

The surveyor's controversy: a condensed view of a changing knowledge economy

Robert MIDDEKE-CONLIN

University of Copenhagen, DENMARK

Knowledge exchange requires, to a greater or lesser degree, a change in knowledge economies. This is vital to the successful adaptation of new knowledge into a society. Exchange and change may seem rapid to the outside observer, but on closer inspection such sudden change is just the culmination of events leading to this change. This presentation seeks to examine a change in a knowledge economy by examining how numbers and measurement values were viewed and changed during the early Old Babylonian period (ca. 2000–1750 BCE) in modern-day southern Iraq. To explore this, I will focus on numbers and measurement values used by surveyors.

A surveyor's tradition is well documented in the Old Babylonian period, visible in both mathematical texts and administrative texts. The numbers used in these texts to plan and evaluate land use, irrigation, and construction are vital to exploring the surveyor's tradition. On the one hand, the earliest numbers could be treated as countable objects. This is exhibited in the surveyor's tradition of the third millennium BCE in which land was, in many ways, treated as countable objects to be appended together. On the other hand, the very end of the third millennium BCE saw a significant development in how numbers were exploited, what may be called a "paradigm shift", with the development of what is often called sexagesimal place value notation by modern researchers. This system afforded an easier method to multiply dissimilar objects or values, such as length by width to produce area.

This presentation proposes that a kind of "controversy" appeared among the surveyors with the advent of this development, a controversy that would not be resolved until the middle of the Old Babylonian period (around 1750 BCE), perhaps together with the use of military force. In this period, surveyors were exploring whether and how to integrate this sexagesimal place value notation into their knowledge economy. The controversy's impact would have long-lasting effects, from land administration to the observation of the heavens, that is, astronomy through the first millennium BCE.