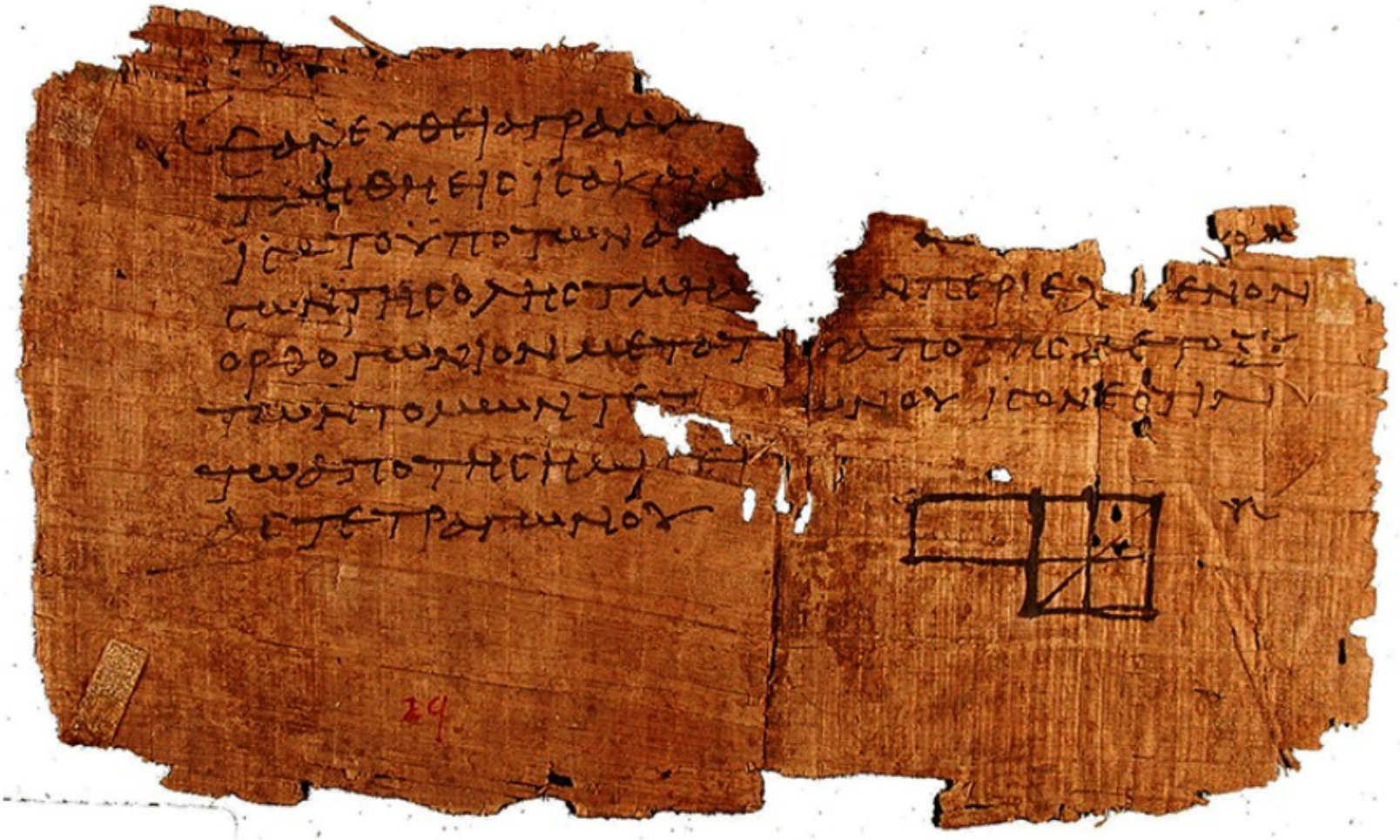
Mathematical Treasure: Euclid Proposition on Papyrus

Author(s): Frank J. Swetz (The Pennsylvania State University)



This papyrus fragment is one of the the oldest, if not the oldest, existing text from Euclid's *Elements*. Euclid compiled and wrote his *Elements* in Alexandria, Egypt, in about 300 BCE, in Greek. The fragment, also written in Greek, was found in Egypt in 1897 and has been dated to the end of the first century CE. It is called the Oxyrhynchus papyrus, named after the place in Egypt where it was found. Archeologists B. P. Grenfell and A. S. Hunt uncovered an ancient rubbish dump from which they excavated many valuable finds, among which was this fragment. The text and diagram are from Euclid's *Elements*, Book II, Proposition 5, which states:

> *"If a straight line is cut into equal and unequal segments, the rectangle contained by the unequal segments of the whole, together with the square on the straight line between the points of the section, is equal to the square on the half."*

The image was made by William Casselman, University of British Columbia, from the papyrus collection at the University of Pennsylvania and is used with his permission. For additional information about the papyrus, see Casselman's webpage about it, titled "One of the Oldest Extant Diagrams from Euclid."

Index to Mathematical Treasures

Frank J. Swetz (The Pennsylvania State University), "Mathematical Treasure: Euclid Proposition on Papyrus," *Convergence* (August 2013)