Breakthrough Translation of Avicenna’s Physics Published

The Middle Eastern Texts Initiative, which publishes texts and accompanying English translations of important works of philosophy, theology, science, and mysticism from the classical Islamic period (roughly the 9th through 14th centuries), has announced the publication of a new title in its Islamic Translation Series. *Avicenna: The Physics of The Healing*, translated by Jon McGinnis, an associate professor in the Department of Philosophy of the University of Missouri, St. Louis, brings to 16 the total number of volumes published by METI in its various series.

In 2005 the Islamic Translation Series issued *Avicenna: The Metaphysics of “The Healing,”* translated by Michael E. Marmura. Both the Physics and the Metaphysics are part of an encyclopedia of knowledge and philosophical reflection by Avicenna that was based on the philosophical corpus of Aristotle but infused with Islamic ideas, which impart a whole different character to Avicenna’s thought. *The Healing* thus contained Avicenna’s treatment of the whole range of Aristotelian topics—everything from logic and categories, to meteorology, ethics, music, and anatomy.

Avicenna (d. AD 1037) was by most accounts the greatest of the Islamic philosophers, and his *Physics* is one of his most important and challenging works. It is important because it was written as a prelude to the Metaphysics. As such, it is a prime source for understanding Avicenna’s overall philosophical approach as well as the groundwork he lays within it for concepts he would amplify to their fullest in the Metaphysics.

Two things make it challenging. First, almost any serious inquiry into the physical properties and motions of objects prior to Newton or even to Einstein was, practically by definition, grappling with phenomena that were easy to observe but difficult to explain. For example, if the distance traveled by an arrow to its target can be mathematically divided by half an infinite number of times, how is it that the arrow ever reaches its target? The classical answer that Avicenna and others grappled with posited that space was not actually infinitely divisible, even though mathematically it seemed to be. Atoms were suggested to be the elemental units of space than which nothing could be smaller and which could not themselves be divided. The problem with this account, of course, is that it was easy to mathematically and theoretically contradict the assumption. There seemed to be no natural “hard stop” to the divisibility of space or time. In the Physics we see Avicenna wrestling with this conundrum and others like it. What is important is not so much that he made (or did not make) any headway on these problems, but the astuteness of his observations, the brilliance evident in his approaches to setting up and working through a problem, and the quality of his reasoning.
The *Physics* is also a challenging work because it was written in classical Arabic using a philosophical idiom that was itself still being worked out as he wrote his treatises. This linguistic layer of difficulty—one that even native speakers of Modern Arabic find prohibitive—only compounds the problem of trying to make out the details or even the general contours of arguments that were abstruse to begin with. A translation of this text was first submitted to the Islamic Translation Series over ten years ago by an eminent scholar of classical Islamic philosophy, but as Daniel C. Peterson, the editor in chief of the series, worked his way through that translation, he realized that it simply wasn’t making sense of Avicenna. Indeed, the translator himself had made no secret of the fact that this was by far the most difficult text he had ever tackled. Help was found in the name of Jon McGinnis, a younger scholar who had devoted his entire academic career up to that point to understanding this text. For his own benefit, he had already translated a large portion of the text in an effort to read it as carefully as he could. Peterson approached him for help, which eventually led to his agreeing to complete his translation and publish it with METI.

**BYU Herculaneum Project Honored with Mommsen Prize**

On January 11, the 2009 Theodor Mommsen Prize, Section Papirologia Ercolanese, was presented to Steven Booras, senior project manager with the Maxwell Institute’s Center for the Preservation of Ancient Religious Texts and to Brigham Young University for “the production of multispectral images of the Herculaneum Papyri.”

The prize has been presented annually for the past 19 years by the International Center for the Study of the Herculaneum Papyri to scholars and institutions that have made the most significant contributions to research on the Herculaneum Papyri. The award ceremony was held at the beautiful and historic Stazione Zoologica Anton Dohrn in Naples, Italy. In addition to Booras attending to receive his award, Roger Macfarlane, associate professor of Classics and principal investigator of the current Herculaneum project—which began under the auspices of the Foundation for Ancient Research and Mormon Studies and is now housed in the College of Humanities—accepted a plaque on behalf of BYU, the sponsoring institution for the project.

From 2000 to 2004, Steven and Susan Booras performed multispectral imaging (MSI) on approximately 800 trays of carbonized papyri from Herculaneum, producing approximately 35,000 images. These important papyri, containing a large number of Greek philosophical texts that are preserved nowhere else, come from a single personal library, known as the Villa of the Papyri, at Herculaneum, which was destroyed by the eruption of Mount Vesuvius in AD 79. The papyri were instantly charred (carbonized) and buried, preserving their contents but rendering them mostly or, at times, entirely illegible. Through the application of MSI, the legibility of these charred and blackened texts is vastly improved over conventional photography.
Ancient authors loved to play with their compositions much more than we do today. In fact, it was much easier to manipulate words and structure in some ancient languages than it is in Modern English. Ancient writers even played games with the readers of their work. One such ancient Hebrew game is called atbash, and Jeremiah used it quite effectively.1

The game atbash was supposedly played in beginning Hebrew classes in order to test the pupils’ knowledge of the 22-letter Hebrew “alphabet.”2 It is also a simple if not primitive method of encrypting information. In this game, the letters of the Hebrew alphabet are lined up, the first half on one line and the second half on the line below, but in the reverse order. In Hebrew it looks like this:

א ב ג ד ה ו ז ח ט י כ
ת ש ר ק צ פ ע ס נ מ ל

In anglicized form it would be as follows:

a   b

г  д  в

w

z
t

h

y

k

τ

σ
t

ρ

ς

s

n

m

l

Thus the name comes from the first two and last two letters of the alphabet now lined up with each other and with vowels added, i.e., atbash. (The щ character represents the phoneme /sh/.) To play the game, instead of using the letter of the alphabet that would normally be used, the letter above or below that letter is substituted for it. So, using the above transliteration, a sentence might read, “He’s a real sty.” Sty, using the atbash, would correlate to ham, giving the real thrust of the insult.

The game, of course, can only be played by people who know their alphabet and who therefore can read. I will point out the implications of this later.

Jeremiah uses an atbash in chapter 25, verse 26. The King James translation reads, “and the king of Sheshach shall drink after them.”3 The context concerns the fate of various kings and nations who oppose God’s will. But the name “Sheshach” is otherwise unknown; no such place exists. The King James translators, knowing only that “Sheshach” was a place-name, simply rendered a transcription of the Hebrew ššk.

When the atbash key is applied to ššk, the result is bbl, the Hebrew name for Babylon. Jeremiah, therefore, had included the king of Babylon in his list of kings and kingdoms that would eventually suffer the wrath of God, but he included it in a slightly encrypted form that he knew his Judean audience would understand. After all, what is the use of delivering a message that no one could understand?

The next atbash is a not-so-veiled threat directed at the kingdom of Babylon. In the King James translation, Jeremiah 51:1 reads, “Thus saith the Lord; Behold, I will raise up against Babylon, and against them that dwell in the midst of them that rise up against me, a destroying wind.” Here Babylon is paralleled synonymously, in good Hebrew style, with “them that dwell in the midst of them.” Literally, the Hebrew says, “and upon the dwellers of lb qmy.” Because of the poetic parallel with Babylon, it is obvious that lb qmy is another way of saying Babylon. But lb qmy does not make sense in Hebrew, even though lb can mean “midst.” Applying the atbash, the Hebrew reads, kšdym, which is the Hebrew word for Chaldeans, a synonym in Jeremiah’s day for Babylonians. Thus, Jeremiah was actually saying, “Thus saith the Lord; Behold, I will raise up against Babylon and the inhabitants of Chaldea a destroying wind.”

The King James of Jeremiah 51:41 also makes it clear that Jeremiah was not trying to avoid covertly offending the Babylonians. The verse reads, “How is Sheshach taken! and how is the praise of the whole earth surprised! how is Babylon become an astonishment among the nations!” Here, the atbash, ššk = bbl (the same as in the first example above), is clearly used in synonymous parallel with Babylon. Jeremiah could hardly have avoided any political consequences from such a charged statement. Could it be, rather, that Jeremiah’s use of atbash, rather than being used as a veiled threat against Babylon, is a minor example of God giving to the people “many things which they cannot understand, because they desired it”? (Jacob 4:14).

The implications of Jeremiah’s use of the game atbash are more than mildly interesting. First of all, the atbash works in Hebrew but not in Babylonian.4 This means that the players Jeremiah tried to engage in his game were not Babylonians but a more local audience, probably a Hebrew-speaking audience. Second, whether his message to a Hebrew audience came in the form of a public discourse or in the form of written text, we must assume, with Jeremiah, that any use of an atbash
works only if his audience were somewhat literate. What might this say about literacy in Jeremiah’s day? Was Jeremiah purposely speaking only to that small portion of the Jewish elite who were wholly literate? Or (and this is my opinion), because he knew that the majority of his audience was literate, was he trying to reach as broad an audience as he possibly could, a message to all the people of Judea?

If the latter is true, and there is mounting evidence that literacy was more widespread than had been previously thought, literacy in Jeremiah’s day has implications for those passages in the Book of Mormon that suggest a similar level of literacy for Nephite culture. For example, in Alma 14:8, it would seem that “records” refers to multiple copies of the “holy scriptures.” Multiple copies would seem to imply that more than a few people could read the “holy scriptures.” This is clearly the case in Alma 33:2, where the prophet admonished the poorer class among the Zoramites to “search the scriptures.” Unless the poorer Zoramites were literate, Alma’s admonition to read their scriptures would have been at best a senseless challenge. But they were literate! As Alma said, “Do ye remember to have read what Zenos, the prophet of old,” whose writings were on the brass plates, “has said concerning prayer or worship?” (Alma 33:3). If Jeremiah’s use of atbash for a general Judean audience indicates a fairly broad level of literacy among Judeans, then Alma’s admonition to the Zoramite poorer class to read their scriptures rings true.

The only frustrating aspect of finding atbash in the Hebrew Bible is that an atbash cannot survive translation into another language.5 Thus, any atbash that might have been included on the small or large plates of Nephi and/or that made it into Mormon’s abridgment would probably not have survived the translation into English. Too bad.

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Notes


2. The Hebrew alphabet is not a true alphabet in that it does not contain any vowels, only consonants. The Greeks were the first to add vowels to an alphabet.

3. Bright translates, “And the king of ‘Sheshak’ (and you know who that is!) will drink last of all.” “Jeremiah,” 158.

4. In theory Jeremiah’s atbash could work in other northwest Semitic languages. For example, the second example could work in Phoenician but would not function perfectly in Aramaic.

5. From English alone (or any other non-Semitic language) it would not be possible to figure out that ššk = bbl. It only works if you know Hebrew.