

Book Review

Judah Landa, *Torah and Science*
Ktav Publishing House, Hoboken, New Jersey, 1991

Let me say at the outset that I agree completely with Dr. Landa's principal thesis that "it is possible to accept all the tenets of modern science...and at the same time subscribe to all the articles of faith of orthodox Judaism" (p. xiii). Nevertheless, I did not like this book. What I found annoying is the gross disrespect shown by Landa towards *Gedolei Torah*. Landa depicts *Gedolim* as people who are not only totally ignorant of science, but who sometimes do not even understand the Torah! An example will illustrate what I found so offensive.

In his Preface (p. xii) we are told that in a discussion with "a well-known and truly great Torah scholar", Landa was surprised to discover that this *Gadol* did not understand an elementary passage in *Hilchot Yesodei Hatorah* of the Rambam. Landa goes on to describe how this *Gadol* "almost shouted with glee" while blundering into misunderstanding, and notes that the *Gadol* was "much dismayed" upon being corrected by Landa. Indeed, Landa informs us that it was the sheer ignorance of this man — "great Torah scholar that he was" — that inspired Landa to write his book: "I resolved to do something about the twin problems of ignorance and bias in the name of G-d."

By this time, the Reader may suspect that I am exaggerating Landa's tone or that I am pulling phrases out of context. Would that it were so! Unfortunately, Landa's book is riddled with disparaging comments about *Gedolim*. In Section 8.5, for example, Landa really outdoes himself in belittling our Sages and the *Gemara*. In the short space of six pages (pp. 250-255), Landa emphasizes the shortcomings of the *Amora* Shmuel ("impossible claims", "gross exaggeration", "bragging about his prowess in one area or another"), of Rashi ("his advice is impossible to reconcile with the known facts"), of a

Talmudic discussion (“the Talmud’s advice ...is without merit”, “preposterous suggestion”, “confused”, “don’t know a thing about human reproduction”), and of Talmudic Sages in general (“They shouldn’t be denying the obvious!”).

Finally, let no one think that contemporary *Gedolim* fare any better in Landa’s book. On p. 113, we are informed that the *Mishnah Berurah* is an example — among many — of “modern rabbinic works that seems oblivious to the already discovered and established facts...”.

So much for the “Torah” part of Landa’s book: “*Torah and Science*”. Let us now turn to the “Science” part. The first eight chapters of the book (out of a total of ten chapters) deal with classical science — mainly astronomy, mechanics, mathematics — which is clearly and accurately presented. The problem, once again, is the *reason* for Landa telling us all this science. It is clear that Landa’s *sole reason* for presenting hundreds of pages of science is to emphasize how completely “ignorant” *Gedolim* were in all scientific subjects. Landa repeats this point again and again, concluding this section of the book with the following assertion (pp. 261–262):

The rabbis’ opinions and methods almost always fell short... the rabbis were so clearly wrong on so many diverse matters.... Particularly painful was that the rabbis’ analyses frequently appear woefully inferior even to those of their contemporaries, the ancients. And not only in scientific matters was this the case, but also in mathematics.... The unwarranted glorification of our Sages is not only based on ignorance of science, it is also founded on ignorance of Torah.

The final two chapters of the book deal with modern scientific topics (cosmology, evolution, molecular biology), the topics that pertain to the Torah account of Creation, a subject close to my heart. Landa’s presentation of modern science can only be described as completely unsatisfactory. Almost all his scientific errors (examples to be given) are of the same type — he oversimplifies to the point of error. And I believe that he does so in order to present scientific explanations as unequivocal, clear, and well-established — which he then contrasts to the “impossible scenarios” of *Gedolim*, which “are riddled with internal contradictions” (p. 348).

The truth is not so simple. Everyone actively engaged in research at the cutting edge of modern science becomes aware of the subtlety of the scientific enterprise. Recent scientific results often appear unclear, controversial, and even contradictory. To present such results as definitive, as Landa generally does, is almost guaranteed to lead to error. A few examples will illustrate what I mean.

Human Evolution: This is, of course, a subject that lies at the very heart of the Torah description of Creation. Landa presents the following scientific account (p. 284):

While fossils belonging to Modern Man go back in time a mere 30,000 years [incidentally, this date is wrong (N. A.)], quite a few “in-between” fossils, of creatures with ape-like and man-like features, have been located that go back as far as 2 million years ago [this date is also wrong (N.A.)].... *The more man-like and the less ape-like these intermediate fossils are, the younger they are* (emphasis added).

The above picture of the gradual evolution of Man is fundamentally in error. In fact, Niles Eldredge, Curator of the American Museum of Natural History, a world authority on human evolution, devoted an entire book to combatting this misconception. In his book, appropriately entitled *The Myths of Human Evolution* (1982), Professor Eldredge refers to this widely-believed description of human evolution, repeated by Landa, as “the great evolutionary myth of slow, gradual and progressive change” (p. 120). Emphasizing that current fossil data completely contradict the Darwinian concept of gradualism, Professor Eldredge notes: “Our standard expectation of evolution — slow, steady, gradual improvement, hence change, through time — is indeed a myth” (p. 2).

Current understanding of earlier hominids — the “man-like” species — is in a state of disarray. Recent fossil evidence has made it unclear just which hominid species preceded which. This point was emphasized in an article in the respected British journal *Nature* (May 1987, Vol. 327, pp. 187–188), carrying the somewhat satirical title: “Who is the ‘real’ *Homo habilis*?” The current state of confusion regarding human evolution is characterized in this article by the following words: “The new fossil rudely exposes how little we know about the early evolution of Man.”

Origin of Life: Another topic of fundamental interest to the Torah Jew is the origin of life. Landa presents a scientific explanation of how life first appeared on our planet (pp. 288–289):

So a possible scenario for the origin of life may proceed as follows: [Two paragraphs now follow presenting the “possible scenario” (N. A.)] ...Life was on its way!

The widely-quoted “scenario” presented by Landa for the origin of life has no scientific basis whatever. In fact, as of this writing, no scientist has the faintest idea of how inanimate materials can possibly become transformed into the

complex biological systems that we call Life. This was the central point of a recent *Scientific American* article (February 1991), appropriately entitled "In the Beginning..." (I love that title!). The article describes in great detail the enormous difficulties encountered by any possible scientific explanation for the origin of life ("...points out the inadequacy of all [proposed] explanations of a terrestrial genesis of life"), quoting leading experts in the field.

Professor Harold Klein, chairman of the National Academy of Sciences committee that recently reviewed origin-of-life research, is quoted as follows:

The simplest bacterium is so damn complicated that it is almost impossible to imagine how it happened.

Professor Francis Crick, who shared the Nobel Prize for unravelling the structure of DNA, the genetic material found in every living cell, also uses picturesque language:

The origin of life appears to be almost a miracle, so many are the conditions which would have had to be satisfied to get it going.

If this Nobel laureate, known as a man completely devoid of any religious feeling, sees fit to use the words "almost a miracle" to describe the origin of life, it is quite clear that there currently exists *no* scientific explanation for the evolution of inanimate material into living creatures.

Gradualism: Another serious error made by Landa regarding the origin of life relates to the time scale. Landa repeats the widespread misconception that an enormous length of time passed before life first appeared on Earth, writing (p. 289):

It took *billions of years* to go from a mere mixture of water vapor, hydrogen, ammonia and methane to the simplest of life forms (emphasis added).

Landa's assertion is, of course, consistent with the Darwinian concept of gradual evolution. However, recent fossil evidence has caused this view to be discarded. The current fossil data completely contradict the notion of the "gradual evolution of life", and scientists now emphasize the *suddenness* with which life appeared on our planet. The ancient rocks that contain the fossils of the earliest living organisms date back almost to the time that the surface of the Earth first solidified.

The suddenness of the appearance of life on Earth was emphasized as far back as the September 1978 issue of *Scientific American*, which contains articles from leading authorities on questions related to the origin of life.

Professor Richard Dickerson of the California Institute of Technology concludes (p. 62):

Perhaps the most striking aspect of the first appearance of life on Earth is that it happened so fast.

Professor William Schopf of the University of California at Los Angeles explains (p. 86):

Since the 1950s, it has come to be recognized that...fossils of living organisms can be found even in some of the most ancient known rocks.

As the above quotes make clear, the current scientific position emphasizes the *rapidity* with which the first living organisms appeared, virtually as soon as the Earth had cooled sufficiently to enable life to exist. Therefore, an important part of the challenge facing any scientific account of the origin of life is to explain how this happened so rapidly.

The above criticisms are not intended to detract from the fact that the twin themes of Dr. Landa's book are messages of the utmost importance for the Torah Jew of the 20th century, and they bear repeating:

(i) There is no contradiction whatever between Torah and science — nor can there be — because these two disciplines (Torah and science) operate within completely different frames of reference. Science describes how the physical universe operates, whereas the Torah defines Man's obligations to G-d and to his fellow Man.

(ii) *Gedolim* (both past and present) were not necessarily always up to date in matters relating to the functioning of the physical universe. It is certainly not a principle of the Torah that *Gedolim* were experts in every area of science. In other words, science is not the subject in which these men are "*Gedolim*".

In a book intended for the Torah Jew, it matters not only *what* you say, but also *how* you say it. Surely it should be possible to formulate these important ideas in the proper manner.

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