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# The antecedents of old Babylonian place notation and the early history of Babylonian mathematics

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## Abstract

This article is devoted to the elucidation of a little known phenomenon which profoundly affected the development of ancient mathematics, in spite of the fact that we are now unable to document those effects in detail. I try to show that Babylonian place notation, far from being a creation of the Old Babylonian period (ca. 2000-1600 BC), actually has roots deep in the third millenium and was, in fact, invented before the end of the Third Dynasty of Ur (ca. 2112-2004 BC). In the latter part of the paper, I try to demonstrate that, contrary to prevailing opinion, the origins of Babylonian mathematics can now be traced back to the middle of the third millennium BC. In doing so, I wish to call to the attention of historians of mathematics the importance of the Sumero-Akkadian background to Babylonian mathematics and to underscore the importance for historical

research of the basic principle that nature *and her children* make no leaps.

## Zusammenfassung

Dieser Aufsatz behandelt ein wenig bekanntes Phänomen, das die Entwicklung der Mathematik tief beeinflusst hat, obwohl wir nun die einzelnen Wirkungen dieses Einflusses nicht mehr dokumentieren können. Ich versuche zu beweisen, dass das babylonische Positionssystem, statt eine Erfindung der alt-babylonischen Zeit (ca. 2000-1600 v.Chr.) zu sein, seine Wurzel weit zurück im dritten Jahrtausend hat, und, in der Tat, schon vor dem Ende der dritten Dynastie von Ur (ca. 2112-2004 v.Chr.) erfunden wurde. Im abschliessenden Teil des Aufsatzes versuche ich zu beweisen, dass man jetzt entgegen der herkömmlichen Meinung die Entstehung der babylonischen Mathematik bis zur Mitte des dritten Jahrtausends zurückverfolgen kann. Ich möchte damit die Historiker der Mathematik auf die Wichtigkeit des sumerisch-akkadischen Hintergrunds zur babylonischen Mathematik aufmerksam machen. Ferner wird durch diesen Aufsatz das für die historische Forschung wichtige Prinzip hervorgehoben, dass die Natur *und ihre Kinder* keine Sprünge machen.



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