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## Science, Religion and a Medieval Philosopher

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**I**N TWELFTH CENTURY SPAIN, ABRAHAM IBN DAUD WROTE A PHILOSOPHICAL TREATISE THAT EXEMPLIFIED THE HISTORICAL FRAMEWORK AND INTELLECTUAL CLIMATE IN WHICH COMMITTED RABBINIC JEWS sought to make intelligible their faith. Ibn Daud's contemporaries, including Maimonides, had a profound interest in and knowledge of the most important advances in the science of their day. Like them, ibn Daud's central issue was reconciling religion with the science of his time. The context in which he explored this issue was the relationship of divine will to human choice.

In describing and dealing with this problem, ibn Daud succinctly lays out a method for doing Jewish philosophy that provides a useful model for understanding Maimonides' approach to Jewish theology. The following text and commentary, drawn from ibn Daud's discussion of the abstract in *The Exalted Faith*, also suggests a means of utilizing traditional Jewish sources to interpret religious belief in our own age.

One note of explanation before I begin: To assist the reader in following the text and in correlating it with the subsequent commentary, I have divided ibn Daud's text into four main sections, numbered them, and given them subject headings. The numbers used in the commentary correspond to the numbers in the text.

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## *The Text*

ABRAHAM IBN DAUD, *THE EXALTED FAITH*,  
DISCUSSION OF THE ABSTRACT (2b2 - 4b17)

### 1. *Motivation for the book: The issue of determinism and science*

Years ago you asked me about your investigation of (the nature of) determinism and choice. You mentioned to me that you have a problem with each of these extremes. Your problem with them focused on human sin. If God determines that human beings will sin, then how can He punish them for their sins? Or, how can He warn them in revealed law against sinning? Similarly, how could He have sent His prophets to command them against sinning? On the other hand, if human beings did receive commandments, then, if they want to, they may either transgress them or heed the warning against transgressing them. Consequently, if human beings can make choices, how is it possible that something exists over which God has no control?

### 2. *The problem stated in terms of apparent contradictions in the biblical text*

You also mentioned that it is difficult for the intellect to understand the texts we find in Scripture that testify that human actions are determined. For example, "I [God] will harden the heart of Pharaoh" (EXODUS 7:3). On the other hand, there are other texts in which Scripture testifies to the opposite claim, viz., that humans have choice. For example, "I call to testify against you today the heavens and the earth; life and death I set before you" (DEUTERONOMY 30:19), and "As I live, says my Lord God, I do not desire the death of the wicked; rather I desire the turning of the wicked from their way that each one of them may live" (EZEKIEL 33:11).

### 3. *The key to the solution: Not everything in Scripture should be read literally*

I respond to your inquiry by saying that while some passages of Scripture have meaning according to their literal sense, others of them are statements for which an explanation is unavoidable, because, when taken literally, they contradict each other, as is the case with the texts considered

above. Hence, there is no way that we can avoid giving an interpretation to each of the passages whose literal meaning expresses contrary extremes. Know that passages whose literal meaning contradicts what intellect supports are the ones that require explanation or interpretation. Many passages like these ones present a literal meaning that is proper for the masses, but this interpretation is not the true meaning of the text. Concerning such passages, our rabbis said, "The Torah speaks in the language of human beings" (YEVAMOT 71a; BABA METSIAH 31b).

### 4. *Source of the problem: The revolutionary character of contemporary science and the scientific ignorance of contemporary rabbis*

God motivated me to help many of His creatures who, in my judgment, seem to be confused and disoriented by this and similar questions. Even those contemporaries who are expert in reasoning are confused, because their talent for rational thought abandons them when they invoke basic faith principles in their attempt to compare their Israelite faith with what contemporary philosophers affirm to be true philosophy. This deficiency in rational thought about issues of science was not true of our nation in the past. On the contrary, our ancient rabbis presented many views that are, from the perspective of rational thought, notable and correct, such as statements attributed to Rabban Yochanan ben Zaccai and Shmuel, as well as to all of the other disciples of Hillel the Elder in the Sanhedrin in every generation (e.g., SUKKOT 28a and BABA BATRA 134a).

Indeed, it does happen sometimes in our time that some rabbi speculates about the sciences. However, such rabbis lack the ability to grasp with both hands the two lights, viz., the light of religious law in their right hand and the light of science in their left hand. This does not only happen in this generation; it also happened in ancient times. For example, our rabbis mentioned the case of Elisha Acher (cf. HAGIGAH 14b)...His case led many of our contemporaries to think that to study the subtle sciences causes real harm. Hence, they do not look at anything in the sciences. At the same time neither do they study the roots and first principles of religious law, concerning which much reasoning and investigation always is proper. Consequently, they do not properly understand

those branches of religious law where slight speculation is insufficient to achieve adequate comprehension. As a result of this state of affairs, these defenders of Israelite faith rush to speak about (important) matters (like necessity and choice) where their reasoning is doubtful and their methods are obscure...The only contemporary treatise to reach us in this region (that is an exception to this rule), whose sound use of rational speech motivates thinking people in our nation to use the sciences to stimulate proper thought about what they affirm as their faith, is Rabbi Saadia's treatise, *The Treatise on Faith Assertions and Views*.

### *Explanations*

#### 1. *Determinism and Science*

The issue that motivated ibn Daud to write his book was the relation between determinism and choice. Ibn Daud begins with the two extreme answers to this question posed by the new Aristotelian science: either everything is determined, so that nothing can be subject to human choice; or some choices are absolutely free, so that they can in no way be subject to determinism. To ibn Daud, it seems that both views are not merely incoherent; they are wrong. The correct understanding of their relation must lie somewhere in between. All actions, in other words, are to some extent determined, and some actions are also subject to human choice.

Of course, certain things happen independent of choices. For example, a falling rock does not choose to fall. But ibn Daud is interested in a particular set of actions: those by which human beings may or may not sin.

Now, if—as the newly emerging Aristotelian science posits—the categories of formal necessity and material chance exhaust all the possibilities of making an event intelligible, then the concept of moral responsibility makes no sense. You cannot be responsible for doing what you had to have done, nor what merely happened to happen. For there to be moral culpability, for an action to be subject to judgment as good or bad, it must be neither necessary nor random.

#### 2. *Contradictions in the Bible*

Ibn Daud next presents the problem from the religious perspective. Rabbinic Judaism is a faith rooted in a revealed text—the Torah—which communicates positive and negative commandments that are associated with rewards for obedience and punishments for disobedience. If human beings fail to fulfill a commandment either because it was impossible for them to do otherwise or because what they did was merely accidental, then it is not morally just to punish the action. In Exodus, God commands Pharaoh to let the children of Israel leave, and punishes him when he refuses, even though God “hardened Pharaoh's heart”—that is, God forced Pharaoh to disobey. Other biblical passages, however, explicitly affirm that people have choices. These choices have life and death consequences, and the consequences are understood to be rewards or punishments for obedience or disobedience.

Ibn Daud is not asking whether the commandments themselves are good or bad. Rather, he questions whether it makes sense to call one statement a commandment and a consequent statement a punishment. To command a rock not to fall is futile; for a rock to shatter when it falls is merely a consequence, not a punishment. However, human beings are commanded and punished. Ibn Daud concludes that acts are commanded if and only if they are neither determined nor accidental.

This is one side of the problem, one dealing with the nature of causation. But there is a second side as well, one dealing with the nature of God. If human beings have choices, then what they will choose to do is in principle unknown. We do not simply require more information to predict what they will do; rather, there is nothing more to know. Perfect knowledge in this case is knowing that you do not and cannot know. (For example, perfect knowledge of a fair coin toss under ideal circumstances is that there is an even chance of heads or tails.)

Ibn Daud solves the challenge to both religious and scientific systems in a similar fashion. The starting point for all scientific thought is direct empirical observation. But mere abstraction is not knowledge. Data does not contain its own interpretation. The scientist interprets it, providing a schema through which the data becomes intelligible, coherent, and consistent. To the extent that a proposed intellectual schema fails to do that, it must be revised or replaced. Similarly, the starting point for all reli-

gious thought is an inherited tradition of texts about God's revelation to His prophets. But texts in themselves are not knowledge, since they do not contain their own interpretation. The theologian interprets, providing a schema through which the words in the texts become intelligible. Here "intelligibility" involves more than making written words coherent. Since these are words of revelation, not myth, their interpretation must also cohere with what is known through science, what we know from the data of experience to be true. Clearly, not everything in Scripture can be understood *literally*, since many statements in Scripture would be inconsistent with other statements in Scripture or with what we know to be true from experience.

Ibn Daud's method for reading Scripture in this context is simple: when the most literal meaning of Scripture is false, interpret non-literally. The issue is not interpreting Scripture to agree with science. For Ibn Daud, religion is no more the slave of science than science is the slave of religion. Rather, Ibn Daud reasons: Given that God is perfect, then what God reveals must be true. God has revealed to Israel the Hebrew Scriptures. Hence, what those Scriptures mean must be true. But how can we *know* what they mean? Ibn Daud answers that the correct interpretation of any text within the corpus of divine revelation rests on its coherence with the entire corpus. When the literal meaning of the text is incoherent, then the literal meaning is not the true one.

### 3. *Beyond the Literal Meaning*

In this context, Ibn Daud asks, why are so many of the words in Scripture not to be understood literally? Is God, the revealer of the Hebrew Scriptures, devious? Why doesn't He say what He means to say as literally and as clearly as possible? Ibn Daud here gives a succinct reply that Maimonides will elaborate on in his *Guide of the Perplexed* (in particular I:26, II:47 and III:29). The answer is contained in the rabbinic aphorism, "The Torah speaks in the language of human beings." This means, in brief, that the Bible is not a secret document intended solely for an elite. Rather, God intended the Torah to speak to each of the children of Israel, irrespective of their intellectual abilities or accomplishments. To do so, God had to speak at many different levels simultaneously. The greater a reader's conceptual development, the greater the ability to approximate Scriptures' true meaning.

The rabbis who succeeded Ibn Daud recognized that there are many different levels at which it is proper to interpret Scripture. The best statement of these different approaches was given by Nachmanides, a thirteenth century European mystic and philosopher. In Nachmanides' formulation, there are four levels of meaning: the simple literal meaning, the homiletic, the philosophical, and the mystical. Often these different approaches produce contrary explanations, and most commentators recognized the contradictions. For most rabbis, however, this diversity of meaning was not problematic. God expresses His truth in multiple ways through His written word. While one kind of hidden meaning may not seem to agree with another kind, the conflict is not real; the difference lies only in the mode of expression.

Not that the rabbis advocated any kind of multiple truth. Without exception these rabbis believed that the one God of the universe is the source of only one truth. However, this epistemological unity has diverse expressions. Consequently, within each kind of commentary there is a need to determine coherence and consistency. What the language of a text explicitly says or what that explicit statement logically entails need not be consistent with what the text alludes to or how the text is used in a homily. Allusions or hints are subject to their own distinct kinds of grammar.

### 4. *Science and the Rabbis*

Ibn Daud concludes the passage with a discussion of the state of Jewish religious thought in his time, a state that in many significant respects resembles our own. Ibn Daud's century saw not only the rise of a new world political order out of the fragmentation of the Islamic empire, it witnessed radically new changes in science as well. The old world had achieved an intellectual harmony that corresponded to its sociopolitical unity. That "intellectual harmony"—the system of thought that unified religion, art and science into a coherent world and life view—was called "discourse," in Arabic, *kalam*, or rational speech and/or thought. The political system of Kalam was the Caliphate; its religion, Islam; and its science, a form of material atomism whose origin was in the empirical and theoretical studies of the ancient Greek Megarians. During the lifetime of Ibn Daud, the old harmony was also being shattered in science in favor of a new understanding grounded in the works attributed to Aristotle as they were translated into Arabic.

In the previous century, rabbis had used the old science of Kalam to interpret the meaning of their faith for themselves and their communities, as well as to defend rabbinic Judaism against internal attack by the Karaites and external attack by Muslims and Christians. For example, according to the radical atomism of Kalam, the universe is composed of tiny, indivisible, discrete things existing in indivisible spaces and indivisible moments. Essentially, the universe must be recreated at every moment, so the concept of natural law is meaningless. God, who wishes the world to have continuity, renews creation at each instant. This reasoning resolves potential conflicts between science and religion by placing science (natural law) under the dominion of religion (God's active agency).

To the extent that the rabbis' interpretations were dependent on the science of Kalam, the new science rendered them obsolete. However, most Jews did not seem to worry about it. As scientists, many Jews thought like Aristotelians, while as loyal and faithful Jews they thought like "discourers" of Kalam. That the two scientific-philosophic schemata were incoherent did not seem to bother them.

In these respects ibn Daud's twelfth-century Andalusia parallels twentieth-century America and our own encounter with the clash of old and new systems. In the era preceding ours, "modernism" blended liberal Protestantism in religion with republican democracy in politics, capitalism in economics, a secular humanist approach to the humanities, and a return to material atomism in the physical sciences whose origin was Isaac Newton's mathematical expressions of scientific laws. However, the humanism of modernity has been intermittently shattered in the twentieth century by socialism in politics, Marxism in economics, and, perhaps more lastingly, the ascendancy of relativity theory and quantum mechanics in the physical sciences.

During the course of the past century, liberal rabbis have used modern social and physical science to interpret the meaning of their faith for themselves and their community, and to defend liberal Judaism against internal attack by the religious conservatives and external attack by radical secularists and Christians. From the social sciences, for example, liberal Judaism imported the concepts of individual natural rights, humanistic ethics, and social contracts. In addition, classical reform Judaism accepted science as truth: if a phenomenon has a scientific basis, we can believe in it.

Thus Reform Judaism understood biblical history (such as the crossing of the Red Sea, or the desert manna) in terms of scientific explanations (tidal waves or desert insects whose excretions are nourishing). This reasoning resolves the potential conflict between science and religion by effectively making science the arbiter of religious truth.

To the extent that liberal rabbis' interpretations are dependent on social philosophies like Locke and Hobbes and the physical science of Newtonians, the religious interpretations have become obsolete because of the new sciences. Quantum physics, for example, relies on probability statements about large groups of things, not individuals; in the truth statements of contemporary physics, the individual disappears. The social sciences—whose development has always been shaped by developments in the natural sciences—must begin to grapple with a truth framed without regard and without reference to individuals. Thus the new sciences pose an inherent challenge to classical liberalism's fundamental understanding of itself and of history in terms of the inherent rights of the individual. However, most Jews do not seem to worry about it. As in ibn Daud's time, there are many Jews who as scientists think like Einstein and Schrodinger but who, as committed Jews, continue to think like Locke and Spinoza.

That the implicit schemata underlying the science are incoherent with our political ethics does not seem to bother us. We seem to apply America's radical understanding of the separation of church and state to our thinking as well as to politics. Everything of ultimate importance for physical life in society—questions of life and death like income, health, food, housing, war and peace—is delegated to the state, leaving relatively trivial ceremonial activities to the domain of the church and synagogue. Similarly, everything of ultimate importance for intellectual life—history, sociology, psychology, economics, politics, physics, biology—is studied in terms of contemporary science. Religious concerns are excluded both from scientific methodology and from the status of what has ultimate importance for intellectual life. In science, if we work hard and skillfully, we may discover truth; in religion (so it is thought) there is no truth to discover; there are only opinions, all of equal value independent of the hard work or skill used in reaching them.

It is this shared political-intellectual situation that ibn Daud called into question in the introduction to his *Exalted Faith*. He argued as

follows: There is no such thing as religious truth separate from scientific truth. There is only truth. If religion has any real value, then it—no less than science—makes truth claims. If its claims have positive value, they must be true. Furthermore, because there ultimately is only one truth, true religion and true science must be coherent. If religion and science are incoherent, then either or both may be false, but both cannot be true. A faith like Judaism cannot be confined to only a part of one's life; it must include everything. Hence, true Judaism includes and is not separate from true science. Consequently, no understanding of Judaism that excludes the insights of science can be called "Torah true."

Ibn Daud's understanding of the desired relationship between science and religion motivated him to formulate a reconciliation of the two systems that respected the integrity and sophistication of each, and that allowed him to incorporate the new science of Aristotelianism into the dogmatic system of rabbinic Judaism. This paved the way for subsequent classical Jewish philosophers, from Maimonides through Gersonides. Ibn Daud's model itself was later overthrown by Chasdai Crescas and Baruch Spinoza when Aristotelianism was surpassed by Newtonian science and the birth of modernity. Now that the trends that shaped modernity are shifting, ibn Daud's example could point the way for us, as we struggle to confront and to reconcile the conflicting truth claims of science and religion.

