

O1 History of Mathematics

HT 2019 reading course: Nineteenth-Century British Symbolical Algebra

Essay 1: William Frend and negative numbers

This is the topic for the classes in weeks 2 and 3 (and hence for reading in weeks 1 and 2). For Monday of week 2 please do enough research that you can discuss the topic in class and begin to focus the approach you propose to take for your written work. For week 3, please submit a 2000-word essay by email (to christopher.hollings@maths.ox.ac.uk as pdf) by 12 noon on Friday of week 2.

Here are some suggestions as to what points you might choose to focus on in your research and your essay. Every essay needs some background to set the context. Beyond that, you should NOT expect to cover everything. There is much too much here. Choose one or two points to focus on.

- What was Frend's motivation?
- How does this text fit into the rest of his corpus?
- Which writers did Frend read and refer to?
- Summarise the material studied.
- What else (briefly) does the text contain?
- When and how were his ideas taken up?

Main text for weeks 1 and 2

William Frend, *Principles of Algebra*, London, 2 vols., 1796, 1799.

Suggested reading (but do please browse more widely and follow up references):

- prefaces to both volumes;
- vol. I, pp. 1–34, 100–111, 514–518;
- vol. II, Chapter I.

Other sources that might be useful

- Helena M. Pycior, Early criticism of the symbolical approach to algebra, *Historia Mathematica* 9 (1982) 392–412.
- Helena M. Pycior, Historical roots of confusion among beginning algebra students: a newly discovered manuscript, *Mathematics Magazine* 55(3) (1982) 150–156.