## **BOOK REVIEW**

Forms of Greek Plays: From Aeschylus to Aristophanes. By HARUO KONISHI. Classical and Byzantine Monographs 88. Amsterdam: Adolf M. Hakkert, 2013. Pp. 222. Paperback. ISBN 978-90-256-1282-5.

This latest monograph from Haruo Konishi continues in the vein of his previous work: positing formal balanced structures in a wide array of Greek expressions and generating detailed schemes to support his claim(s). The methodology and results are untenable, but, at least in a cautionary way, it is worth considering the limitations and potential of formal numerical analysis now that digital tools make the processing of such formulas far easier than it has ever been.

Konishi here applies what he calls the "M principles" to the corpus of Classical Greek drama. The core of this set of principles is that Greek composition is fundamentally a set of balanced halves (designated "A A" by Konishi), which may be supplemented by preceding material ("I") and separated by intermediate material ("X"). He applies this template to plays by assigning a chunk of lines, held together by some coherent action, to the first "A" and an analogous action across a numerically close number of lines to the second "A," with I and X covering leftover lines as necessary. Each "A" has internally balanced components of various sorts as well.

All these schemes appear as lines, charts and tables, with brief observations, which do not argue for the schemes as much as declare them. For example, Euripides' Herakles has a first "A" of 700 lines (1-700) consisting of Lykos threatening Herakles' family and a second "A" of 695 lines (734-1428) consisting of Theseus rescuing Herakles, with the two "halves" separated by an "X" of 33 lines (701-33), wherein Herakles kills Lykos.

The failures of this system are at least twofold: an arbitrary designation of what action(s) make up a component and an invalid use of numerical analysis. It is no bold statement to claim that Euripides' *Herakles* has two large-scale actions (the first being the plight of Herakles' family and the second after Herakles murders his family), with an intervening episode. It can be rewarding to analyze points

<sup>&</sup>lt;sup>1</sup> From Masis to Olympos (Amsterdam: Hakkert, 2006) and Homer and Mountains (Amsterdam: Hakkert, 2011).

of contact between the two large-scale actions and construe them as balanced in one or more ways. But at the point where such claims become non-trivial, Konishi's analysis becomes arbitrary.

For example, Konishi's "X" here in fact covers the scene of dialogue between Lycus and Amphitryon, and does not even include his death. Moreover, a reasonable reader, audience member or spectator can understand the shocking episode wherein Lyssa drives Herakles to murder his family (lines 822–74) as the pivotal episode between the two larger actions of the play, but such a division would throw off Konishi's desired balance. He does not address alternate possibilities on this or any other occasion and indeed makes no analytical claims for his divisions beyond presenting the numerical balances (reckoned in totals of lines).

If the presentation of numerical balances is going to bear the weight of Konishi's analysis, then we have a right to expect mathematical rigor in his counting, but there is none to be found. Konishi counts by lines but seems to take it as self-evident that individual lines are balanced units themselves. For stichic lines like iambic trimeters, at least there is some consistent, measurable reason to reckon lines as roughly equivalent units (metrically, but this does not at all imply balance of content). For lyric passages, however, no matter the internal responsion, a balanced number of lines between different sections of an entire play means nothing (line divisions and numbers being a contested matter among editors) without some additional analysis of and argument for correspondence, which Konishi never provides.

More problematically, Konishi is not even precise in these terms. He allows, but never justifies, why 695 lines balance 700 lines (and similar asymmetry abounds). It is elementary math to formulate margins within which sets are balanced, but these must be rigorous and meaningful, while here they are not even defined. Lack of such controls allows the discussion to stray into the absurd, such as when Konishi relates his M principles to breast-like, twin mountain peaks as viewed from some ancient theaters (174–75, and even accompanied by photographs at 219–22).

It is easy to dismiss Konishi's work as a surprisingly resilient example of a method that was poor scholarship even in a bygone era, but the flaws in his work are non-trivial. In the 21st century, we have an enormous amount of precise data, from information about the physical remains of the ancient world to digitized texts. Computerized tools have made relatively easy mathematical analysis of this

data that would have taken an unthinkable number of human hours even a generation ago.<sup>2</sup>

It is convenient to conclude from poorly executed work like that under review here that mathematical analysis of such data can generate only nonsensical and trivial conclusions. Classicists are not widely known for their mathematical acumen (even when some of the ancients they study were known for it), but this convenience should not blind scholars to the potential for intelligent mathematical modeling to expand and enhance our knowledge of the Classical World and its continuing impact on the current millennium.

WILFRED E. MAJOR

Louisiana State University, wmajor@lsu.edu

<sup>&</sup>lt;sup>2</sup> A recent conference "Word, Space, Time: Digital Perspectives on the Classical World" (http://classics.buffalo.edu/events/dcaconference/program.shtml) provides a sense of how powerful 21st century mathematical modeling can interface with projects in Classics.