

Book Review

Gersonides: A Portrait of a Fourteenth-Century Philosopher-Scientist.

By Ruth Glasner.

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A Review By

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Ruth Glasner has served as Professor of the History and Philosophy of Science at the Hebrew University of Jerusalem. In the present book, with her interest in Greek philosophy and medieval science, Glasner presents us a remarkable depiction of a fourteenth-century philosopher-scientist Levi ben Gershom (1288-1344), who is also known as Gersonides. Her research tells us that Gersonides mostly lived his life in the town of Orange in Provence. He grew up in an intellectual environment where he would be able to have not only a number of studies in various branches of knowledge such as philosophy, astronomy, natural science, mathematics, theology, etc. but also an opportunity to study the knowledge from different perspectives such as from Greek philosophy, Arabic philosophy, and, of course, Jewish philosophy (*pp. 13-18*).

Glasner offers a brief sketch of a long-lasting problem in the medieval period. It was the incompatibility between (a.) Aristotelian perspectives on natural sciences, logic, metaphysics and (b.) theoretical methods of Euclidean mathematical sciences as well as Ptolemaic astronomy. However, Gersonides did not believe in the incompatibility because he thought that a coherent system of scientific knowledge to explain them all must be found (*pp. 1-2*). This kind of enthusiasm may strike us today as a perfectly common sense because we are used to see that mathematical sciences are undeniably involved with natural sciences. For an astronomer to calculate the velocity of stars and planets, she

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should master knowledge in mathematics. However, Gersonides was way beyond our common sense of explaining those celestial bodies. Traditional astrology in the medieval period was connected with a belief in celestial causes with their effects on the sublunar existents including human living conditions. In his acclaimed writing, *The Wars of the Lord* (*Sefer Milhamot Ha-Shem*), Gersonides argued that stellar causes from a perfect arrangement of celestial bodies were parts of the divine plan of influence on human beings (pp. 88-94). With the belief that the universe was created by God and the reason why there was complex irregularity in Ptolemaic model of planetary motion, Gersonides explained that it was for producing a variety of effects on the created beings. Glasner points out that this assumption reveals that he considered the irregularity a benefit of explaining immense differentiations of reality, it was therefore better than the Aristotelian all-too simple world picture deduced from non-matured principles (pp. 81-84). It was also discussed in some previous academic paper that with this explanation in Biblical conception, and without depending too much on Aristotelian standard of scientific system, Gersonides could have a proof that the universe was created (Feldman, 1967). It was also indicated in another paper that Gersonides accepted the principle of composite substance that it would finally be corrupted by the cosmological influences from stellar bodies according to the divine superintendence (Freudenthal and Fontaine, 2012).

Some of the other things that are also different from Aristotelian scientific system are as follows. (i) There were differences of explanation of motion in physics, especially the discovery of the principle of inertia that contradicted Aristotelian principle of motion. Gersonides was included in the group of forerunners who conceived the concept of inertia (pp. 35-37). (ii) Gersonides refuted Aristotelian assumption of celestial animation. Those spheres were not moved by a soul or a separate intellect, they were instead working like intellect of a musician who could with his fingers produce a new piece of music with a tune in accordance with what he listened (pp. 39; 49-50). Therefore, a change in the scientific conception occurred, especially in a mathematical science like astronomy. And (iii) Gersonides casted aside the belief that Aristotelian metaphysics was divine science, and turned instead to King Solomon's division of science as (a.) *Hokhma*, a notion of self-explanatory and transparent science, and (b.) *Tevuna*, a different notion of less transparent and less comprehensive science. Aristotle considered *Hokhma* superior to *Tevuna*, but Gersonides considered both of them at the same level of significance in studying beings (pp. 74-79).

However, Glasner points out there was at least one thing Gersonides developed out of Aristotelian conception, and it was the logical conception of deduction and induction as dialectical arguments, especially the conception of dialectical induction as interpreted from Aristotle's *Topic*. The method

was that to consider the premises, the correct must be differentiated from the incorrect for it to yield to truth without any doubts. In astronomy, the correct measurement was enabled by numerical methods (pp. 61-65; 100-101).

Glasner concludes that although Gersonides criticized heavily on Aristotelianism, his standpoint could not be classified as anti-Aristotelianism. It can be considered that Gersonides adopted some philosophical issues initiated by Aristotle, but he was not framed by Aristotle's methodological standard of analyzing scientific knowledge (pp.105-107).

Glasner's arrangement of the content of each chapter is excellent because it is not ponderous with too much detail even though a ton of footnotes is included. Each chapter is well compact with its own issue but the continuity of content is still kept throughout the book. In my opinion, her writing is a good example of how to present findings from research. Although this is not a thick book, it is full of useful information for readers to know well about Gersonides.

There is one thing that I think her writing is still missing. It is about a more comparison of Gersonides' theological conception found in his scientific conception and theology from the point of views of Platonists and Neo-Platonists. If there were more of it, I think her writing would benefit more in understanding the difference between Gersonides and Aristotelianism especially in the topic of stellar influences.

References

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