Slide Rule Calculations, H. O. Cooper, 1931

The author's Preface cites the 'well-known' belief that efficient use of the slide rule requires considerable practice, and stresses that his book provides lots (500+) of exercises and examples to accomplish that end. The text seems to be aimed at beginners in the use of the slide rule, principally those in the technical fields, trades, and crafts; to a lesser extent those in commerce and business. The text could have been used in either in self-study or classroom use, but it would probably have been more useful in the former situation.

The book provides an introductory chapter on logarithms and one on how to read the elementary scales of a Mannheim-type rule. Slide rule 'theory' is presented, but is minimal. Following chapters teach basic mathematical operations, plus trig and log operations, by both purely numeric and applied exercises and examples. Areas of application include simple mensuration, building trades and crafts, simple commerce (proportions and percentages), mechanics, and elementary engineering. Chapter 11 provides 44 more somewhat more detailed exercises in the same general application areas.

The scale set used is minimal, assuming a basic Mannheim-type rule (C, D, A, B, S, L, and T). There is no mention of the CI scale (remember the book was published in 1931 and likely based on the author's experiences over the preceding 10 or more years). Instead, the author includes a 6-page chapter on Reversed Slide Operations, in which the slide is physically removed and reinserted upside down, thus providing a literal 'inverse' capability. This chapter is actually quite good, even though the methodology appears strange to current thinking. The author does admit that the procedure is, “... not quite so convenient for ordinary calculations owing to... the numbers being upside down.”(!) The book does include a later chapter on Log-Log scales; all the exercises and examples in this chapter assume a single LL scale.

An appendix entitled, “Special Slide Rules” provides brief discussions of a number of rules, many of which have become quite uncommon over the intervening decades. The rules discussed include: the Baur, the 'Columbus' Commercial, and two Elektro-types (378, 398) by Faber; the Rietz by various manufacturers; the Dunlop Jackson, the Yokota, the Trician, the Dafield, and the Glider, by John Davis & Son; an Elektro-type by P.I.C.; the Perry and the Precision by Nestler; generic duplex and log-log rules by K&E; the Fuller; the Halden Calculex; and the Otis King Calculator. Although we now might consider it odd to refer to K&E log-log duplex rules as 'special', the discussions of some of the other rare (by now) rules provide valuable historical information.

The index is less than one page in length, contains only about 62 entries, and is not as helpful as one might wish in finding topics of interest in the text.

Steve K. Seale. 2013