

**Roger T. MACFARLANE**  
**Multispectral Imaging and the Herculaneum Papyri**

New digital imaging technology is unveiling previously illegible and even unseen text on ancient papyri from Herculaneum. Known fully as multispectral imaging (MSI), the technology which was initially developed for interplanetary exploration has been applied by scholars at Brigham Young University in Provo, Utah, with astonishing success to the Dead Sea Scrolls, the Maya murals at Bonampak, and to the carbonized scrolls of Petra. These initial successes at capturing the original ink, pigments, underpainting, and other details from deteriorating antiquities-and electronically preserving the resulting images for future study and appreciation- bode well for the continued use of MSI technology in archaeological fieldwork. This paper discusses this technology's application on the carbonized papyri of Herculaneum and proposes the formal parameters for such publication.

The multispectral images of the carbonized papyri from Herculaneum are of great potential benefit to scholars who will use them both in their studies around the world and at Naples. Limiting features of the digital images - such as their two-dimensionality opposed to the three-dimensionality of the actual papyri, or their occasional obscuring of both *sovrapposti* and *sottoposti* - prompt Prof. Mario Capasso and others to advise particular caution. Accordingly, even among scholars whose acceptance of the digital images has been most enthusiastic, the voice of caution has been raised. "Assurément, l'examen direct du papyrus reste irremplacable, et devrait être décisive en dernier resort" (Daniel Delattre) and, further, " Come i microscopi bi-oculari, così anche le nuovissime fotografie non sostituiscono l'autoscopia, ma la integrano e la sostengono." (Marcello Gigante, 2001) Nevertheless, when appropriate caution is exercised, the digital images provide distinctly improved access to the texts of the Herculaneum papyri. Not only is the MSI reproduction often essential to augmenting what can be seen with the naked eye, but the images provide a more reliable facsimile than any other previous attempts to reproduce the texts.

This paper will demonstrate the results available to scholars who consult the multispectral images. Papyrological contexts where carbonization is an issue may gain from application of this technology. But all philologists with interest in Philodemus and the Epicurean tradition, or the Hellenistic literature of the Roman Republic may benefit from it more immediately as the publication of these carbonized papyri goes forward.