GLEN VAN BRUMMELEN, Bennington College
Controversies in the Early History of Trigonometry

Few mathematical disciplines have been claimed to have begun in as many different times and places as trigonometry, covering one and a half millennia and three cultures. When applied to ancient mathematics, the boundaries of the discipline—even the meaning of the word—are obscure and open to different interpretations. The apparently safer ground of Hellenistic Greece is filled with claims and counter-claims of paternity, from Eudoxus to Hipparchus. Later developments are no clearer; spherical trigonometry may go back to Hipparchus, or only to Menelaus over two centuries later. The achievements of Claudius Ptolemy's Almagest are unquestioned, but what Ptolemy contributed (or merely borrowed) is another matter. Finally, the transmission of Greek astronomy to India opens up a series of questions about both cultures. We shall survey the evidence and arguments, with an eye toward establishing a conservative chronology of the subject.