

# The perception of place and the 'origins of handedness' debate: towards a cognitive cartography of science in late-Victorian Dublin

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**In 1884, a medical paper entitled 'Consideration of the Structural and Acquisitional Elements in Dextral Pre-Eminence' penned by the Dublin physician George Sigerson, appeared in the *Proceedings of the Royal Irish Academy*. A number of years later, the *Journal of the Anthropological Institute of Great Britain and Ireland* presented a similar piece by Dublin anatomist Daniel John Cunningham, on the topic of 'Right-Handedness and Left-Brainedness'. For the late nineteenth-century scientific community, these articles represented two Dublin-based contributions to a long-running and wide-ranging debate on the origins of handedness. However, by building on the geographical premise that scientific knowledge bears the imprint of its location and that place matters in the way scientific claims come to be sanctioned, this paper probes, not merely an encounter with evolutionary science in the less well explored domain of *fin de siècle* Dublin, but more crucially, how these local reviews of manual dexterity were in part shaped by the scientists' differing perceptions of their city. By attending to the lives of Sigerson and Cunningham and focusing on the interplay between life-space, city-space and science, it underscores the critical role of place and space in the reception, circulation and mobilisation of scientific knowledge in the city.**

When the Chief Secretary to the Lord Lieutenant of Ireland, was asked by Colonel King Harmon in a House of Commons debate in 1884, if he was aware that Dr. Sigerson of Dublin – recently appointed to a position of trust and influence by her Majesty's Government<sup>1</sup> – was believed to be 'the writer of many articles of a seditious nature in the Irishman newspaper', he was informed by another member that Sigerson was, in fact, the same gentleman, 'whose researches into the physical condition of the atmosphere had been described as a work of great

authority in Parke's History of Hygiene, and for [Col. King Harmon] not to know Dr. Sigerson was not an argument that he himself was unknown'.<sup>2</sup>

This episode serves to highlight the still popular conception in Ireland that George Sigerson was more a political activist than a scientific figure. By way of contrast, the scientific publications of his fellow Dublin scholar, Professor Daniel John Cunningham, we are reminded, rivalled the popularity of Grey's Anatomy,<sup>3</sup> and his legacy is still evident in the health sciences today.<sup>4</sup> This paper proposes that the scientific work which emanated from *both* men during the late Victorian period, deserves to be examined as the product of different research networks in the city, each of which had a distinct political and social location. This is best illustrated by taking account of their contributions to the debates around the anthropology of handedness.

While most studies outlining the development of the life sciences have tended to foreground Darwinian histories of biology, work by Cunningham and Jardine (1990) and more recently by Tresch (2012) and Esposito (2013) has clearly shown how the influence of earlier Romantic thought remained pervasive throughout the nineteenth century and beyond.<sup>5</sup> These authors disclose how a dynamic and holistic view of nature persisted in many areas of science despite moves to separate and professionalise disciplines. With this in mind,, it is argued here that Sigerson's handedness paper, which was underpinned by a Romantic belief in a previous 'Golden Age', and Daniel John Cunningham's Address, which promoted progressive evolutionary ideas, represent two mutually exclusive networks of Dublin science.

<sup>2</sup> HC debate, 18 February 1884, vol. 284 cc. 1179–80.

<sup>3</sup> See Patil, S., Nidoni, M. & Mahesh, G. M., 'Daniel John Cunningham – A Multifaceted Person: Anatomist, Author, Anthropologist, Academician and an Able Administrator'. *Irish Journal of Medical Science*, September (2014), 183(3): 489.

<sup>4</sup> The Daniel John Cunningham Memorial Medal and Prize is still awarded annually to anatomy students at Trinity College Dublin.

<sup>5</sup> Cunningham, A., and Jardine, N. (eds.), *Romanticism and the Sciences*. Cambridge: Cambridge University Press, 1990; Tresch, J., *The Romantic Machine: Utopian Science and Technology after Napoleon*. Chicago: The University of Chicago Press, 2012, and Esposito, M., *Romantic Biology 1890–1945*. London: Pickering and Chatto, 2013.

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<sup>1</sup> George Sigerson was at the time, a member of the Royal Commission appointed to inquire into the administration of prisons in Ireland.

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However, my aim is not simply to document contrasting approaches to the debate, rather it is to explore the negotiation of the handedness question at an unsettled time in Dublin's history, and investigate the extent to which local contributions to scientific journals reflected social and political trends in the city. Since the 1980s, scholarship in the 'geographies of science' has become increasingly attentive to the idea of a city as a socio-spatial setting. The active role cities can play in shaping scientific knowledge has prompted authors such as Soja, Ophir and Shapin to move beyond traditional definitions, which see it solely as a built environment, shaped and reshaped over time in historical processes of urban development. In other words, for geographers of science, the city has ceased to exist as a one-dimensional backdrop for scientific debates.<sup>6</sup>

In tandem with this has been the re-emergence of the biographical perspective in the history of science, and the realisation that the role of science in culture is much more accessible when presented through the lives of its practitioners.<sup>7</sup> New biographical approaches – which bring into focus a life as it is lived, rather than as it is told, a route taken for instance by Nicolaas Rupke in his 2008 meta-biography of Alexander von Humboldt<sup>8</sup> – dovetail well with theoretical perspectives from geography.

So, by incorporating these spatial themes, some suggestions are made here on thinking afresh about the engagement between lives and ideas in late nineteenth-century Dublin. Daniel John Cunningham (1850–1909) was Professor of Anatomy at Trinity College, and Director of the Dublin Anthropometric Laboratory (Figure 1A). George Sigerson (1836–1925) was a prominent Dublin public figure, a city physician and president of the National Literary Society, who was based at No. 3, Clare Street (Figure 1B). Each, as we shall see harboured a strong sense of the place in which they lived and worked which was vastly different to the other, despite their city proximity. My question here is, how if at all, did this 'sense of place' inflect on their engagement with contemporary scientific knowledge? In other words, did their 'perception' of the city where they carried out their investigations, make any difference to the conduct or content of their academic output? With these questions to the fore, an article by Sigerson, entitled 'Consideration of the Structural and Acquisitional Elements in Dextral Pre-Eminence', which appeared in the *Proceedings of the Royal Irish Academy* in 1884, will be examined in detail, as will an analogous study by Daniel John Cunningham on the topic of 'Right-Handedness and Left-Brainedness' which was presented to the Anthropological Institute in 1902.

### The nineteenth-century debate on handedness

Before discussing these publications, a brief look at the intellectual context in which they emerged is in order

<sup>6</sup> See for instance, Soja, E. W., *Postmetropolis: Critical Studies of Cities and Regions*. London: Wiley Blackwell, 2000, and Ophir and Shapin, 'The Place of Knowledge: A Methodological Survey'. *Science in Context* (1991), 4: 3–21. Also, for a discussion of science and urban life, see Dierig, S., Lachmund, J. and Mendelsohn, J. A., 'Introduction: Toward an Urban History of Science', *Osiris* (2003), second series, 18:1–19.

<sup>7</sup> For an overview see Shortland, M. and Yeo, R., *Telling Lives in Science, Essays on Scientific Biography*. Cambridge: Cambridge University Press, 1996, and Söderqvist, T. (ed.), *The History and Poetics of Scientific Biography*. Science, Technology and Culture 1700–1945. Aldershot: Ashgate, 2007.

<sup>8</sup> Rupke, N., *Alexander von Humboldt: A Metabiography*. Bern: Peter Lang, 2008.



**Figure 1.** The environs of Trinity College Dublin showing the proximity of Cunningham's Trinity College Anatomy School (A) and George Sigerson's medical practice and home at No. 3 Clare Street (B).

Adapted from 'A Plan of the City of Dublin circa 1883', *Letts Popular Atlas*. London: Letts Son and Co. Ltd. (Image courtesy of The David Rumsey Map Collection, Cartography Associates).

because debates on the origins of handedness, on the origin of language, and on the human/animal border were three inextricably linked strands of a much wider Victorian evolutionary discourse.

Throughout the nineteenth-century, the numerous studies undertaken of right or left-handedness in primitive populations were initially based on human artworks, and material remains uncovered by archaeologists. Cave paintings, for example, were studied in great detail to assess the frequency of right and left handprints, and the directional aspect of humans and animals in figurative art was examined to throw light on the preferential hand of the artist.<sup>9</sup> The grasp preferences indicated by early Stone Age Palaeolithic and Mesolithic flint finds were also analysed to assess

<sup>9</sup> For contemporary accounts see Brinton, D., 'Left-handedness in North American Aboriginal Art', *American Anthropologist* (May 1896), 9: 5, 175–181.

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