From the Editors

Technology has accompanied humans throughout our evolution, development and history. Human engagement with technology, in all its aspects, is somewhat symbiotic: although many animals create and use tools in their daily lives, only humans have integrated technology so completely, in a cyclical relationship.

Indeed, the entire archaeological paradigm of the ancient world is shaped by our ideas concerning technological development: the Stone, Bronze and Iron Ages. These eras are defined by monumental jumps in humanity’s ability to manipulate our world through technology.

Concepts of technology and craftsmanship feature prominently in religious thought from many ancient civilisations, including dedicated gods such as Hephaistos in Greece, Ptah in Egypt and Ea/Enki or Mummu in Babylon. Technology (sometimes indistinguishable from magic) abounds in mythology, including stories about Talos, Daidalos and even the arks of Gilgamesh and Biblical myth.

The ancient world offers many instances of technology: metalwork for weapons, vessels, jewellery and coins; ceramic ware production; writing systems that enabled bureaucracies to develop and societies to flourish; architecture building the structures of daily life and of empires. There are also things that might not seem technological at first. Are the tools of ritual or ‘magic' forms of technology? Personal objects—such as hair combs or other toiletry items—encompassed dual roles as both items of adornment and functional pieces.
Fantastic *automata* featuring complex self-operating mechanisms are frequently described by Hellenistic authors and were used for a variety of purposes, including religious processions or display, practical reasons or for demonstrating scientific principles. The famous Antikythera mechanism, recovered from the bottom of the Aegean, may even represent the earliest known analogue computing device.

In warfare too, the continuous evolution of technology played an important role in the trajectory of civilisation. The introduction of technologies such as the Naue II sword, the compound bow, the chariot and the *sarisa* often heralded a complete revolution in battlefield tactics and contributed to the rise or fall of entire empires. The rapid development of defensive and offensive siege techniques during the Classical and Hellenistic period in Greece can be considered an ancient technological arms race.

No less important than archaeological material culture is the literature of the ancient world. From their very beginnings, text-based media have engaged with the possibilities and dangers of technology in myriad ways. Homer imagined technological innovations, retrojections and syntheses in epic; the plays of Aischylos, Sophokles and Euripides made repeated use of the *deus ex machina*; Roman novelists play with the technology inherent in magic and religion.

Contemporary technology assists us to not only understand the ancient past, but to communicate our ideas about it. Geographic information systems, global positioning systems, and ground penetrating radars have revolutionised archaeological fieldwork. Open access publishing and online pedagogy have changed the way we research, disseminate, teach and learn about the ancient world. Students have embraced the growth of digital humanities, which has provided access to previously hidden manuscripts, texts and even languages. Virtual reality reconstructions of archaeological sites, 3D printing, digital mapping software and interactive museum exhibits enable us to visualise
what the ancient world looked like, allowing for greater public awareness of the work researchers are doing, and inviting contemporary interactions.

The contributions for the Amphora Issue of MHJ for 2015 each choose their own way of engaging with technology when approaching the ancient world. The first feature article, by Ann Brysbaert of Leiden University, addresses monumentality in the ancient world through the twin lenses of construction technology and audience perception. Brysbaert argues against both traditional ‘top-down’ and more recent ‘bottom-up’ interpretations of ancient monumentality in favour of a more nuanced approach which takes into account both the level of technological display achieved and the extent to which a given monument’s various audiences react to it, and which acknowledges the tangle of acts, processes and practices inherent in the creation of monuments in the ancient world.

Our second feature article, by Thomas Köntges of Leipzig University, looks at the ways in which modern technology can allow for new and exciting approaches to ancient texts and traditions. Taking classical texts as his theme, Köntges outlines some ways in which modern computational power can assist in creating editions that are less bound by the limitations of traditional print, and which can more accurately represent the sometimes complex and convoluted manuscript tradition of any given text. When analysing texts, teachers can use modern automated programs to assist with the complexities of ancient grammar and linguistic idiom, and scholars can use computers’ enormous processing power to search for stylistic patterns and inter- and intra-textual references within a large corpus of work. As Köntges says, his article gives ‘a brief glimpse into what Classics can do in the twenty-first century’. Nevertheless, this glimpse serves to show the potential technology has to affect how we view the ancient world in years to come.

The two postgraduate articles in this issue each interact with the theme of technology primarily through their analysis of iconography and artwork in
the ancient world. Jaimee Murdoch of Victoria University of Wellington looks at the motif of the bearded serpent in Greek artwork and literature, and concludes that traditional interpretations of this motif do not do justice to the complexity and range of meanings that are encoded within it. Murdoch argues that iconographic and literary representations of bearded snakes can at times emphasise the anthropomorphic nature of anguiform gods, but elsewhere such representations suggest the monstrous and inhuman nature of hybrids such as the Chimaira. Murdoch’s analysis shows the multiplicity of meanings that can be attached to such figures, and by doing so further demonstrates the complex interplay of religious, literary, and artistic motifs that are evident in this area of Greek culture.

Andrea Sinclair of Leipzig University, meanwhile, uses iconographic technology to investigate the ways in which an external ruling dynasty (in this case Nubian rulers of the Twenty-fifth Dynasty in Egypt) might use visual and technological signals to demonstrate the legitimacy and continuity of their rule. Through close analysis of a single object—a bronze offering bowl excavated from the site of Meroë in modern Sudan—Sinclair addresses the interplay of traditional Egyptian and Nubian technological and iconographic elements to show how the elite of the Twenty-fifth Dynasty appropriated visual themes to ensure their self-presentation as unifying figures. Sinclair’s analysis, though concentrated on a single case study, can give a glimpse into the power of technology and visual symbolism when used for image-building and propaganda purposes in the ancient world.

Finally, this issue also contains two review articles, each of which deals with one final iteration of technology in the study of the ancient world: the modern presentation and curation of ancient artefacts in museums and art galleries. Elizabeth Eltze of Auckland University reviews the 2015 exhibition entitled *Taharqa—den Sorte Fårao (Taharqa—the Black Pharaoh)* at the Ny Carlsberg Glyptotek in Copenhagen. This exhibition also concerned the Egyptian Twenty-fifth Dynasty, and much of the exhibition is devoted to the interplay
of ‘Egyptianising’ and ‘Nubian’ elements to this dynasty’s iconography. Eltze also examines the way in which the curation of the exhibition itself—exemplified by layout and lighting choices, and even the atmosphere of the Glyptotek building itself—serve to further the aims of the curators and to show again the interplay of ancient and modern technologies involved in such exhibitions.

This theme is again taken up by Annelies Van de Ven of the University of Melbourne, who investigates the interplay of ancient and modern technologies in her review of the Rivers of Fundament exhibition at MONA in Hobart. This exhibition overtly aims to bring ancient and modern together in an artistic (even theatrical) display, but Van de Ven's review also shows the way in which modern technology can serve to disconnect their viewer from their experience of the ancient world by providing an abundance of information that threatens to overwhelm its intended audience. Van de Ven's review shows the dangers of the overuse of technology for technology’s sake alone.

We hope that you enjoy the 2015 Amphora Issue of the MHJ. We would like to extend our thanks to all of the authors, as well as to Sam Leach, whose cover artwork serves as a musing on the different possibilities afforded by engaging with the ancient world through the lens of technology.

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