Time and Telegraphy: Nineteenth-Century Contexts for Stained Glass

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Nineteenth-century writers frequently conceived of rail travel as the locus of a distinctly modern visuality often expressed as a dream space of collaged, fleeting, and disjunctive experiences.[1] Studies of nineteenth-century rail, urbanism, and aesthetics, however, rarely trace the traveller's transition from everyday life to travel dream state. This article explores the primary role of the station portal as a material and psychological gateway to the railway dream space. A monumental station portal decorated with a large stained glass lunette at Flinders Street Station in Melbourne, Australia (1900–09) provides the primary case study (*Fig. 1*).[2]

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FLINDERS STREET RAILWAY STATION, MELBOURNE, VIC.

Fig. 1: Rose Stereograph Co., Flinders Street Station, Melbourne, Victoria (1900–09), glass negative, *c*. 1920–54, State Library of Victoria Collection.

The Flinders Street Station lunette raises fascinating questions about the relationship between stained glass and the innovative media — optical, electric, and communications technologies — of the nineteenth century. At Flinders Street the lunette was electrically illuminated and mounted above a row of clock faces synchronized to Greenwich Mean Time via the global telegraphic system (*Fig. 2*). In this article the Flinders Street artwork and its distinctive frame will be used to explore fertile convergences between new communication technologies and aesthetic discourses within *fin-de-siècle* British Arts and Crafts theory. Telegraphy and telepathy made possible new forms of connection and contact between people. Arts and Crafts theory used new models of collective memory to transform design and stained glass into media that stored, processed, and transmitted images and the psychological conduits of memory. The artwork was conceived as a medium that would attune spectators to aesthetic and memory states. In this context the Flinders Street portal functioned as a gateway to conduct travellers to the dream state.

This article brings nineteenth-century design theory and stained glass into dialogue with recent scholarship on the intersection of cultural production with nineteenth-century communications and electrical technologies. The culture and technology field has focused almost exclusively on literary production with one recent monograph on painting. Literary scholarship has productively explored how the innovative modes of connection

Fig. 2: Jesse Marlow (photographer), Interior, Flinders Street Station, Melbourne, Victoria (1900–09), gelatin silver photograph, 1999–2000, State Library of Victoria Collection.

produced by technology fostered new concepts of embodiment and communication. These insights have powered investigations into new models of the social body and sociality in Mark Goble's *Beautiful Circuits* and Sam Halliday's *Science and Technology in the Age of Hawthorne, Melville, Twain, and James*.[3] Pamela Thurschwell's *Literature, Technology and Magical Thinking* links the cultural investigation of technology with psychical research that also sought to rethink the 'wider conceptualizations of the borders of individual consciousness'. This redefinition of the limits of the individual self stimulated new conceptions of 'intimate, sexual, familial and national ties between people'.[4] The only study of visual culture in this field, Caroline Arscott and Clare Pettitt's *Victorians Decoded: Art and Telegraphy* struck out in a brilliantly different direction, focusing on the 'cybernetic basis of network theory' as a challenge to the 'anthropocentric bias' of 'traditional theories' of art and literature. It centred the materiality of energy.[5] This article brings the literary and visual domains of this scholarly field together by building on scholarship on communication and embodiment to introduce memory as a key term for visual aesthetics and models of the social body.

Putting stained glass into dialogue with this communication and technologies field opens up new directions for the study of stained glass. This article positions nineteenth-century stained glass as an old medium made new through its co-evolution with nineteenth-century technologies.[6] Analogies were used to link, configure, and compare glass to other nineteenth-century media and communication technologies. These relationships between stained glass and other media and communication formats provide an important direction for future scholarship.[7] As this article

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[3] Mark Goble, *Beautiful Circuits: Modernism and the Mediated Life* (New York: Columbia University Press, 2010); Sam Halliday, *Science and Technology in the Age of Hawthorne, Melville, Twain, and James: Thinking and Writing Electricity* (New York: Palgrave Macmillan, 2007).

[4] Pamela Thurschwell, *Literature, Technology and Magical Thinking* (Cambridge: Cambridge University Press, 2001), p. 2.

[5] Caroline Arscott and Clare Pettitt, *Victorians Decoded: Art and Telegraphy* (London: Guildhall Gallery, 2016), pp. 3, 4. Other key texts include Richard Menke, *Telegraphic Realism: Victorian Fiction and Other Information Systems* (Stanford: Stanford University Press, 2008); Jennifer L. Lieberman, *Power Lines: Electricity in American Life and Letters, 1882–1952* (Cambridge, MA: MIT Press, 2017); and Sandy Isenstadt, *Electric Light: An Architectural History* (Cambridge, MA: MIT Press, 2018).

[6] Jan von Brevern, 'Two or Three Things Photography Did to Painting', in *Photography and Other Media in the Nineteenth Century*, ed. by Nicoletta Leonardi and Simone Natale (University Park: Pennsylvania State University Press, 2018), pp. 103–15 (p. 106).

[7] For some suggestive comments on stained glass and optical technologies, see Jasmine Allen, *Windows for the World: Nineteenth-Century Stained Glass and the International Exhibitions, 1851–1900* (Manchester: Manchester University Press, 2018), pp. 86–88; and Jasmine Allen, 'Stained Glass and the Culture of the Spectacle, 1780–1862', *Visual Culture in Britain*, 13 (2012), 1–23.

demonstrates, mid-century commentators and late nineteenth-century Arts and Crafts writers used comparisons with technology to foreground stained glass as a medium of privileged proximity to psychological states and perceptual conditions. Victorians encountered the dazzling, sudden brilliance of coloured images suspended in fluctuating natural light conditions in the midst of dark Victorian interiors. These floating images could be interpreted as representations of the inner world of the human self or as the fleeting dream state frequently taken to characterize modernity.

Memory was the key term in the late nineteenth-century development of design and stained glass as communication media. Memory functioned as the storage system, the processing operation, and the conduit between artwork and audience. Late nineteenth-century concepts of hereditary memory crucially introduced racial thinking into the communication analogies used by design. The role of 'a technological racial logic' has been overlooked in both design history and representations of culture and the technological turn.[8] Race is a key term for understanding the iconography of the Flinders Street Station lunette and its settler context. This lunette reveals the significance of the medium's spectral qualities in settler contexts. Coloured and illuminated glass images could be a powerful phantasmatic memory space that fused and reworked images from metropolitan sources or used images to construct a global British polity. Memory was a key element of a settler identity constructed from a life lived between two worlds.

Portal: electricity, optical technology, and the threshold space

In his study of British fiction in the age of the Penny Post, Richard Menke argues that new communication technologies stimulated Victorian writers to imagine literature 'as a medium and information system in an age of media' (p. 3). This concept of the system or network can be used to prise individual artworks free from their splendid isolation and insert them into connections with other media and technologies. Stained glass windows are embedded in nineteenth-century buildings and are thus intimately linked with the technologies of buildings and their connections into greater transport, energy, and waste systems. In their essay 'The City is a Medium', Friedrich Kittler and Matthew Griffin conceptualized the city as a network made up of intersecting networks transmitting energy (water supply, electricity) or transmitting information (telegraphy) with all networks

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[8] Paul Gilmore, 'The Telegraph in Black and White', *ELH*, 69 (2002), 805–33 (p. 805). See also, Lacey Worth Askeland, 'Tapping Wires and Touching Nerves: Telegraphy and Embodiment in Antebellum Narratives' (unpublished doctoral dissertation, University of Iowa, 2015) <https://doi.org/10.17077/etd.stsg-yrlk>.

representing forms of information, 'because every modern energy flow requires a parallel control network'.[9] Using these terms, I define a medium as a format that foregrounds its energy, information, and communication flows and issues of format and mediation.

Railway stations transmit timetable data and, through their clock faces, order the chronological time of the city. Flinders Street Station was designed by two Railway Board employees — architect James Fawcett and the engineer H. P. C. Ashworth — who used monumental entrance portals set with electrically illuminated stained glass lunettes to funnel commuters and display changing timetable information in a row of indicator clocks synchronized to Greenwich Mean Time via global telegraphy. The stylistic art nouveau idiom of the stained glass window formed a striking visual contrast to the robust Edwardian baroque building with its vivid red brick and yellow cement render.[10] However, the function of the building and the iconography of the stained glass window were compatible. The major imagery of the stained glass lunette was a bold repeating pattern of interlinked horseshoe arches. Each arch enclosed a delicate composition of linear plant stems, curvilinear tendrils, and flowering buds. These motifs of germination and growth represented biological time and complemented the chronological time of the timetable clock faces sitting beneath the bottom edge of the lunette. During the day, as commuters hurried towards the entrance portal, the relationship between stained glass imagery and the clock-face frame was obscured by the dominant glazing bar pattern. When the traveller passed into the interior and gazed back at the glass, the backlit illumination allowed the image to swim into view. At night electrical illumination ensured that the image could be clearly read from the street. The traveller's movement through and underneath the glass portal emphasized the portal's condition as a medium to conduct bodies and transmit information.

Media historians assert that old and new media do not just follow and replace each other; rather, they emulate and reconfigure one another, they 'evolve' together (von Brevern, p. 106). At Flinders Street stained glass

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[9] Friedrich A. Kittler and Matthew Griffin, 'The City is a Medium', *New Literary History*, 27 (1996), 717–29 (p. 718).

[10] Style is a device that needs to be treated with some caution. It was developed by nineteenth-century theorists as a taxonomic device. For the complex relationship between Britain and Continental art nouveau, see Kara Olsen Theiding, 'Anxieties of Influence: British Responses to Art Nouveau, 1900–04', *Journal of Design History*, 19 (2006), 215–31; for the deliberate repudiation of British Arts and Crafts medievalism by French art nouveau, see Debora L. Silverman, *Art Nouveau in Fin-de-Siècle France: Politics, Psychology and Style* (Berkeley: University of California Press, 1989), p. 9. Recent work has explored a distinct Belgian Imperial style of art nouveau. See Debora L. Silverman, 'Art Nouveau, Art of Darkness: African Lineages of Belgian Modernism, Part I', *West 86th Street: A Journal of Decorative Arts, Design History and Material Culture*, 18 (2011), 139–81.

was physically linked to the new technologies of telegraphy and electricity. Across the nineteenth century, commentators more frequently forged these relationships through conceptual analogies. They used one medium to imagine the form of another and used new media and technologies to reinvent older media. From the early 1840s the railway had been imagined in terms of new optical technologies as a phantasmagoric dreamlike spectacle.[11] The 'phantasmagoria' was an early prototype for the slide projector, an ingenious mechanism for projecting a changing sequence of images. In the words of the French writer Benjamin Gastineau writing on train travel in 1861, 'it shifts the point of view every moment; in quick succession it presents the astonished traveller with happy scenes, sad scenes, burlesque interludes, brilliant fireworks, all visions that disappear as soon as they are seen.'[12]

The rediscovered medium of stained glass was also configured through analogies that compared glass to other optical technologies. Writing in 1855, British stained glass artist and reformer of design Francis Oliphant had analogized glass as an internal psychologized space. He drew on the optical qualities of the stereoscope and diorama when he remarked of stained glass: 'its pictures are not intended to delude us with an appearance of reality but to flash upon us bright palpable visions of the floating pictures in our own mind.'[13] His analogy suggests how the illuminated quality of stained glass made it a privileged nineteenth-century medium for imaging perceptual processes and inner psychological states. By describing stained glass in terms of the flash, Oliphant located glass within the temporal and psychological terms of modernity which prized sudden psychical illumination.[14]

By the early 1900s, stained glass was being explored as a medium powered by electricity. Displays such as 'The Electrical Exhibit' and the Tiffany Chapel at the 1893 World Columbian Exposition in Chicago showcased the new technology of electricity and demonstrated its impacts on coloured glass.[15] How did this new technology epistemologically and materially reconfigure the medium of stained glass? Sandy Isenstadt's recent architectural history of electricity (*Electric Light*) has examined how the

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[11] See Matthew Beaumont, 'The Railway and Literature: Realism and the Phantasmagoria', in *The Railway: Art in the Age of Steam*, ed. by Ian Kennedy and Julian Treuherz (New Haven: Yale University Press, 2008), pp. 35–43 (p. 36).

[12] Schivelbusch, p. 61, a translated quotation from Benjamin Gastineau, *La Vie en chemin de fer* (Paris: Libraire de la Société des Gens de lettres, 1861), p. 31.

[13] Francis Oliphant, *A Plea for Stained Glass* (Oxford: Parker, 1855), p. 32. For the stereoscope and theories of visual perception, see John Plunkett, '"Feeling Seeing": Touch, Vision and the Stereoscope', *History of Photography*, 37 (2013), 389–96.

[14] See Kate Flint, *Flash!: Photography, Writing and Surprising Illumination* (Oxford: Oxford University Press, 2017).

[15] For electricity at the Columbian Exposition, see J. P. Barrett, *Electricity at the Columbian Exposition, Including an Account of the Exhibits* (Chicago: Donnelley, 1894); for an account of the Tiffany Chapel, see 'Tiffany Glass and Decorating Company's Exhibit at the Columbian Exposition', *Decorator and Furnisher*, 23 (1893), 9–12.

instantaneity of electric illumination reinforced a sharp awareness that objects in space were viewed through the fallible perceptual apparatus of the human body; one in which vision could be altered by external conditions. Oliphant's comments on the shock of stained glass as a sudden flashing illumination suggest how the capacity of stained glass for a sudden, dazzling illumination could be amplified by the force of electricity. Instantaneous transformation could also now be controlled through the flick of a switch.

The disorientation produced by sudden electric illumination augmented long-standing nineteenth-century research on physiological optics, research which revealed the 'flux and instability of [...] perception' (Plunkett, p. 390). However, once electric light was switched on it could be a steady illuminating device. The designers of Flinders Street Station used their design for electrically lit glass to establish the portals as a powerful communication device within the greater information network of the city. Arguing for the utility of three entrances inset with expensive stained glass artwork, the architects promised the Railway Board that when illuminated by electricity these portals would 'indicate to strangers the entrances to the station' and 'so lit up, would be very fine at night from the outside, and would be a guide for a long distance to strangers'.[16] The description is couched in the language of transmission as a rational exchange of information. Fawcett transferred the technical term used to describe the railway timetable clocks (indicator clocks) onto the stained glass portal. He also reproduced certain magical features of electricity and the telegraph system that impressed contemporaries — of communication acting at a distance and of strangers connected together by the mechanism of a larger system.

These sparse comments on the window as a communication device can be given greater significance when contextualized through the telegraphic and telepathic turn in British Arts and Crafts writing of the late 1890s. We have scant textual evidence explaining the window, and even its manufacturer is unknown, although all archival evidence points to local firm Brooks, Robinson & Co. as the maker.[17] However, James Fawcett, to

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[16] 'Appendix F', in *Report from the Parliamentary Standing Committee on Railways on the Proposed Central Railway Station at Flinders-Street*, Railways Standing Committee Report, no. 7 (Melbourne: Brain, Government printer, 1900), pp. xxi–xxiii (pp. xxii, xxiii).

[17] For the details of individual glass expenditure at Flinders Street Station during 1910 that record numerous payments to Brooks, Robinson & Co. for different kinds of glass products, see Ways and Works Branch appropriation — new Flinders Street Station 1371, Public Record Office Victoria, VPRS 12789/P21, Units 3 and 4. A government document listing all foreign imports used in Australian government contracts notes importations of Flemish glass and opal glass only for Flinders Street Station, all supplied by Brooks, Robinson & Co. See *Government Contracts: Encouragement of Australian Manufacturers and Producers* (Melbourne: Kemp, Government printer, 1910), pp. 88–110.

whom the design is attributed, practised in the eclectic Arts and Crafts idiom of the *fin de siècle*.[18] In the following section I trace the emergence of a cultural transmission and communications imaginary within a set of British Arts and Crafts writings on design and stained glass.[19] Telegraphic and telepathic analogies were used to formulate the concept of design as a communication medium. Models of communications media helped establish embodied ideals of spectatorship focused on psychological operations. As the discourse developed across the 1890s, commentators increasingly located memory as the key element of aesthetic production and reception. Concepts of memory grounded in biology allowed racial thinking to enter the language of *fin-de-siècle* design. The final section of this article explores the significance of racial memory for the settler identity of the Flinders Street glass.

Telegraphy, racial thinking, and stained glass

The relationship between the new nineteenth-century technologies of electricity and telegraphy and imaginative writing and art produced a fertile set of convergences and analogies between communication systems, animate media, and invisible forces. Over the course of the nineteenth century, the biological sciences charted the existence of an embodied mind and corporeal nervous system. The telegraph network provided a model for the ways in which the body's parts and peripheries absorbed, gathered, and experienced information through sense perception. Data was conveyed through a circuit of nerves.[20] These convergences between the telegraph system and

[18] For a folio of Fawcett's other architectural designs and landscape paintings, see the archive, James Fawcett Collection, Melbourne, State Library of Victoria, PCLTF FAWCETT Box 2. His 1902 house at 19 Trafalgar Road, Camberwell is designed in Federation style with art nouveau stained glass windows. His Arts and Crafts metalwork design with indigenous flora is held by the National Gallery of Victoria. See <https://www.ngv.vic.gov.au/explore/collection/artist/2705/> [accessed 26 May 2020]. For the attribution of the glass to Fawcett, see Allom Lovell and Associates, *Flinders Street Conservation Study* (Melbourne: Allom Lovell and Associates, 1989).

[19] Gillian Naylor, 'The Things that Might Be: British Design after Morris', in *'The Beauty of Life': William Morris and the Art of Design*, ed. by Diane Waggoner (London: Thames and Hudson, 2005), pp. 108–33.

[20] See Colette Colligan and Margaret Linley, 'Introduction: The Nineteenth-Century Invention of Media', in *Media, Technology, and Literature in the Nineteenth Century: Image, Sound, Touch*, ed. by Colette Colligan and Margaret Linley (Farnham: Ashgate, 2011), pp. 1–19 (pp. 6–7); Jonathan Crary, *Techniques of the Observer: On Vision and Modernity in the Nineteenth Century* (Cambridge, MA: MIT Press, 1992); Laura Otis, *Networking: Communicating with Bodies and Machines in the Nineteenth Century* (Ann Arbor: University of Michigan Press, 2001); and Laura Otis, *Organic Memory: History and the Body in the Late Nineteenth and Early Twentieth Centuries* (Lincoln: University of Nebraska Press, 1994).

electricity and the corporeal system received fresh impetus with the mass expansion of telegraphy in the 1870s and 1880s.[21]

The turn to cultural and transmission communication media was evident early in the 1890s when Arts and Crafts architect and designer William Richard Lethaby published his book *Architecture, Mysticism and Myth*.[22] This ambitious work used an ethnographic model to construct a universal cosmology of religious symbols in architecture. These architectural symbols frequently expressed or constructed the human relationship to an enchanted — that is, animate — natural world. Lethaby drew on telegraphy to define architecture as communication, 'the thought behind form, embodied and realised for the purpose of its manifestation and transmission' (p. 1). Architectural thought was a 'message' and 'a code of symbols' (pp. 7, 2). The instantaneous transmission capacity of the telegraph system was reflected in a concept of architectural 'symbolism, immediately comprehensible by the great majority of spectators' (p. 7). Lethaby distinguished between conscious thought, a 'direct and didactic' speech or 'a code of symbols' and another unconscious and instinctive form of architecture (p. 2). He established memory — 'images, that have been previously gathered and deposited' and are 'received through the senses' — as the central mechanism for the storage and transmission of architectural ideas (p. 1).

Kittler and Griffin's definition of media emphasized the active operations of processing, recording, and transmission (p. 720). Energy made these operations possible. The telegraphic and telepathic metaphors of Arts and Crafts writing increasingly centred on memory as a telegraphic network or fluvial energy that stored and processed images. In turn the artwork stimulated the memory systems of the viewer. The development of the artwork as an active medium of memory storage and of memory as a medium of connection was developed by Arts and Crafts architect and designer Henry Wilson. He was a staff member at the Central School of Arts and Crafts founded in London in 1896 by Lethaby.[23] In the first of a tripartite series of essays on 'The Work of Sir Edward Burne-Jones' written for the *Architectural Review* in 1897, Wilson positioned memory as the central constituent of the aesthetic process. He argued that artworks depict 'chosen images' that have been 'reflected' and 'transmuted in transit' by the artist's mind.[24] He focused on the key role of the artwork in awakening the

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[21] Jeffrey L. Kieve, *The Electric Telegraph: A Social and Economic History* (Newton Abbot: David and Charles, 1973), p. 177.
[22] W. R. Lethaby, *Architecture, Mysticism and Myth* (New York: Macmillan, 1892).
[23] For Henry Wilson, see Cyndy Manton, *Henry Wilson: Practical Idealist* (London: Lutterworth Press, 2009).
[24] Henry Wilson, 'The Work of Sir Edward Burne-Jones: More Especially in Decoration and Design: Part One', *Architectural Review*, 1 (1896–97), 171–81 (p. 179).

memory conduits of the beholder. Writing on Burne-Jones's *Perseus* series (1877–88), he declared that these paintings

> reach our consciousness down the disused tracks of organic memory, thrill with long-forgotten tremors unused fibres of the brain, quicken long-inactive cells, and reaching down to the lower levels of mental life reveal unsuspected under-currents of thought, uncover and reinforce the ground springs of imagination and fancy, and verify in each of us the sense of the mental solidarity of the race. (p. 177)

The physiological metaphor of memory awakened through vibrations reflected a telepathic analogy which in turn drew on the metaphor of electricity as a vibratory energy (Thurschwell, p. 28). In his discussion linking unconscious memory to racial identity, Wilson reflected broader currents of late nineteenth-century thought in which heredity was compared with memory. This comparison affirmed the dominance of an unconscious racial psychology (Otis, *Organic Memory*, p. viii). The development of the late nineteenth-century idea of inherited memory returned to the pre-Darwin evolutionary work of Jean Baptiste de Lamarck. The English formulation of unconscious memory was promulgated by Samuel Butler, who had spent the years 1859 to 1864 in colonial New Zealand.[25] In *Life and Habit* Butler had argued that each race had its own organic memory. He averred that hybrids (or racial miscegenation) produced historical regression or sterility because they experienced an 'unusual conflict of memory between the two lines of [their] ancestors'.[26] Butler promoted his views through extensive publication and public lectures including one delivered in December 1882 at the Working Men's College in London. His work developed an evolutionary narrative of psychology.[27]

Wilson broke from Lethaby's model of a universal communication code to emphasize inherited differences between communities. He refracted the psychological operations of the artwork and the identity of artist and audience through a racial lens. The concept of an embodied mind was used to fuse biology and mental operations. Thus Wilson observed that the habit (of mind) was 'enracinated in the organism' (p. 172). He stressed the importance of 'ethnic psychology' in comprehending 'the spirit of the nation' and argued that the more 'elusive' qualities of Burne-Jones's work could be understood through 'their origin in Celtic ancestry' (pp. 172, 177).

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[25] For Butler and his scientific context, see David Gillott, *Samuel Butler against the Professionals: Rethinking Lamarckism 1860–1900*, Studies in Comparative Literature, 32 (London: Modern Humanities Research Association and Maney Publishing, 2015).

[26] Samuel Butler, *Life and Habit* (London: Trübner, 1878), p. 179.

[27] See Cristiano Turbil, 'Making Heredity Matter: Samuel Butler's Idea of Unconscious Memory', *Journal of the History of Biology*, 51 (2018), 7–29 (p. 7).

Aesthetic production was 'more a matter of instinct than choice' (p. 177). He observed in social Darwinian terms that 'our bodies are living memories of the life struggles of the race' (p. 172). This reading not only established the determining force of racial identity in the production of art and design but used a telegraphic analogy to position the artwork as a key agent whose force or charge awakened racial identity.

The notion of a dormant racial identity that could be stimulated by the invisible currents of the artwork was further developed through a telepathic analogy in Reginald Blomfield's *Short History of Renaissance Architecture in England 1500–1800*.[28] Blomfield was part of Lethaby and Richard Norman Shaw's design circle.[29] *A Short History* helped promote models for the emergent Edwardian baroque style, a heterogeneous nationalistic idiom based on English baroque and Anglo-Palladian models and motifs and used by the designers at Flinders Street Station.[30] In *A Short History*, Blomfield modelled architecture as a medium infused with unseen forces. He used a fluvial metaphor to define this 'elemental force': 'it is fluid, constantly changing its form, yet always there' (p. 298). The concept of an invisible fluid as the matter enabling communication had circulated in discourses on electricity, telegraphy, and mesmerism (Halliday, p. 1). Telegraphy and telepathy promoted new models of communication at a distance.

In Blomfield's hands, as in Lethaby's, the building was an animate medium and channelled the thoughts of its architects. Buildings, Blomfield noted, were animated by the 'intelligence which informs and vitalizes [them]' and 'the instinct of the nation and the race' (pp. 298, 48). The 'continuous building tradition of the country', the 'inherited psychological standpoint in regard to art', was 'permanently present in the background of the English designer's mind' (pp. 4, 299, 4). He shared with other late nineteenth-century writers a belief that mental processes were racial and fixed. Gustave Le Bon, writing in *The Psychology of Peoples*, declared that 'each race possesses a mental constitution as unvarying as its anatomical constitution'.[31] Refuting the Darwinian importance of environment in introducing variation, Le Bon argued that the dead are 'infinitely more powerful' than the living because they 'reign over the vast domain of the

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[28] Reginald Blomfield, *A Short History of Renaissance Architecture in England 1500–1800* (London: Bell, 1900). Some turn-of-the-century Arts and Crafts architects worked with a 'mutable' and 'protean' classical idiom as noted by Alan Powers, 'Architecture and Gardens', in *International Arts and Crafts*, ed. by Karen Livingstone and Linda Parry (London: V&A Publications, 2005), pp. 108–21 (p. 112).

[29] The other members were Ernest Gimson and Mervyn Macartney.

[30] G. A. Bremner, 'Fabricating Justice: Conflict and Contradiction in the Making of the Hong Kong Supreme Court, 1898–1912', in *From Harbin to Hanoi: The Colonial Built Environment in Asia, 1840 to 1940*, ed. by Laura Victoir and Victor Zatsepine (Hong Kong: Hong Kong University Press, 2012), pp. 151–80 (p. 154).

[31] Gustave Le Bon, *The Psychology of Peoples* (London: Fisher Unwin, 1898), pp. 5–6.

unconscious' (p. 11). Blomfield positioned the artwork as a key element in the ancestral chain by appealing to architecture to stimulate a reawakening through the 'return to the instincts of [the] race' (p. 302).

These technological, psychological, and racial ideas appeared in contemporaneous stained glass discourse. In his *Stained Glass as an Art*, Henry Holiday, an English stained glass designer and Pre-Raphaelite artist, formulated stained glass as a communication medium with distinct psychological power. He drew on an image of trance states to analogize the artwork as a mesmeric process. He observed that the spectator will

> hear the rhythmic fall of melodious verse, and the jarring discords of the workaday world will begin to vanish from his mind, his spirit will be attuned to lofty thoughts, and he will respond eagerly to what in prose would be unintelligible.[32]

He emphasized the threshold condition of the artwork, noting that 'the poet penetrates below the surface, he ceases to hear the babel of the everyday world, his ears are opened to the marvellous harmonies that underlie it' (p. 151). These telegraphic and telepathic analogies interpreted stained glass as a medium that would produce a trance-like state and tune the spectator into the ordered harmonies of aesthetics. The viewer would be transported from the quotidian world to aesthetic dream state.

Holiday's analogy comparing artwork to mesmerism was made as part of a larger argument about the decline of aesthetic capacity. He declared that 'the decorative sense appeared to have become extinct with us, and was diseased almost past hope; still there was some life in it, and that light has in late years been greatly quickened' (p. 125). In formulating these worries he drew on familiar discourses of disease and degeneration.[33] Aesthetic capacity existed in a racial hierarchy. Holiday distinguished between the 'lower races' of rudimentary spiritual function and the 'higher human races' (p. 144). He praised the spiritual body 'germinating within the coarsest shell or husk [which] may be a truer and nobler antitype, purged of all that tended to lower it' (pp. 144–45). Wilson, Blomfield, and Holiday all described a spectator whose dormant or disused instinct would be stimulated and reawakened by the operation of the invisible forces thrumming in the artwork. These analogies with telegraphy and telepathy emphasized the animate, affective energies of art. In the next, final section, I return to the glasswork at Flinders Street to examine its function as a medium that could represent and enact the psychological operations of hereditary memory.

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[32] Henry Holiday, *Stained Glass as an Art* (London: Macmillan, 1896), p. 151.
[33] See Daniel Pick, *Faces of Degeneration: A European Disorder, c. 1848–c. 1918* (Cambridge: Cambridge University Press, 1989).

Decoration, stained glass design, and White Australia

In his book on stained glass, Holiday drew on Herbert Spencer to describe an animate universe 'whose beats are counted in millions of years' (p. 151). Writing on the representation of foliage in Arts and Crafts stained glass, Holiday observed that 'we translate its free and irregular growth into a language of rhythmic order' (p. 122). The imagery of the Flinders Street lunette conformed to this demand. It presented a vital, organic universe powered by vibrant, invisible forces. The flowing, invisible energies of the biological world were made visible in the robust growth of plants and other organisms. Solar energy, another vital force, illuminated the window. The massive wall of the portal framed the glass as an archway, a formal shape that mirrored the entrance function of the portal. In depicting changing organic states the stained glass helped it materialize the transformative state of passage. Travellers passed from the urban world into the spirit world of art and, more prosaically, to the waiting trains.

Natural motifs and biological themes were familiar elements of Arts and Crafts design. Writing on William Morris's carpet designs, Caroline Arscott has noted the persistence of key biological processes representing morphology, energetic conflict between 'competing creatures', and the biological leitmotif of loss and gain.[34] In another study she examined the role of organic growth and 'vitalistic design' in the themes and structure of stained glass compositions designed by Edward Burne-Jones.[35] These polycentric or circular patterns were quite different from the linear organization of the Flinders Street pattern with its focus on the upward thrust of germination.

At Flinders Street, the horseshoe arch motifs and the linear forms they enclosed produce a bold pattern that can be read at a distance. The details of the linear imagery, however, are only available on close inspection. Each linear form begins as a small brown mound topped with three teardrop seed elements (*Fig. 3*). These seed-like forms sprout upwards to meet a thin curved channel signifying a layer of earth or the ground. The curved ground has three bulbs embedded in it. The central bulb has a

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[34] Caroline Arscott, 'Morris Carpets', *RIHA Journal*, January–March 2014 <http://www.riha-journal.org/articles/2014/2014-jan-mar/special-issue-art-design-history/arscott-morris-carpets> [accessed 26 May 2020] (para. 1 of 29); and Caroline Arscott, 'William Morris's Tapestry: Metamorphosis and Prophecy in *The Woodpecker*', *Art History*, 36 (2013), 608–25. See also, Morris's lecture, 'The History of Pattern-Designing', delivered 8 April 1879 <www.marxists.org/archive/morris/works/1879/pattern.htm> [accessed 26 May 2020]. Peter Cormack, *Arts & Crafts Stained Glass* (New Haven: Yale University Press, 2015), notes in passing that Holiday's book references evolutionary theory (p. 14).
[35] Caroline Arscott, *William Morris and Edward Burne-Jones: Interlacings* (New Haven: Yale University Press, 2008), pp. 203–23.

Fig. 3: Bruce Hutton (photographer), Detail before conservation of stained glass window, Flinders Street Station, Melbourne, Victoria (1900–09), digital photograph, 2009. Published with the kind permission of Bruce Hutton.

long, vertical thin line shooting upwards from it that develops into a teardrop shape enclosing an open flower of five petals. The linear element is crowned and enclosed by another stylized horseshoe-shaped organic motif that contains a large golden yellow seed at its centre which is flanked by yellow flowering petals (*Fig. 4*). Although the glass depicts stylized organic forms, these images clearly signify growth through a trajectory of development from seed to germination and flowering. The images invoke a recognizably designed and patterned world, one in which principles of growth and development power plant and animal matter.

From a distance these small floral elements are not legible, and the larger elements look more like sea anemones floating on a ghostly sea. Only on closer inspection, using photographs, can we see that the anemone-like forms might be stylized floral buds and that they enclose plant matter. In *Literature, Technology and Magical Thinking*, Pamela Thurschwell argues that late nineteenth-century literature expressed the fruits of psychical research through representations of phantasmatic spaces which redefined the nature of ties between people, including their national bonds (p. 2). The Flinders Street image confirms the importance of phantasmatic space in presenting the new ties of identity. It was not an empirical transcription of nature; it fused stylized marine and terrestrial organisms and set them floating in a space void of perspectival depth. But it was a potent memory space that located present-day settler identity in biological origins. These could be used to affirm racial destiny.

Fig. 4: Bruce Hutton (photographer), Detail before conservation of stained glass window, Flinders Street Station, Melbourne, Victoria (1900–09), digital photograph, 2009. Published with the kind permission of Bruce Hutton.

In his stained glass text Holiday had linked biological imagery to race to argue that 'each individual traces in the embryo the history of the race in its development from the lower organisms', a statement that brought a racial logic to bear on the motif of biological germination (p. 141). Spectators in colonial Melbourne understood these links. When the English émigré Arthur Maning Topp reviewed Edward Freeman's *Historical Geography* for the *Melbourne Review* in 1881, he decoded the organic motifs through the lens of race, declaring:

> From its very beginnings the racial seed predetermined those peculiarly Teutonic characteristics [...]. The Aryan, be he Greek, Roman or Teuton, could no more escape the burden of ineluctable progress than a sunflower seed could escape its destiny as a sunflower.[36]

Issues of race, progress, and nation were prominent in *fin-de-siècle* Australia in the lead-up to the 1901 Act of Federation, an act which fused together the six separate colonies that had developed since the 1788 invasion. Melbourne had been invaded later in 1835 but it was made wealthy by

[36] Quoted by Marilyn Lake, 'The White Man under Siege: New Histories of Race in the Nineteenth Century and the Advent of White Australia', *History Workshop Journal*, 58 (2004), 41–62 (p. 45).

the 1851 gold rushes, and in 1901 became the capital of the new Australian nation. The iconographic programme of the stained glass may represent a benign vision of the development and progress of the new Australian nation, or it may have been more narrowly framed as a proclamation of the nation's racial destiny.

From the early 1880s Melbourne architects had debated the question of what constituted an Australian style, and some framed the issue through a racial lens. In 1896 émigré English architect Anketell Henderson propounded a social Darwinian argument which related architecture to ascendant and descending races.[37] He highlighted the advent of a new race from the East, 'a white race of restless energy and independent brain'.[38] In the late nineteenth and early twentieth centuries key Australian politicians and thinkers participated in a global struggle to define the terms of 'white men's countries' in response to the migrations and political mobilizations of colonial and Black American subjects in this period.[39]

An influential contribution to this transnational discourse was ex-Melbournian Charles Pearson's *National Life and Character*, a prophecy of white decline. Pearson rejected the 'charming vision' of William Morris's utopia with its depopulated countryside and warned instead of the impending immigrations of other races, declaring that white men would be 'thrust aside'.[40] The new Acts of Australian Federation enshrined a White Australia policy and used immigration controls to restrict immigration to whites and to deport or further restrict the immigration rights of certain non-white Australian residents (Lake and Reynolds, pp. 137–59). In the Australian context the concept of white men's countries reinforced affiliations to 'Greater Britain', a term coined by Charles Dilke in 1868 to describe a global Britannic polity.[41]

Flinders Street Station asserted Australia's continuing relationship to a global Britannic identity where biological memory and heredity were important elements of racial affiliation. Themes of dormancy, awakening, and development also confirmed that the force of identity and history were rooted in biology. The lunette could be imagined as a medium whose

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[37] Conrad Hamann, 'Nationalism and Reform in Australian Architecture 1880–1920', *Historical Studies*, 18 (1979), 393–411.
[38] Anketell Henderson, 'The Evolution of Architecture', *Building, Engineering and Mining Journal*, 20–27 June 1896, pp. 190–92 (p. 191).
[39] Marilyn Lake and Henry Reynolds, *Drawing the Global Colour Line: White Men's Countries and the Question of Racial Equality* (Melbourne: Melbourne University Press, 2008).
[40] Charles H. Pearson, *National Life and Character: A Forecast* (London: Macmillan, 1893), pp. 27, 85.
[41] Deryck M. Schreuder, 'Empire: Australia and "Greater Britain", 1788–1901', in *The Cambridge History of Australia*, ed. by Alison Bashford and Stuart Macintyre, 2 vols (Melbourne: Cambridge University Press, 2013), I: *Indigenous and Colonial Australia*, 511–34 (p. 532).

mesmeric effects oriented the traveller to the railway dream space, but perhaps the glass also sought to stimulate, charge, and awaken the inner world of racial memory. As a medium, the stained glass portal provided a passage between the quotidian and the spiritual; between the conscious and unconscious; between memory and imagination; between self, nation, and Greater Britain; and between the present and a deep inherited past.

Conclusion

This article has used the lens of cultural history, media studies, and design discourse to explore new contexts for understanding nineteenth-century stained glass. The Flinders Street Station lunette has been evaluated within its broader architectural setting. This approach queries the conventional borders of the stained glass artwork and resets the boundaries to include the building and the technologies of the city. I have argued that nineteenth-century stained glass was refashioned through material connections and conceptual comparisons to electric and telegraphic communication technologies.

Future directions for stained glass study could focus further on technological and media contexts in order to understand how nineteenth-century stained glass was conceptually remediated, the term media historians use to describe the ways in which 'new media refashion prior media forms'.[42] Nineteenth-century analogies for stained glass — from the instantaneous illumination of electrical energy to the interior visions of the stereoscope, the flashing images of the diorama, and the invisible mesenteric communication state of the telegraph — recalibrated stained glass to understand its distinctively modern qualities. Stained glass was inducted into the media world of the nineteenth century. Its particular medial conditions of bright colours and backlit illumination provided a privileged medium for representing and externalizing inner psychological states, particularly the operations of memory. Settler contexts sharpened the spectral and memory capacities of glass. Sometimes stained glass circulated images as memories of metropolitan images.[43] Glass was also a phantasmatic space, a place for fusing the complex affiliations of settler identity — of here and there — into one representational place.

Interdisciplinary work on embodiment and spectatorship provides another future direction for stained glass scholarship. In addition to being

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[42] Jay David Bolter and Richard Grusin, *Remediation: Understanding New Media* (Cambridge, MA: MIT Press, 1999), p. 273.

[43] See Suzanne Fraser, 'The Stag in the Window at Werribee Park: Species, Decoration and Britishness', *Journal of the Association for the Study of Australian Literature*, 15.2 (2015) <https://openjournals.library.sydney.edu.au/index.php/JASAL/article/view/9940> [accessed 26 May 2020].

viewed, the Flinders Street Station lunette was a threshold medium to be passed through and felt. Stained glass spectatorship is kinaesthetic. Windows are walked towards, glimpsed from outside a building, and also experienced within a building's interior. They are always double-sided and always — at some point — experienced in motion. Future work on the affective, emotional, sensory, and kinaesthetic qualities of glass could make good use of the recent material and affective turn in scholarship on nineteenth-century optical technologies and within the discipline of art history.[44] This new scholarship has explored the physical, embodied, and sensory conditions of viewing.

The role of embodiment in late Arts and Crafts design theory and practice has also been uncovered by this article. The telegraphic and telepathic turn promoted new models of design as communication media sensitive to perceptual and psychological forces. These models could be seized by a racial technological logic, another formation worthy of further study. All these directions for future work suggest the need to understand nineteenth-century stained glass within the dynamic world of the period's media. By putting stained glass into dialogue with optical technologies, this article suggests that new visual technology also needs to be understood in relation to older media (such as stained glass), and in relation to other kinds of communication technologies. Clear, transparent glass has been heralded as a key sign of modernity. But, as this article suggests, translucent stained glass might also be understood as a marker of modernity.[45] Light-animated, coloured glass signified and stimulated the distinctive perceptual and psychological conditions of the nineteenth century.

[44] For a summary of the recent material and affective turn in art history, see Veerle Thielemans, 'Beyond Visuality: Review on Materiality and Affect', *Perspective: actualité en histoire de l'art*, 2 (2015) <https://doi.org/10.4000/perspective.5993>. For recent work on embodiment and nineteenth-century optical media, see Colligan and Linley, pp. 1–20.
[45] See Isobel Armstrong, *Victorian Glassworlds: Glass Culture and the Imagination 1830–1880* (Oxford: Oxford University Press, 2008).