The book under review falls in five chapters of unequal length:
– 1: "Euclid, the Geometer" (pp. 1–21) – a general presentation of the main character and our (lack of certain) knowledge about him;
– 2: "Pre-Euclidean Greek mathematics" (pp. 22–75);
– 3: "Euclidis opera omnia" (pp. 76–130), a discussion of all works (extant, lost, reported) except the *Elements*;
– 4: "Ta stoicheia – *The Elements*" (pp. 131–198);
– 5: "Euclid through the centuries" (pp. 199–243).

Throughout, the character of the book is that of a popularization intended, apparently, for mathematicians, teachers of mathematics, and an educated public interested in mathematics, not of an original contribution to the history of mathematics nor, in particular, to the study of Euclid. This is no objection, in this as in many other fields good popularizations are at least as important as works directed solely to specialists, and specialists' works within the sciences of culture are ultimately barren if not communicated through good popularizations. Nor is it a problem *per se* that most of what is said is reported from others, that original sources are often quoted from the secondary literature, and that even the opinions and conclusions of students of the topic are often quoted indirectly and not from the original.

However, the way this is done by Schönbeck is hardly satisfactory. A first point is the manner in which Schönbeck circumvents our lack of knowledge, for instance (but far from exclusively) about Euclid's life and dates. He admits that much of what he suggests is hypothetical and not built on reliable sources, either when advancing the suggestion or slightly later; but then the same claim is repeated again and again, still often with an added "(?)". But the reader who is not extremely attentive will still believe after reading the numerous repetitions, e.g., that Euclid started his career at Plato's Academy and lived till c. 280 BC, and that Euclid was consciously working within the Platonic programme. Objections are discarded as "speculative", even when (e.g., concerning the dating of Euclid) what they do is to point out that the presumed evidence on which Schönbeck builds does not hold water.

Secondly, Schönbeck uses almost exclusively literature written in German. In the bibliography, said to list what was used directly for the preparation of the book (thus *not* "suggested readings" for a German public), 14 percent of the items are in English, 2 percent in French, and less than 2 percent are in Greek and Latin (namely Becker's edition of Aristotle and Heiberg & Menge's edition of Euclid – the former left no noteworthy traces in the text). All the rest is in German.

This means that almost none of the major relevant publications from the last 35 years have influenced Schönbeck's book. Major and relevant works by Ian Mueller, Wilbur Knorr, Marinus Taisbak, David Fowler, Richard McKirahan, Reviel Netz and

Bernard Vitrac are thus absent;[1] H.L.L. Busard's immense work on analyzing and publishing the Medieval Latin Euclid is similarly overlooked,[2] as is all recent work on the Arabic Euclid. But also older works in German of high relevance for Schönbeck's argument are absent – e.g., Walter Burkert's *Weisheit und Wissenschaft*,[3] in spite of all the attention given by Schönbeck to Pythagoras's mathematics, as well as Kurt Vogel's *Habilitations-Schrift*,[4] equally mandatory when the origin of the Greek notion of ratios is studied. These absences reflect the fact that Schönbeck never tries to cope with intricate arguments or to challenge current prejudice from the popular historiography of mathematics (rather accepting and repeating it under the euphemism of *hermeneutischer Vorgriff*, "hermeneutic anticipation" – p. viii). Indeed, the reason recent work by others goes unmentioned is not that Schönbeck prefers to present his own independent alternative analysis, which could be considered quite legitimate.

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[1] Thus – to mention only a selection of book-size publications:

– I. Mueller, *Philosophy of Mathematics and Deductive Structure in Euclid's Elements.* Cambridge, Mass., & London: MIT Press, 1981.

– W. R. Knorr, *The Evolution of the Euclidean Elements. A Study of the Theory of Incommensurable Magnitudes and Its Significance for Early Greek Geometry.* Dordrecht & Boston: D. Reidel, 1975. (Several more books from the same hand could be mentioned).

– C. M. Taisbak, *Coloured Quadrangles. A Guide to the Tenth Book of Euclid's Elements.* Copenhagen: Museum Tusculanum Press, 1982.

– D. H. Fowler, *The Mathematics of Plato's Academy. A New Reconstruction.* Oxford: Oxford University Press, 1987.

– R. D. McKirahan, *Principles and Proofs: Aristotle's Theory of Demonstrative Science.* Princeton: Princeton University Press, 1992.

– R. Netz, *The Shaping of Deduction in Greek Mathematics: A Study in Cognitive History.* Cambridge: Cambridge University Press, 1999.

– B. Vitrac, (ed., trans.), Euclide d'Alexandrie, *Les Éléments.* Traduits du texte de Heiberg. 4 vols. Paris: Presses Universitaires de France, 1990-2001. With extensive innovative commentary.

Ian Mueller's book *is* cited (indirectly) at one point – for Mueller's opinion about Babylonian mathematics in 1981!

[2] To mention only two recent (but not too recent) volumes which undermine what Schönbeck's says on the topic:

– H. L. Busard & M. Folkerts (eds), *Robert of Chester's (?) Redaction of Euclid's Elements, the so-called Adelard II Version.* 2 vols. Boston etc.: Birkhäuser, 1992.

– H. L. L. Busard, (ed.), 2001. *Johannes de Tinemue's Redaction of Euclid's Elements, the So-Called Adelard III Version.* 2 vols. Stuttgart: Franz Steiner, 2001.

[3] W. Burkert, *Weisheit und Wissenschaft. Studien zu Pythagoras, Philolaos und Platon.* Nürnberg: Hans Carl, 1962.

[4] K. Vogel, "Beiträge zur griechischen Logistik". Erster Theil. *Sitzungsberichte der mathematisch-naturwissenschaftlichen Abteilung der Bayerischen Akademie der Wissenschaften zu München* 1936, 357–472.

To this comes direct misunderstanding of the secondary literature that is used. I shall restrict myself to two examples. (i) On p. 9, an arithmetical riddle known as "Euclid's problem" is believed to be transmitted by Diophantos, because "Tropfke 1980" (actually the reshaped edition by Kurt Vogel et al) refers to [Diophant 1; 2, X] – which means that it is quoted by Tannery on p. X (that is, the introduction) of vol. 2 of his edition of Diophantos. (ii) Fuat Sezgin's *Geschichte des arabischen Schrifttums*, Bd. V, is cited (p. 213) as the source for the statement that Jābir ibn Ḥayyān recognized 0 as a number; what Sezgin quotes (not on the page indicated by Schönbeck!) is Jābir's reference to zero (*sifr*) as opposed to but having a relation with the category of number. Moreover, Sezgin points out (following Ruska and others) that Jābir's reference proves the Hindu numerals to have been known by Arabic scientists before al-Khwārizmī; this is overlooked by Schönbeck, who gives al-Khwārizmī credit for introducing them six pages later.

Similar inconsistencies are found elsewhere. On p. 221 Apollonios is thus believed to have been translated several times in the "translation school" in Toledo (together with "the mathematician Hippocrates"!) in the 12th–13th centuries (no clear reference is given, but the source for the misconceptions might be Will Durant). On p. 225, it was the "literary humanist movement" that made Apollonios (and Ptolemy!) accessible to the European world – but these are claimed to precede the Renaissance!

The material quality of the book is impeccable, and it is beautifully illustrated and easily read (if one is not disturbed by the shortcomings). Since the prejudice of popular historiography is anyhow rampant and not always wrong, sustaining its survival for another while will perhaps make no great damage. But whoever believes to have learned something new from the book should take care and control it well before using it for serious purposes.