"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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Introduction

It was in a journal entry of 24 June 1840 that Robert Leslie Ellis (1817-1859) wrote of a letter that he had received from his friend, the Scottish mathematician and (co)founder of *The Cambridge Mathematical Journal*, Duncan Farquharson Gregory (1813-1844) who was struck in [William] Whewell’s book [*The Philosophy of Inductive Sciences* (1840)] with the difference between Whewell’s present & old views about the laws of motion, & by the curiously close coincidence, by which I [Ellis] too was surprized of some of his present notions on the first law of motion with views I have often expressed, viz. that time cannot be a cause – because time is only the condition of the existence of causes, & asks if I had been speaking to Whewell on the subject. I have not [but I] have often sported the idea in examinations (Trinity College Library Add. Ms.a.82, see also Fisch 1994, 253, f. 22)

Ellis continued by writing that ‘I caught the germ of it, viz. Kant’s view of time & space, from Logan ages ago – curious if I made my fortune with Whewell by so casual an advantage’ (*ibid.*). In my article on ‘Robert Leslie Ellis’s work on philosophy of science and the foundations of probability theory’ (see Verburgt 2013) I noted that it seemed impossible to establish to whom Ellis was here referring, that is, who this Logan was who first acquainted Ellis with some of the fundamental notions of Kantian idealism that he, like Whewell, would use to reform the canons of the Baconian philosophy. After reading Robert Perceval Graves’s *Life of Sir William Rowan Hamilton* and Sophia Elisabeth De Morgan’s *Memoir of Augustus De Morgan*, I was able to find out that Ellis referred to Reverend Henry Francis Charles (H.F.C.) Logan (1800-1884).
Ellis and Logan in Bath and Cambridge

Rev. H.F.C. Logan: biographical remarks

Logan,¹ who was born in Poole (Dorset) on 9 September 1800, studied at Corpus Christi College, Cambridge, where he left without a degree in the year 1818 only to be received into the Roman Catholic Church, in France, and the English College in Rome. On his return to Britain, the Cambridge convert ‘was appointed to teach mathematics at Prior Park College, near Bath, where he was eventually ordained during Advent 1830’ (McGrath 2008, 704). In 1840, the Cardinal and President of Oscott’s College, Nicholas Wiseman (1802-1865) (Ward 1897) chose Logan as his Vice-President (see Ward 1915, chapter 1) – a position which he occupied until 1846. One year later, in 1847, Logan became President, but already in September 1848 did the Bishop of Birmingham, William Bernard Ullathorne (1806-1889), remove him from the presidency (see Cham 2006, chapter 4, Oscott Papers UC.P19.7). Upon this decree Logan decided to take up residence in Edinburgh where he worked for several years as a private tutor of figures such as John Emerich Edward Dalberg (Lord Acton) (1834-1902).² From 1852 on, Logan took charge of numerous missions in his own country after which he was stationed in Cale Hill, Kent, between 1855-1860 and on the Isle of Wight between 1860-1862. The last years of life were spent as a so-called convictor at the Catholic seminary of Ushaw College, Durham.

Ellis and Logan: personal and intellectual contact

To my knowledge, there are two biographical facts that attest to the personal contact between Ellis and Logan.

Ellis was born in Bath, August 25, 1817, and his youth and adolescence, thus, coincided, by and large, with Logan’s appointment as a mathematics teacher at Prior Park College. Although he ‘was never at school’, Ellis had ‘the advan-

¹ There is little biographical information available on the life of Logan. The remarks about his life provided in this section are drawn from the following sources: Beaumont (2010, 261), Dessain (1961, 588), McGrath (2008, 704) and Oliver (1857, 347).
² See Lally (1942, 5), MacDougall (1962, 6) and Mathew (1968, 23) for the intellectual connection between Logan and his Edinburgh students such as Lord Acton.
tage of two tutors at Bath, one in classics [H.A.S. Johnstone (?-?)], the other in mathematics [Thomas Stephens Davies (1794-1851)] (Goodwin 1863, xiii) – of which the latter, a Fellow of the Royal Society of Edinburgh (in 1831) and the Royal Society (in 1833), recognized Logan as his ‘learned friend’ in several of his papers on ‘spherical geometry’ (e.g. Davies 1836, 188, Davies 1848, 135). Davies provided Ellis with the literature on the differential and integral calculus, but for his more general reading he, Ellis, ‘was dependent upon his father’s library and upon that of [‘Logan’s’] Bath Institution’ (Goodwin 1863, xiii).

At the end of his life, which was ‘short, quiet, uneventful, but very full of suffering’ (Goodwin 1863, xi-xii), Ellis, from 1853 to 1859, was part of a group of old Cambridge friends to which belonged, among others, Augustus De Morgan (1806-1871) and Logan (see De Morgan 1882 [2010], 103-104). Ellis, who was by that time an invalid, settled at Anstey Hall, Trumpington (near Cambridge) to spend his last days next to his close friend, the romantic and Kantian idealist John Grote (1813-1866) (see Gibbins 1987, 83-84, Gibbins 1998), and to his sister Everina-Frances Ellis (?-1865). When she left Ellis on the occasion of her marriage, on 1 July 1858 with Whewell, it was Logan who ‘took her place near the sufferer and attended him with unremitting friendship and affection till his death’ (De Morgan 1882 [2010], 103).

Although it is not possible to establish with exactness where, when and/or in what form the intellectual exchange on Kant’s views between Ellis and Logan took place, the available historical evidence affords the conjecture that the two had private conversations in Bath probably somewhere between 1827 and October 1834, but perhaps between late November 1834 and October 1836. In these two periods, Ellis lived on the Royal Crescent in Bath and Logan worked at Prior Park College which was only a few miles away from Ellis’s house. Ellis’s friend, the Rev. Harvey Goodwin (1818-1891) has noted that Ellis was educated by his father and two tutors from as early as the year 1827 (see Goodwin, 1863). This home education came to an end when Ellis, in October 1834, became the pupil of the Rector of Papworth St. Everard in Cambridgeshire, Reverend James Challis (1803-1882). But it was already after six weeks that Ellis, due to ill-health, was forced to return to his home in Bath where he remained until October 1836, the date on which he entered Trinity College, Cambridge as a Pensioner. When reflecting on the statement of the then twen-
ty-two year old Ellis of 24 June 1840 that he ‘caught the germ of [...] Kant’s [views] from Logan ages ago’, it seems most likely that the intellectual contact between Ellis and Logan dates back to the years 1827-November 1834.

**Afterword**

It is well-known that the majority of British philosophers were unfavorable to Kant’s metaphysical and epistemological ideas at least until the early-1870s. Given this situation, it is all the more remarkable to observe that Kant was of fundamental importance for the development of British mathematics as it took place between the 1800s and 1840s – or, more in specific, for the transition from the second generation ‘symbolical algebra’ of Ellis and Gregory to the ‘abstract algebra’ of William Rowan Hamilton (1805-1865) and Arthur Cayley (1821-1895). If the Kantian roots of the work of Hamilton and, to a lesser degree, Cayley, are widely acknowledged (e.g. Hankins 1980 [2004], Ohrstrom 1985, Winterbourne 1982), the authoritative description of Crosbie Smith and M. Norton Wise of Ellis and Gregory as being committed to ‘geometrical methods’, ‘non-hypothetical theory’ and ‘practical knowledge’ has stood in the way of both the recognition of their idealist leanings as well as the research into the meaning for their view of algebra of their specific negotiation of Kant as compared with that of Hamilton (cf. Smith & Wise 1989, chapter 6, Fisch 1994, Verburgt 2014).

The introduction of Kant during the early Victorian era was premised on the activities of several intellectual figures who not only had knowledge of German idealism and, more in specific, of Kant’s transcendental idealism, but were also in the possession of Kant’s books – the original versions and translations of which were particularly hard to find in Britain (see Wallek 1931, chapter 1 & 3). Together with, for example, Grote, Logan, who, in the words of his ‘Kantian friend’ (Graves 1855, 141) Hamilton, was a man of ‘very extensive reading’ (ibid., 141, Hone 1939, 66) that ‘made himself [familiar] in an unusual degree with all the great mathematical [and metaphysical] works of these [i.e. Britain]

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3 See Mander (2014) for a recent, and Wallek (1931) for a classic account of the introduction of Kantianism in Britain and, more in specific, at Cambridge. For a more general analysis of the content and diffusion of idealism in the early-Victorian era see, for example, Preyer (1981).
and of foreign countries’ (Graves 1855, 85, 141), was one of these figures. His role in the community of British algebraists is particularly interesting because he was the source of both Ellis’s as well as Hamilton’s and, thereby, possibly also partly of Whewell’s acquaintance with Kant’s critical works. Further study on the meaning of philosophical considerations for British algebra and analysis (e.g. Fisch 1994, Richards 1980, Richards, 1987, Pycior 1981, Pycior 1982) will have to take into account the influence of Kantian idealism and, thus, also that of some of its largely forgotten disseminators such as Logan.

For the influence of Kant on Whewell’s philosophy of science see, for example, Butts (1968) and Snyder (2006, chapter 1).

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References


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