"A terrible piece of bad metaphysics"? Towards a history of abstraction in nineteenth- and early twentieth-century probability theory, mathematics and logic
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PART 1

British probability theory, logic and mathematics
PART 1 | SECTION 1

Logicist, idealist and quasi-empiricist probability

This section consists of the following two articles:


The first paper (chapter 1) provides a critical discussion of the historical and theoretical meaningfulness of the distinction between ‘objective’ and ‘subjective’ probability, as it supposedly emerged around 1840 (according to, among others, Daston and Zabell), by examining whether and how it appeared in the work of the mid-nineteenth-century British revisionist probabilists. A detailed analysis of the contributions of Augustus De Morgan, John Stuart Mill, George Boole, Robert Leslie Ellis and John Venn to probability is put forward in order to show that in so far as the terms did not appear as contradictories it is not possible to understand or compare these contributions with reference to the well-known modern binary of ‘objective’ and ‘subjective’. This conclusion not only renders problematic the widespread use of this binary to distinguish the ‘classical’ from the ‘modern’ period in probability theory, but also suggests that the connection between ‘frequentism’ and ‘objective’ probability is less straightforward than commonly assumed. The second paper (chapter 2) further pursues this latter suggestion by means of an investigation of the work of the two founders of ‘frequentism’, Ellis and Venn. It corrects a widespread misconception about their work, namely that it can be considered as the ‘British empiricist’ reaction against the rationalist traditional theory of probability theory.
and argues, instead, that there was no unified ‘British school’ of frequentism during the nineteenth-century: where Ellis arrived at frequentism from a metaphysical idealist transformation of probability theory’s mathematical calculations, Venn did so on the basis of an empiricist critique of its ‘inverse’ application. The conclusion of the paper is that the only point of agreement between them seems to have been that the foundations of frequentism are the result of a ‘mental’ construction – the validity of which, in the case of Venn’s idealized ‘quasi-natural series’, was premised on its conformity with actual experience and, in the case of Ellis’s introduction of such series as ‘universals’, was a priori. Section 2 and 3 provide detailed examinations of these points.