Both of these issues are still very much alive.
4. See the discussion by W. P. Alston on religious symbols in *Religious Experience and Truth*, edited by S. Hook, p. 14.
5. Hertz, J. *Commentary on the Pentateuch*, p. 193.
6. See Castel, A. *The Self in Philosophy*. Chapter 4.
7. Reprints are available from the Tzeirei Agudas Chabad, 770 Eastern Parkway, Brooklyn 13, New York.
8. See Sidgwick, H. *Outlines of the History of Ethics*, p. 274, and Jones, W. T. *A History of Western Philosophy*, p. 859.
9. Russell, Bertrand. *Religion and Science*, Oxford University Press. Reprinted 1961, p. 163.
- 9a. This approach can be taken to the extreme where only scientific "facts" (verified, measured, experimented) will be allowed as legitimate expressions of scientific knowledge. Laws, theories, hypotheses are mere "guesswork" which can be discounted. For such a quaint view see "Science vs. Scientism" by C. N. Klahr, in the Jan. 1965 issue of *Intercom*, published by the Assoc. of Orthodox Scientists.
10. See Russell, Bertrand in *The Problems of Philosophy*, Chapter XII, and Einstein, Albert quoted in *Readings in the Philosophy of Science*, p. 261 (New York: 1953) Edited by Feigl and Brodbeck.
11. See Ewing, A. C. in *The Fundamental Questions of Philosophy*, New York: Collier Books, 1962, p. 59.
12. Barbour, I. G. *Issues in Science and Religion*, Prentice Hall, 1966, p. 171.
13. Quine, W. V. O. *From a Logical Point of View*, Harper & Row, 1963, p. 44.
14. Nagel, E. *Structure of Science*, Harcourt Brace and Co., p. 134.
15. Ducasse, C. J. "Are Religious Dogmas Meaningful?" in *Academic Freedom, Logic and Religion*, edited by M. White — Proceedings of the American Philosophical Assoc. Eastern Division.
16. Maimonides, Moses. *Guide For The Perplexed* (Friedlander translation), p. 75.
17. Ziff, Paul "About God" in *Religious Experience and Truth*, edited by S. Hook, New York University Press, 1961.
18. See Ferré, F. *Language Logic and God*, Harper & Row, 1961, p. 94.
19. See Hepburn, R. W. *Christianity and Paradox*, London, 1958. Chapters III & IV.
20. Whitehead, A. N. "Religion and Science" in *The Atlantic Harvest*, Boston, 1947, p. 568.