war effort. This failure, in turn, had effects on the shape that postwar reconstruction of science and technology went on to take in free India.

Sinha, one could say, asks the Needham question of the Second World War and its impact on the advancement of the scientific enterprise in India. Why did the scientific establishment on the subcontinent not advance in ways comparable to North America or Britain? While some may argue that different questions may fruitfully be asked of this period, the extent to which historians remain engaged with explanations for the 'lack of' whatever in extra-European locations can – especially with the surge of global history – be surprising. Nevertheless, no other book with the same scope and analytic reach on science and India during the Second World War exists. On that basis alone, Sinha's chronicle is a welcome addition to the history of science on the subcontinent.

The Abraham-edited *South Asian Cultures of the Bomb* collects essays on the politics and popular understanding of the bomb in the postwar years. Dealing with more recent history, the volume is firmly rooted in a sophisticated amalgam of science and technology studies (STS) and postcolonial theory. Abraham himself has done much to establish this particular approach, with close intellectual connections to Shiv Visvanathan's scholarship, and above all perhaps to the work of M.V. Ramana and Zia Mian – both contributors to this volume. Another notable contributor is Srirupa Roy, whose recent book *Beyond Belief: India and the Politics of Postcolonial Nationalism* (2007) is one of the very few studies of contemporary India with a chapter dedicated to science and technology in the transformation of free India.

There are two striking features of this volume. One is that Abraham has brought together scholars writing on both Pakistan and India to reflect on the place of science, the atomic question, popular culture and the state. In doing so, he has managed to push forward a perspective that is transnational in a meaningful way for the subcontinent, as is evident especially from the chapter written by Iftikhar Dadi. The other is that most of the contributors share an anti-nuclear politics which is very much in the foreground.

Compare Sinha and Itty's volumes, and we notice some important markers that concern the historiography of science and technology on the subcontinent. It is not too much to see in the division of labour between these two books the characteristic trends of the larger body of scholarship in the two fields. While historians of the more distant past have engaged long and thoroughly with colonial science, contemporary history – especially for the period after independence – has been done justice mostly by social scientists and STS scholars. Without undermining the richness or the significance of the scholarship, it is nonetheless lamentable that very few historians in general, and of science in particular, have begun to develop a coherent agenda for the contemporary history of the subcontinent.

Even if Sinha has chosen not to engage with more recent approaches to his topic, especially postcolonial history, there is no mistaking the irony inherent in the contrasting traditions the two books come from. If *Science, War and Imperialism* is about the denial of science-led modernity, *South Asian Cultures of the Bomb* is a deep critique of the celebrated attainment of precisely that kind of modernity by the postcolonial state and its publics, and of the moral imperatives of global power. In the end, both books articulate positions along the spectrum of expectations of modernity on the subcontinent.

JAHNAVI PHALKEY
Imperial College London

ELEANOR ROBSON, **Mathematics in Ancient Iraq: A Social History**. Princeton and Oxford: Princeton University Press, 2008. Pp. xxvii + 441. ISBN 978-0-691-09182-2. £35.00 (hardback).
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The history of mathematics in the ancient Mesopotamian civilizations is a young field. Aside from the numerical methods of Babylonian astronomy in the late first millennium BC, known since the

1880s through the work of Joseph Epping and Franz Kugler, very few ostensibly mathematical texts had been published from cuneiform tablets before the 1920s and 1930s, when the productive scholarly rivalry of the mathematician Otto Neugebauer and the assyriologist François Thureau-Dangin yielded a corpus of Babylonian mathematical texts, mostly from the so-called Old Babylonian (OB) period (early second millennium). The initial excitement and intense activity of these decades, characterized primarily by text editions accompanied by commentaries, did not sustain itself after Neugebauer and Abraham Sachs's *Mathematical Cuneiform Texts* (1945). By this time Neugebauer himself was interested primarily in mathematical astronomy, and no one else who had the expertise to work closely with the original documents seems to have seen ways to open up new areas for research and interpretation. The prevailing picture of Mesopotamian mathematics was episodic and descriptive, emphasizing the sexagesimal numerical system and the more advanced 'problem texts' which lent themselves to algebraic interpretation by means of linear and quadratic equations. This mathematics was seen as springing into view rather abruptly in the OB period, with obscure antecedents, and then disappearing again from the textual records until, more than a millennium later, it resurfaced in more or less the same form in Seleucid and Parthian Babylonia. Hardly anything was known about the intellectual contexts in which the mathematical texts were produced, or even where they came from, since most of the texts that were known and considered interesting in the 1920s and 1930s entered modern European and American collections by way of the antiquities trade.

Eleanor Robson's *Mathematics in Ancient Iraq* testifies to the remarkable resuscitation and, indeed, transformation of the field that has taken place since the 1980s. One stimulus has come from the identification of mathematical texts from hitherto poorly documented periods, especially the centuries preceding the OB period, and the study of metrology and accounting practices. Our understanding of OB mathematics itself has greatly deepened, in part through analysis of the more elementary 'school texts' for which we often have good evidence both for provenance and for their place in the broader scribal curriculum, and in part through Jens Høyrup's persuasive reinterpretation of the language of the 'problem texts' as being grounded in geometrical rather than algebraic imagination. In short, not one page of this book could have been written a generation ago, when the very idea of a chronologically structured history of mathematics in the ancient Near East from the fourth through the first millennium BC would have seemed an absurd project. That this is no longer true is due especially to some half-dozen scholars, all currently active and all possessing knowledge in varying degrees of both assyriology and the history of mathematics. Among these Robson, as a professional assyriologist, is pre-eminently well positioned to write a history that situates Mesopotamian mathematics in its ancient social and intellectual context; and whether or not one always agrees with her interpretations of the mathematics, her competence in these aspects is nowhere in doubt.

Pre-OB mathematics is a challenging topic to present to a general reader. The texts are none-too-numerous and frequently obscure, and to make sense of them at even a preliminary level demands a broader knowledge of contemporary economic and social history than the OB texts; one is dealing here with the coming-into-being of mathematics. Robson's two chapters dealing with the third millennium are in fact her most successful in their clarity and balance. On controversial questions such as the degree and character of central government control of Babylonian society in the UR III period (roughly the last century of the third millennium) – a period crucial for the development of the sexagesimal place-value notation but apparently barren of activity in the 'advanced' domain of problem texts – she gives the reader a sufficient idea of the arguments on both sides without concealing her own opinions or delving into polemics. Her treatment of OB mathematics tends more to present a coherent picture with fewer indications of where a present consensus exists – among that half-dozen or so scholars! – or of where (as in the case of the notorious 'Pythagorean triplets' tablet Plimpton 322) the reader is being offered the author's

stance on a disputed subject. Generally this chapter, though one of the longer ones, at forty pages, is still too short to convey the richness of the source material and the diversity of scholarly approaches, while conversely the three chapters (eighty-nine pages) devoted to Assyria and to Babylonia during the more than a millennium between the OB and Seleucid periods appear largely as placeholders covering tangential topics, since the archaeological record has yielded scarcely any mathematics from these times. Robson's chapter on the late first millennium BC, the longest, is deeply interesting for its discussion of the prospects and problems of understanding the place of mathematics in the scribal milieus that produced the tablets of mathematical and observational astronomy known from archives at Babylon and Uruk – though one gets the impression that progress in this area has barely begun. Perhaps, for that matter, it is time that the numerical methods embedded in Babylonian astronomy should themselves be studied as a part of Babylonian mathematics rather than as a related but distinct activity.

Robson provides two useful appendices: a summary of the systems of metrology employed in Babylonian mathematical texts, and a bibliographical catalogue of published texts. That this last was not able to include references to important editions of tablets by Jöran Friberg and Christine Proust that have appeared since 2007 is an indication of how lively the study of Mesopotamian mathematics is.

ALEXANDER JONES
New York University

DARYN LEHOUX, **Astronomy, Weather, and Calendars in the Ancient World: Parapegmata and Related Texts in Classical and Ancient Near Eastern Societies**. Cambridge and New York: Cambridge University Press, 2007. Pp. xiv + 566. ISBN 978-0-521-85181-7. £65.00 (hardback).
doi:10.1017/S000708741000052X

The classical *parapegma* was a sort of calendrical cribbage board – a recording device for tracking cyclical phenomena over time by moving pegs between labelled holes on a marked surface. In this survey of the textual and material evidence for the documentation of celestial periodicities in the ancient world, Daryn Lehoux identifies four main types of cycles tracked by *parapegmata*: astronomical, astrological, astrometeorological and calendrical. The earliest extant example is a fragment from fifth-century BC Athens, but Lehoux traces the tradition as far back as Hesiod (*c.* eighth century BC) and as far forward as medieval Europe and the Middle East. *Parapegmata* constitute an interestingly hybrid genre, spanning folk methods of weather forecasting based on star risings to highly literate and mathematized astronomical prediction.

The book divides into two unequal halves: a 140-page discussion and analysis (Part I) followed by a 360-page catalogue of the surviving eighty ancient and medieval sources in Greek, Latin and Arabic, with full translations of each (Part II). The book ends with reference tables, bibliography and two indexes. It has already been widely reviewed and well received by classicists and historians of science, who agree that Part II constitutes a major contribution to scholarship by bringing together an important corpus of texts for future research. I shall therefore concentrate on Lehoux's approach to the ancient Near Eastern material, not translated by him and not addressed by other reviewers, but which is the topic of some forty pages, nearly 30 per cent of Part I.

Lehoux writes in a relaxed and often jokey style, clearly intended to make a technical subject more accessible to non-specialists, but which often grates. Chattiness is not sufficient to provide clarity and often distracts from the matter at hand. Clear explanations, conversely, are often lacking. This problem is particularly acute in the chapters on 'Calendar, weather, and stars in Babylon' and 'Egyptian astrometeorology', where Lehoux is heavily reliant on paraphrasing assyriologists and egyptologists without himself fully understanding the content or context of their work or knowing how to critique or build on it.