In the field of Greek philosophy and religion one of the most important discoveries of modern times was the finding of the Derveni Papyrus in 1962. The story of the use of remarkable modern technologies to decipher the ancient manuscript not only is fascinating in itself; it also reveals the ways that the modern and ancient worlds are drawing closer to one another in many places.

Sometime during the latter half of the fifth century BCE, an unknown Greek philosopher and theologian, possibly in the school of Socrates’ teacher, Anaxagoras, wrote a substantial commentary on one of the Orphic Theogonies. A Theogony describes in mythological terms the evolution of the cosmos from an original unity to the great multiplicity we experience, and the commentary went to great lengths to discuss interpretations of the text. This in itself was surprising for modern scholars to learn, since this kind of learned interpretive commentary was thought to have originated later, in the academies of Athens and Alexandria, as Neoplatonism arose in the third century CE.

The work of this Orphic theologos must have been popular, as a copy found its way into the library of a Macedonian noble during the reign of Philip II, King of Macedon (father of Alexander the Great). When this unknown noble died in about 340 BCE, his funeral rites were celebrated in a northern Greek necropolis near present-day Derveni. The rites included the traditional pyre, and among the items dear to the noble that were burned with him was a papyrus scroll containing the Orphic theological commentary.

Orphism Linked to Immortal Life

It was not unusual for Orphic material to be linked to graves and burials. Beginning in the 1830s, thirty-nine golden leaves or tablets were found in burial sites in Italy and Crete with Orphic inscriptions on them. The dates of the artifacts range from the late fifth century BCE to the second century CE. They contain aphorisms, instructions for the departed, and mystical sayings such as “Through being a mortal, you have become a God. A kid-goat, you fell into milk. Hail! Hail!”

More recently in the 1970s, fifth-century BCE bone fragments with Orphic inscriptions were discovered in Olbia (Ukraine) on the Black Sea, with invocations such as “Life death life truth Dionysus Orphics.” It is clear that Orphism had early on become associated with transcending temporal death. As Dominican priest and scholar Marie-Joseph Lagrange, founder of the École Pratique d’Études Biblique de Jérusalem, remarked:

“We can summarize what we have to say on this subject: the center of Orphism is to be found in the golden tablets found in the tombs.”

The Papyrus Survives through the Pyre

Ordinarily, the climate of Greece is not favorable for preservation of papyrus.
However, in this case, the flames carbonized and preserved the delicate papyrus. No other Greek papyri from this period or earlier are known to have survived. For over 2,300 years, the charred papyrus lay buried on top of the noble's tomb as part of the remains of the pyre.

One day in 1962, workers were laboring on construction work for the National Road from Thessaloniki to Kavala, when they unearthed the ancient necropolis where the Macedonian noble lay. Archaeologists were called in, and the papyrus was rescued from its age-old pyre. To date, this is the oldest papyrus found in Europe, prompting journalists to refer to it as “Europe’s oldest book.” The importance of this find could hardly be overestimated:

“In saying that the Derveni papyrus is the most important fifth-century text to appear since the Renaissance, I am not being hyperbolic, but perfectly serious. It is more significant than Bacchylides, the new Simonides, lost dramas, or the Strasbourg Empedocles, since we already had quantities of choral lyric, elegy, drama, and Empedocles. A piece by an unknown pre-Socratic author, who uses allegory and etymology to explicate rituals and an Orphic text at a date long before scholars thought Orphic texts existed, is a truly extraordinary find, even if it were shown not to derive from the milieux of Anaxagoras and Socrates.”

Recovering the Charred Text through Modern Technology

At first, the papyrus was painstakingly unrolled with the utmost care. The difficulties of handling such ancient and delicate manuscripts have plagued researchers on such projects as *The Gospel of Judas* and the Villa of the Papyri at Herculaneum. Preliminary Studies and translations were published in 1997 and 2004. Then in 2005, Apostolos L. Pierris of the Patras Institute for Philosophical Studies and Dirk Obbink, director of the Oxyrhynchus papyrus project at the University of Oxford, organized a team to study the Dervini Papyrus with the help of modern multispectral imaging techniques. They called on Roger Macfarlane (Classics) and Gene Ware (Engineering and Computer Sciences and the Papyrological Imaging Lab) of Brigham Young University to join them in this ultra-modern approach to seeing what previously could not be seen. In May 2006, the team began their scans.

Multispectral imaging originated in the world of space science, as astronomers capture light beyond the ordinary frequencies that human eyes can see. These include the infrared, for example. In so doing, investigators are able to retrieve far more information than is available in visible light. Since the infrared range includes vibrations at a length of 1000 nm (nanometers = one billionth of a meter), this is particularly useful for recovering burned or otherwise damaged documents.

To the naked eye, the text of the Derveni Papyrus appears to be black ink on black paper, and is, in spots, virtually unreadable. Viewed at 1000nm, there is a distinct difference between the reflectivity of the ink and the paper, thus rendering the text legible. This technique has recently been used in at least three high-profile archaeological finds from the ancient world: the Derveni Papyrus, *The Gospel of Judas*, and the library of the Villa of the Papyri in Herculaneum.
In parallel, other modern technologies, such as digital processing of ultraviolet scanning, x-rays, and visible light have led to the full reading of ancient documents such as several lost works by Archimedes in the "Archimedes Pallimpsest," a tenth-century scribal copy discovered in 1906, which had been overwritten as a liturgical text in the twelfth century, and other documents.

**The Villa of the Papyri Divulges Its Secrets**

The library of the Villa in Herculaneum may in the end prove to be the most exciting of all of the current multispectral imaging projects. Between 1750 and 1765 the Swiss architect and engineer Karl Weber tunneled underground in Herculaneum to discover the ancient library in the house with 1,785 carbonized papyrus scrolls now housed in the National Archaeological Museum of Naples.

The scrolls had been charred when Vesuvius erupted in 79 CE. The house is reported to have belonged to Julius Caesar's father-in-law, Lucius Calpurnius Piso. Since there are still 30,000 square feet of the villa which are not yet excavated, there will most probably be even further manuscripts, as excavations began again in the fall of 2007, after the Italian government assured that the site was properly conserved. Using multispectral imaging, the works already recovered are primarily by Epicurus and Philodemus.

**Orphic Mysteries Combine Science and Mysticism**

In the work that is continuing on the Derveni Papyrus, it is becoming clear that the lines the modern West likes to draw between science, philosophy, and mysticism are often absent in this ancient text. Newer studies on philosophers such as Empedocles—connected to the Pythagoreans who shared much in common with Orphism—also confirm this ancient view, manifested in the Rosicrucian lineage:

". . . it is becoming clearer, especially since the discovery of the Strasbourg fragments [Ed: of Empedocles' works], that, contrary to many former interpretations, Empedocles did not make a clear separation between his philosophy of nature and the more mystical, theological aspects of his philosophy, and so may well have seen no great difference in kind between healing ills through empirical understanding of human physiognomy and healing by means of sacred incantations and ritual purifications. His public as well may have made no great distinction between 'scientific' and sacred medicine as is suggested by the account of Empedocles curing a plague by restoring a fresh water supply, after which he was venerated as a god."  

The prospects for continuing work on the Derveni Papyrus, and the consequent expansion of our knowledge about Orphism, are good. Polyxeni Veleni, director of the Archeological Museum of Thessaloniki, is very hopeful. "I believe that 10-20 percent of new text will be added, which, however, will be of crucial importance. This will fill in many gaps, we will get a better understanding of the sequence, and the existing text will become more complete."

It seems very appropriate that our understanding of these ancient mysteries is being gradually increased through the use of the vibratory nature of light in multispectral imaging and associated techniques. We can visualize our ancient forerunners in mysticism—not least of which the practitioners of Orphism—being very happy to see science and spirituality once more in harmony, for the growth of knowledge and service.

(See Endnotes on next page.)
Endnotes

1 For a full scale study on the Golden Tablets and associated materials, with an excellent discussion of modern approaches to Orphism, see Fritz Graf and Sarah Iles Johnston, Ritual Texts for the Afterlife: Orpheus and the Bacchic Gold Tablets (London: Routledge, 2007).

2 See the Greek text of Tablet 3, from Thurii, in Graf and Johnston, 8.

3 Graf and Johnston, Ritual Texts, 185.


5 There is a scroll found in a tomb in Athens that dates from the fifth century, however, to date this has not been able to be read. See Gábor Betegh, The Derveni Papyrus: Cosmology, Theology and Interpretation (Cambridge, UK: Cambridge University Press, 2004), 59, n. 10, cited in Patricia Caud, “Review of Gábor Betegh, The Derveni Papyrus,” Notre Dame Philosophical Reviews, September 16, 2006, http://ndpr.nd.edu/reviews.cfm?id=77038; http://en.wikipedia.org/wiki/Derveni_Papyrus.


9 The sometimes terrifying process of handling these kinds of manuscripts is detailed in David Sider, _The Library of the Villa dei Papiri at Herculaneum_ (Los Angeles, CA: The J. Paul Getty Museum, 2005), cited in Card, n. 2.

10 André Laks and Glenn W. Most, editors, Studies on the Derveni Papyrus (Oxford: Oxford University Press, 1997); Gábor Betegh, _The Derveni Papyrus: Cosmology, Theology and Interpretation_ (Cambridge, UK: Cambridge University Press, 2004); in addition, a later edition was published before the full results of the multi-spectral analysis had been completed: K. Tsantsanoglou, G.M. Parássoglou, T. Kouremenos (editors), The Derveni Papyrus (Florence: Leo. S. Olschki Editore, 2006) Vol 13 of the Series Studi e testi per il Corpus dei papiri filosofici greci e latini.


18 Dirk Obbink, Ph.D., of Brigham Young University, cited in Handwerk, 2.
