

Introduction to Ancient Greek Mathematics

Summer Term 2015-6

(Hannoversche Straße 6, room 3.03, Tue 10-12 p.m., as of Apr 19)

Timetable		Topic	Pre-reading
1	19/04/16	Introduction (Methodology & Pre-Hellenic Mathematics)	
2	26/04/16	Thales (lecture + article discussion)	Dicks, David R. 1959. "Thales." <i>Classical Quarterly</i> 9:294-309.
3	03/05/16	-----	
4	10/05/16	Euclid <i>Elements</i> , manuscript tradition (lecture)	
5	17/05/16	Euclid <i>Elements</i> , book II (lecture)	
6	24/05/16	Euclid (article discussion)	Seidenberg, Abraham. 1975. "Did Euclid's Elements, Book I, Develop Geometry Axiomatically?" <i>Archive for History of Exact Sciences</i> 14:263-295.
7	31/05/16	Euclid <i>Elements</i> , book II (student presentation)	
8	07/06/16	Archimedes, <i>Quadrature of the Parabola</i> (lecture)	
9	14/06/16	Archimedes (article discussion)	Saito, Ken. 2006. "Between magnitude and quantity: Another look at Archimedes' quadrature." <i>Sugaku Expositions</i> 19:35-52.
10	21/06/16	Archimedes <i>Method</i> (student presentation)	
11	28/06/16	Diophantus, <i>Arithmetica</i> (lecture)	
12	05/07/16	Diophantus (article discussion)	Christianidis, Jean, and Jeffrey A. Oaks. 2013. "Practicing algebra in late antiquity: The problem-solving of Diophantus of Alexandria." <i>Historia Mathematica</i> 40:127-163.
13	12/07/16	Diophantus, <i>Arithmetica</i> (student presentation)	
14	19/07/16	Historiography (lecture)	Unguru, Sabetai. 1975. "On the Need to Rewrite the History of Greek Mathematics." <i>The Archive for the History of Exact Sciences</i> 15:67-114.

Selected bibliography

Pre-Hellenic mathematics

1. Britton, John P., Christine Proust, and Steve Shnider. 2011. "Plimpton 322: a review and a different perspective." *Archive for History of Exact Sciences* 65:519–566.
2. Cooper, Leon. 2010. "A new interpretation of Problem 10 of the Moscow Mathematical Papyrus." *Historia Mathematica* 37:11–27.
3. De Young, Gregg. 2009. "Diagrams in ancient Egyptian geometry: Survey and assessment." *Historia Mathematica* 36:321–373.
4. Robson, Eleanor. 2008. *Mathematics in Ancient Iraq: a Social History*. Princeton: Princeton University Press, chapter 9.
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6. Imhausen, Annette. 2003. "Egyptian Mathematical Texts and Their Contexts." *Science in Context* 16:367–389.
7. Robson, Eleanor. 2001. "Neither Sherlock Holmes nor Babylon: A Reassessment of Plimpton 322." *Historia Mathematica* 28:167–206.
8. Fowler, David H., and Eleanor Robson. 1998. "Square Root Approximations in Old Babylonian Mathematics: YBC 7289 in Context." *Physis* 25:366–378.
9. Høyrup, Jens. 1996. "Changing Trends in the Historiography of Mesopotamian Mathematics: An Insider's View." *History of Science* 34:1–32.
10. Lindberg, David C. 1992. *The Beginnings of Western Science: the European Scientific Tradition in Philosophical, Religious and Institutional context, 600 BC to AD 1450*. Chicago: University of Chicago Press, chapter 1.
11. Clagett, Marshall. 1989–9. *Ancient Egyptian Science: A Source Book*. 3 vols. Philadelphia: American Philosophical Society.
12. Van der Waerden, Bartel L. 1980. "The (2:n) Table in the Rhind Papyrus." *Centaurus* 24:259–274.
13. Engels, Hermann. 1977. "Quadrature of the Circle in Ancient Egypt." *Historia Mathematica* 4:137–140.
14. Neugebauer, Otto E. 1969. *The Exact Sciences in Antiquity*. New York: Dover (Copenhagen: Munksgaard 1951), Chapters 2–4.
15. Toulmin, Stephen, and June Goodfield. 1999. *The Fabric of the Heavens*. Chicago: Chicago University Press (London: Hutchinson 1961), 27–58.
16. Van der Waerden, Bartel L. 1961. *Science Awakening*. Translated by Arnold Dresden. New York: Oxford University Press (Groninger: Noordhoff 1950), Chapters 1–3.

Thales

1. Querejeta, Miguel. 2011. "On the Eclipse of Thales, Cycles and Probabilities." *Culture and Cosmos* 15:5–16.
2. O'Grady, Patricia F. 2002. *Thales of Miletus the Beginnings of Western Science and Philosophy*. Sydney: Ashgate.
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4. McKirahan, Richard. 2010. *Philosophy Before Socrates*. Indianapolis: Hackett Publishing Company 1994, 21–32.
5. Panchenko, Dmitri. 1993. "Thales and the Origin of Theoretical Reasoning." *Configurations* 3:387–414.
6. Barnes, Jonathan, ed. 1979. *The Presocratic Philosophers*. London and New York: Routledge, 2–13.
7. Hartner, Willy. 1969. "Eclipse periods and Thales' prediction of a Solar Eclipse: Historic Truth and Modern Myth." *Centaurus* 14:60–71.
8. Kirk, Geoffrey S., and John E. Raven. 1957. *The Presocratic Philosophers*. Cambridge: Cambridge University Press, 73–98.
9. Van der Waerden, Bartel L. 1961. *Science Awakening*. Translated by Arnold Dresden. New York: Oxford University Press (Groninger: Noordhoff 1950), 82–104.
10. Hicks, Robert D., ed. 1925. *Diogenes Laërtius: Lives of Eminent Philosophers*. 2 vols, Loeb Classical Library. Boston: Harvard University Press, book 1.
11. Heath, Thomas L. 1921. *A History of Greek Mathematics*. 2 vols. Oxford: Clarendon Press, 118–140.

Euclid

1. Fried, Michael N. 2014. "Similarity and Equality in Euclid and Apollonius." *The St. John's Review* 55:17-40.
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8. Netz, Reviel. 1999. "Proclus' division of the mathematical proposition into parts: How and why was it formulated?" *Classical Quarterly* 49:282-303.
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10. Grattan-Guinness, Ivor. 1996. "Numbers, Magnitudes, Ratios, and Proportions in Euclid's Elements: How did he Handle them?" *Historia Mathematica* 23:355-375.
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Archimedes

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Diophantus

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