Maria Edgeworth and the Telegraph

Joanna Wharton*

Department of English, Theatre and Creative Writing, Birkbeck College, University of London, UK

*j.wharton@bbk.ac.uk

Abstract

Richard Lovell Edgeworth's plan to establish a permanent network of optical telegraphs across Ireland never materialized. Even so, the telegraph's short life and literary and material afterlives merit attention, not least by scholars of Maria Edgeworth, whose participation in the scheme is under-acknowledged. This essay sketches the political and economic contexts of the Edgeworth telegraph's development, taking into consideration Maria Edgeworth's role in its public promotion in the years leading up to its brief establishment in Ireland, and highlighting the mediations involved in the extension of her father's "telegraphic fame." It suggests that the telegraph influenced Maria Edgeworth's understanding of the transmission of character and "secret and swift intelligence" through print, but that the appearance of this technology in her tales also reflects a degree of caution about mechanical innovation and the democratization of scientific knowledge at a point of crisis in Europe. Finally, it indicates the need for further work on the Edgeworth telegraph's colonial contexts, particularly in light of its redesign for use by the British East India Company in Bengal.

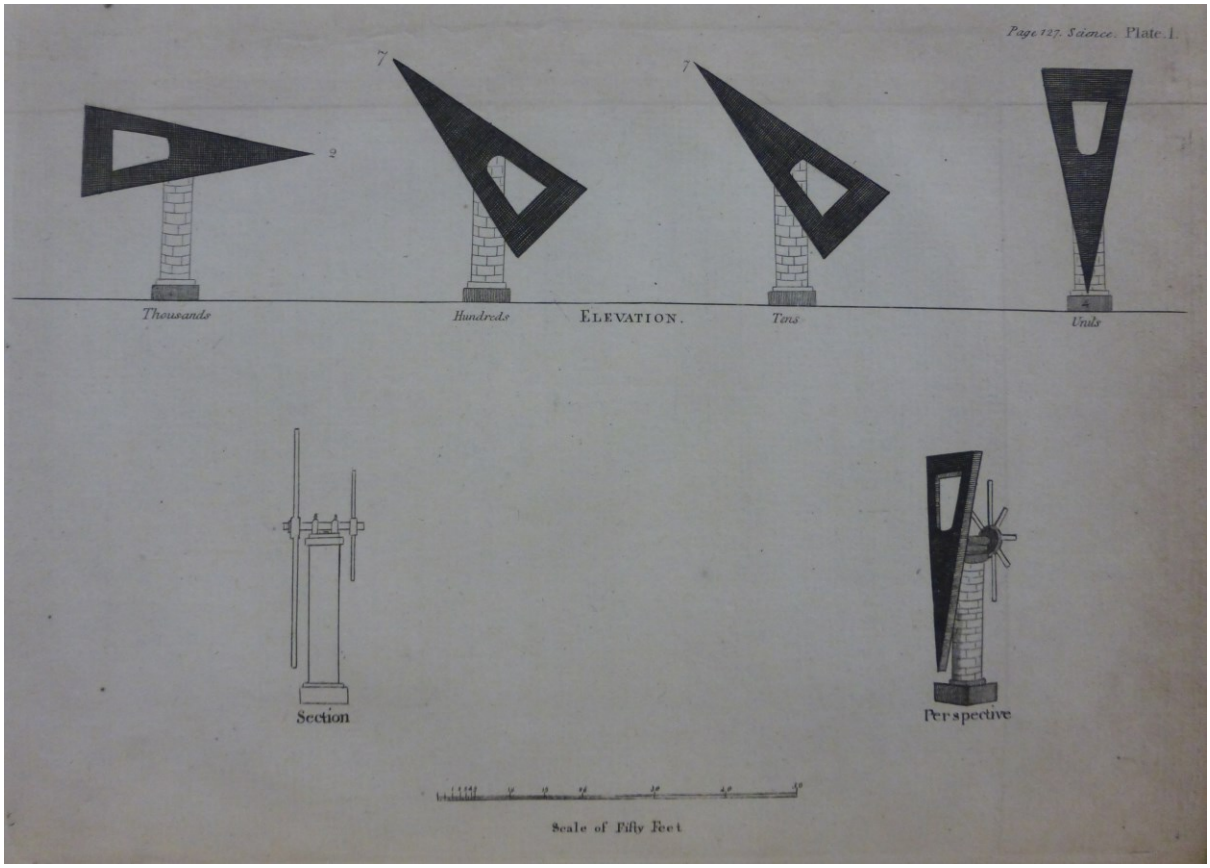

Figure 1. Richard Lovell Edgeworth, "An Essay on the Art of Conveying Secret and Swift Intelligence," *Transactions of the Royal Irish Academy* 6 (1797). ©British Library Board. Ac.1540. Plate 4.

The above illustration of Richard Lovell Edgeworth's design for an optical telegraph appears in "An Essay on the Art of Conveying Secret and Swift Intelligence" (1797) [hereafter "Art of Conveying"]. According to the essay, the code represented by the row of pointers, 2774, signifies the Royal Irish Academy, in whose *Transactions* it was first published (R. L. Edgeworth [and M. Edgeworth] 128–29). In keeping with the talent for exhibition for which he was known, the interplay between type and engraving communicates Richard Lovell Edgeworth's ingenuity, together with polite complaisance to the members of the Academy.[1] In other words, the telegraph's demonstration in print gives a dynamic sense of the author and inventor's character. However, there is evidence to suggest that like several other texts presented to the public under her father's name alone, a significant portion of the "Art of Conveying" was written by Maria Edgeworth, in collaboration with Richard Lovell. She may

have been referring to an early draft in a letter, dated 11 April 1795, to her aunt Margaret Ruxton: "My father will allow me to manufacture an essay on the logograph," as the Edgeworth telegraph was then named, "he furnishing the materials and I spinning them" (Pakenham 46).[2] Leaving aside the implications, in terms of gender and the division of labor, of the text/textile metaphor Maria Edgeworth employs here (and the possibility of a less commonplace allusion to the spinning of the telegraph's pointer), such language is suggestive of the networked nature of invention, both in and between the literary and mechanic arts.[3] It also draws attention to the proximity between invention, storytelling, and fabrication; as Gaurav Desai writes, "invention is at once a process of faking and making" (122).

In volume 1 of his *Memoirs* (published in 1820, three years after his death), Richard Lovell Edgeworth claims to have "practiced telegraphic communication in the year 1767, long before it was ever attempted in France" (M. Edgeworth and R. L. Edgeworth 1: 149). In the second volume, Maria Edgeworth provides evidence, in the form of a letter from "a Berkshire gentleman" named Mr. Perrot, to support her father's claim to "priority of invention"—or as he put it, the "revival of [the telegraph] in modern times"—and she goes into great detail in her account of his later telegraphic trials in Ireland (2: 169; 1: 149).[4] Unsurprisingly, the book makes no direct mention of Maria Edgeworth's participation in the scheme. She was, however, an important agent in it. Recent scholarship from history of science has noted Edgeworth's involvement in the production of the telegraph's "Vocabulary," or code-book, and attests to the light her correspondence sheds on the venture (Kirwan 8). Further consideration of the literary history of the telegraph suggests that the process of its invention (or, perhaps more accurately, reinvention) implicated and frequently relied upon Maria Edgeworth, notably in the literary formation of Richard Lovell Edgeworth's character as an exemplary "man of science."

This essay explores Edgeworth's participation in the telegraph project and its influence on her literary techniques and political thought. It begins with a brief outline of the economic and political contexts of the telegraph's development in Ireland, with particular attention to how, as Adrian James Kirwan has recently argued, the project hinged on the "ability to construct and sustain the perception of a market" (26). It then discusses Edgeworth's role in the promotion of her father's telegraph in the years leading up to its brief establishment from 1803 to 1804, and the mediations involved in the extension of Richard Lovell Edgeworth's "telegraphic fame," both during and after his life (M. Edgeworth and R. L. Edgeworth, *Memoirs* 2: 173). I suggest that the telegraph may have influenced Edgeworth's understanding of the possibilities of print, especially in the projection of character and the conveyance of "secret and swift intelligence." However, Edgeworth is often equivocal about rapid innovation in mechanics and other fields of science, reflecting an awareness of the polyvalence and double-edged capacity of technological change. The latter part of this essay focusses on the tale of "Lame Jervas" (1804) to argue that, while invested in an enlightenment ideology of "improvement," Edgeworth betrays a degree of caution about the democratization and globalization of scientific knowledge at a time of crisis in Europe. Finally, I indicate the need for further work on the optical telegraph's colonial contexts, in the light of the forces of resistance driving telegraphic innovation in Ireland and the Edgeworth telegraph's subsequent redesign for use by the British East India Company in Bengal.

1. The "eye of government"

On 12 July 1793, just over five months after Revolutionary France declared war against Britain, Claude Chappe exhibited his *télégraphe aérien* for the Committee of Public Instruction. After gaining the approval of the National Convention, a line of telegraphs was built between Paris and Lille, which conveyed messages from mid-August 1794 (Wilson

122–23). In the same month, Richard Lovell Edgeworth made his first telegraphic trial in Ireland: a chain of four machines between the Edgeworthstown estate and Pakenham Hall. Further experiments ensued and over the decade that followed—a decade that saw widespread unrest, organized uprisings, and full-blown rebellion in Ireland, and the attempted and successful landings of French troops—Richard Lovell Edgeworth made repeated attempts to gain government patronage for his telegraph scheme. He met with little success; his plan to establish a permanent network of telegraphs across Ireland never materialized. Despite, or perhaps because of this, the history of the Edgeworth telegraph offers valuable insights into the workings of patronage in late-eighteenth-century Ireland and the "spinning" of narratives of invention.

It was from the beginning a collaborative project, involving Richard Lovell Edgeworth's sons, particularly Lovell and Richard "Dick" Edgeworth, and other family and friends. I argue here that Maria Edgeworth's literary partnership with her father made her central to the telegraph's promotion as both a "useful" invention and a political cause. While the essay on the "Art of Conveying" has never (to my knowledge) been attributed to Maria Edgeworth, Marilyn Butler indicates that she did assist in the writing of *A Letter to the Right Hon. the Earl of Charlemont on the Tellograph and on the Defence of Ireland*, which was also published under Richard Lovell Edgeworth's name in 1797 (*Maria Edgeworth* 122).[5] Susan Manly goes further, arguing that the *Letter* is by Maria Edgeworth, using source materials from Richard Lovell Edgeworth. This seems likely given the textual links Manly identifies between the *Letter*, Maria Edgeworth's *Letters for Literary Ladies* (1795), her chapter "On Rewards and Punishments" in *Practical Education* (1798), and the unpublished essay "On the Education of the Poor" (c. 1800), which Edgeworth wrote and her father edited ("Political Life").

Addressed to his friend, the politician and landowner James Caulfeild, the first president of the Royal Irish Academy,[6] the *Letter* details Richard Lovell Edgeworth's negotiations with the government at Dublin Castle from 1795 to 1796, with the aim of exposing its neglect of Ireland in failing to support his "tellograph."[7] Reproduced within the pamphlet are letters to and from Richard Lovell Edgeworth and government officers, most significantly Thomas Pelham, Chief Secretary to John Jeffreys Pratt, otherwise known as Lord Camden, who was then Lord Lieutenant of Ireland. According to the Edgeworths, Camden had by turns encouraged and rejected the scheme. His final rejection came in November 1796, just one month before the arrival of the first *expédition d'Irlande*, the attempted landing at Bantry Bay by the French navy together with the United Irishman Theobald Wolfe Tone. Richard Lovell Edgeworth wrote urgently to Pelham but received no reply. The postscript to the *Letter*, dated 17 January 1797, expresses the full force of his exasperation at this turn of events, telling of the dramatic moment when he "received authentic intelligence that the enemy were on our coasts" (49).

In its indictment of the English administration, the *Letter* seeks to expose Camden's poor character. Throughout, Richard Lovell Edgeworth's industriousness and disinterest in personal gain—his hope "*purely to make himself useful*" to his country—appear in stark contrast with the actions (and inaction) of Camden. The postscript concludes with a snipe at Camden that paraphrases Alexander Pope's "Epistle to Bathurst": "Must we not admire the piety of our Chief Governor, who, in his message to Parliament, 'Like the good bishop with a meeker air / Admits, and leaves us *Providence's* care!'" (54). The choice of quotation is interesting, since Pope notoriously revised the "Epistle" for his collected *Works* of 1735 by "writing out the names in full of those persons whose identity was partly disguised by blanks instead of vowels in the first edition" (Gordon). The *Letter* indeed reflects on the ethics of

"going public" as it does with names and letters, but it justifies the disclosure of the private characters of politicians on the grounds of national interest:

> in these times of danger, when the minds of numbers are awake to the conduct of government, no Minister will long maintain his power, who trusts to the left-handed wisdom of duplicity, who is prodigal in all that concerns the interests of his own party, and economic, not to say avaricious, in all that concerns the happiness of a people, and the safety of a kingdom . . . that such conduct may not be too totally extended to the rejection of other projects for the defence and safety of the kingdom, it may not be without its use impartially to delineate the characters of those who guide the empire. (43)

As the *Letter* recounts Richard Lovell Edgeworth's dealings with government, it gives a sense of the importance of gentlemanly conduct, including gift exchange, in systems of patronage. It attests to the importance of intermediaries, such as Richard Lovell Edgeworth's childhood friend John Foster, in making initial contact with chief governors, and highlights the function of letters of recommendation: certificates of good character that materially enable connections, functioning like passports to elite social spaces. By laying the process bare, and particularly by reproducing letters and documents, the *Letter* invokes ideals of authenticity and openness in communication. The second of these ideals, however, exists in tension with the telegraph's proposed use on a "partial" basis, whereby it would convey "secret and swift intelligence" for the government alone.

The initial "memorial" Richard Lovell Edgeworth sent to Camden, as it appears in the *Letter*, mentions that the "advantages" of telegraphy "extend to peace as well as war," and hints at more "general" use for "every intercourse of society" (7–8). It is clear, though, that the telegraph's main selling points were for military defense against the French and the surveillance and policing of the Irish population:

> In the present state of Europe, and of Ireland in particular, it is unnecessary to expatiate upon the utility of speedy, and secret intelligence; it is sufficient to say, that if the eye of government can be enabled to see the whole country like a Map before it, and if its orders can be conveyed by day or night, in a few minutes to every part of the kingdom, its energy must be increased beyond the limits of ordinary speculation; and if such a mode of communication be

> extended to Great Britain, another incalculable source of advantage would be opened to both kingdoms. (6)

To increase the "energy" of the "eye of government" by means of the telegraph (and its enabling technology, the telescope) required significant outlay. As Kirwan discusses, Camden's "rationale against implementing the technology was not its practicality but, rather, its cost" (20). After the Irish Rebellion of 1798, when military finances were stretched and there was a brief period of peace with France, the telegraph had little hope of finding support. However, in 1803 there were renewed hostilities between Britain and France and another attempted rebellion in Ireland: the ill-fated rising led by the United Irishman Robert Emmet on 23 July, after which rebels in Dublin used "telegraphic fires," or fire signals, to alert Munster province to their defeat (Kirwan 21–22;). At this point, Richard Lovell Edgeworth's proposal met with more interest. He demonstrated the telegraph for the Earl of Hardwicke, the new Lord Lieutenant, who engaged him to establish a line of field telegraphs connecting Dublin, Athlone, and Galway.[8] This was completed in January 1804 with the assistance of Daniel Augustus Beaufort and his son Francis Beaufort (creator of the Beaufort scale and Beaufort cipher). Maria Edgeworth worked with her father and other family members to produce the telegraph's "vocabularies" (Pakenham 77; F. Edgeworth 1: 175). The telegraph stations were built, operated, and defended by tenants of Edgeworthstown and "Yeomanry" (that is, armed civilian volunteers) including one William Boyce, to whom I will return later. Richard Lovell Edgeworth selected those he considered literate and honest, and they had to swear an oath of secrecy on joining the "telegraphic corps" (M. Edgeworth and R. L. Edgeworth, *Memoirs* 2: 297–98; Kirwan 1). The "air canal," as Edgeworth called it, conveyed messages from March 1804, but by the end of the year operations were suspended, never to be reestablished (Kirwan 23–25).[9]

2. Exhibiting the telegraph

With this background in mind, "Art of Conveying" can partly be read as a piece of marketing. The illustrations and sample of the vocabulary do more than aid comprehension: they generate curiosity and exhibit the telegraph as a fully developed system of communication. The main body of the text not only explains how the system works but exhibits the learning behind it, and in this respect the "Art of Conveying" has a distinctly literary-scientific bent. It opens with a history of long-distance signaling, beginning in ancient Greece with Theseus's sails and the fire signals in Aeschylus's *Agamemnon*, which the essay remarks are "beautifully described . . . [E]very station is pointed out with geographical accuracy" (96). Edgeworth's correspondence shows that she was familiar with Clytemnestra's speech about beacons in the *Agamemnon* and that she connected it with the telegraph. In continuation of her letter to Margaret Ruxton of 11 April 1795 (around the time, then, that she was writing the "essay on the logograph"), Edgeworth reports on the progress of the "nocturnal telegraph" tested by her brothers Richard and Lovell, and states "[w]e now have the passage of the Agamemnon of Æschylus, of the messengers and the signals, the names of all the stations *are* given" (F. Edgeworth 1: 66).

The history of signaling in "Art of Conveying" further encompasses Persia, Moorish Spain, ancient Britain and Ireland, and China. Of the last it says "we can form no adequate idea of a wall fifteen hundred miles in extent, peopled with sentinels who can spread an alarm with the celerity of an electric shock through the nerves of a vast empire" (97). It is worth noting that Edgeworth twice refers to China as a "vast empire" in "To-morrow," a story in *Popular Tales* (3: 264).[10] And, as is typical of Edgeworth's writing, the "Art of Conveying" is richly intertextual. It incorporates quotations from an array of sources, including Erasmus Darwin, Ben Johnson, and Jonathan Swift, and a footnote alludes to a "beautiful Arabian tale, written perhaps a hundred years before the time of Gallileo [sic], in which we expect nothing but fiction and extravagance" but "find that the air balloon and the telescope are introduced in

the contrivance of the fable" (100). This illustrates the point that "Vulgar tradition and poetic allegory are neither to be implicitly trusted nor hastily despised," an adage that might equally apply to the mechanic arts.

The "Art of Conveying" indeed makes clear that the telegraph is economically, if not morally polyvalent. It could be adapted to transmit either "partial" or "general" information, useful for military and commercial purposes respectively. While, as we have seen, the telegraph's principal market was the military, the essay makes the point (as do the *Letter* and "Lame Jervas") that its "advantages . . . to commerce must, both in time of war and peace, be extensive" (111), and it praises the "automatic nation" of China for "uniformly preserv[ing] the methodical regulation of peace" (106–07). "Art of Conveying" also recognizes that technological innovations can have unexpected economic effects. It conjectures that whereas insurers would profit from the telegraph's rapid delivery of news, the "stock-jobber," or stockbroker, who "traffics in the ignorance and credulity of his neighbour," would "hate and fear it as his rival and detector" (112–14). This provides a further link to the *Letter*, which similarly anticipates the telegraph's success in "preventing frauds and lotteries" (8). By predicting that the telegraph would "produce a great revolution," not on the streets but "at Lloyd's and on the exchange," the Edgeworths were perhaps seeking to dispel public distrust of this new technology, as well as argue for its commercial utility ("Art of Conveying" 112).

However, the essay's prehistory of the invention also encourages a sense of wonder that evokes the kinship between the early sciences and magic. On Samuel Johnson's mockery of Thomas Browne's experiment with "sympathetick needles" as a means of communication, the Edgeworths comment that "as it usually happens in popular stories, much fiction has been mingled with some truth." They insist—as Maria Edgeworth does elsewhere—that useful knowledge may be extracted from what is commonly dismissed as "vulgar error" (99).[11] Had Browne's work not been so ridiculed, the essay tells us, a "hint might have been obtained of a

practical contrivance," and it goes on to condemn the "incredulity of mankind" towards the projects of "men of inventive genius" (100). As this might suggest, the fashioning of the gentleman inventor was a central element of the telegraph's promotion. In resistance to the longstanding association between "projectors," fraud, and quackery, the *Letter* and "Art of Conveying" address what Steven Shapin describes as "a major (and, perhaps, the major) problem for the proponents of [seventeenth- and eighteenth-century] scientific practice," that is, the "exhibition of its suitability for a gentleman" (282).[12] With his daughter's assistance, Richard Lovell Edgeworth emerges as a practical, rather than an overly speculative "genius," antithetical to the characters of both the avaricious minister and the "gambling stock-jobber" ("Art of Conveying" 113).

To an extent, the historicization of the telegraph in the "Art of Conveying" works to downplay Richard Lovell Edgeworth's "priority of invention." However, as Kirwan points out, by "focusing on his desire to endorse the art of telegraphy above his own invention he was assuming the persona of a gentlemanly patriot whose motivation was the improvement of national security rather than his own standing . . . [W]hile seeking to present a façade of indifference, [he] assiduously promoted himself as well as his invention" (9). Moreover, "Art of Conveying" is assiduous in its presentation of Richard Lovell Edgeworth as a man of literature as well as science. Space will not allow for a full discussion of the gender dimensions of these categories, but it is important to recognize their presence in the essay. For instance, a footnote addressed to the "fair sex" with a quotation from Darwin's *The Botanic Garden* (1789) shows polite attentiveness to the taste and scientific learning of women, "into [whose] hands," the footnote tells us, the "papers of this Academy fall" (98). This is also, of course, a literary favor to Darwin, and a strengthening and signaling of Richard Lovell Edgeworth's "Lunar enlightenment" affiliations—affiliations that Maria Edgeworth came to share (Chandler 91–92).[13]

If the intertextuality of "Art of Conveying" has a bearing on the sense we get of invention and inventor, so too do its paratextual and inter-artistic aspects: the footnotes and illustrations that, in conjunction with the body text, seem to enact his "spirit of industry." Indeed, the cross-referencing these demand of the reader appears somewhat akin to the "art of deciphering" telegraphic messages through reference to the vocabulary. An example of this is the interplay between the figures in plate 2 of the "Art of Conveying" (Fig. 2) and a footnote to the text, which tells us that the "line described by telegraphs" in the illustration is "the first line of the following verses" (Fig. 3), apparently "written on the prospect of corresponding between England and Ireland by the telegraph" (128).

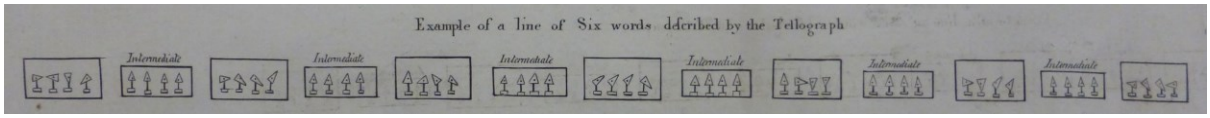

Figure 2. "Example of a line of Six words described by the Tellograph." Richard Lovell Edgeworth, "Art of Conveying." ©British Library Board. Ac.1540. Plate 2, fig. 2.

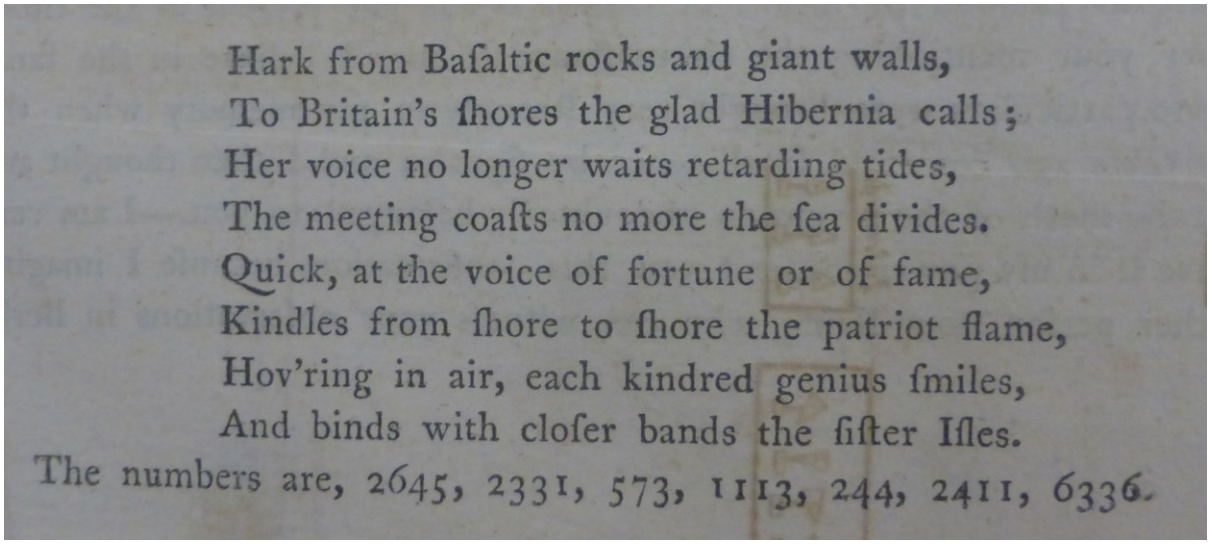
Hark from Baſaltic rocks and giant walls,
To Britain's ſhores the glad Hibernia calls;
Her voice no longer waits retarding tides,
The meeting coaſts no more the ſea divides.
Quick, at the voice of fortune or of fame,
Kindles from ſhore to ſhore the patriot flame,
Hov'ring in air, each kindred genius ſmiles,
And binds with cloſer bands the ſiſter Iſles.
The numbers are, 2645, 2331, 573, 1113, 244, 2411, 6336.

Figure 3. "Verses" on the Tellograph in a footnote. Richard Lovell Edgeworth, "Art of Conveying." ©British Library Board. Ac.1540. Fol. 128.

The poem, possibly written by Richard Lovell Edgeworth, celebrates the telegraph as an agent of enlightened exchange and sympathetic communication between Ireland and

Britain.[14] They are "sister isles," their "kindred" geniuses distinct yet intimately connected through bonds of familial affection. This early and idealistic representation of the telegraph, with its benevolent "patriot flame" that unites, rather than divides, contrasts strikingly with later instantiations, both in Edgeworth's fiction and in the real-life workings of militarism and colonialism. Also worth noting here is the recurrence of the word "voice" in reference to the mediation of national character, the transmission of news, or "fortune," and the spreading of "fame." By granting the feminized Hibernia the putative immediacy of voice, the telegraph enables more than one kind of border crossing.

It might be useful to think of the mixed modes of communication in the "Art of Conveying" as analogous to the scientific demonstrator's use of oral and gestural language, as suggested by the etymology of "exhibition": a holding out of something with the hands. Indeed, a marginal note tells us it was read to the Academy on 27 June 1795, just over three months after Edgeworth mentioned the "essay on the logograph" in her letter to her aunt (95). Although it must have been significantly reworked for print, "Art of Conveying" retains an almost theatrical sense of performance in real time. It is a dynamically self-reflexive text that repeatedly draws attention to the conditions of its own communication, newly historicized by the medium of telegraphy. Its authors wanted to engage and impress as much as they wanted to inform their audience; Richard Lovell Edgeworth was, after all, staking a claim as an innovator of a cutting-edge science that seemed full of possibilities, an epochal "media event." For him and others, the dawn of telegraphy inspired hopes and expectations of near instantaneous, global transmission, and even "universal" communication. It altered perceptions of the potential reach and rapidity of news and seemed to promise a new stage for the projection of personal and national character.

3. Universal communication, secret codes, and telegraphic fires

Of his telegraph codebook, the Finnish-born poet, inventor, and Swedish diplomat Abraham Niclas Edelcrantz wrote that a "cypher-table or dictionary explaining signs for all languages should be made to go along with this language-instrument, which can be completely portable" (qtd. in Rider 130). He seems, like Richard Lovell Edgeworth, to have envisaged the telegraph as a tool for communication across linguistic barriers.[15] Butler suggests that Edelcrantz, who met and proposed marriage to Maria Edgeworth in Paris in 1802 and whom Richard Lovell Edgeworth described as "a man of universal information" (Colvin 36), was the model for the character of Count Altenberg in Edgeworth's *Patronage* (1814), a novel that thematizes communication in various forms and degrees of intelligibility (*Maria Edgeworth* 218).[16] Mr. Percy, the exemplary father of the novel, is familiar with the "art of deciphering" and "had once been much intent upon Wilkins and Leibniz's scheme of a universal language," whereas his daughters Caroline and Rosamond are conversant with the "universal language of the eye"—the nonverbal communication of "true feeling" (2: 346; 3: 109).

Although "Art of Conveying" concludes with the prediction that the telegraph "will in time become a means of communication between the most distant parts of the world," it mostly leaves aside the metaphysically speculative question of universal language. It does seem, however, that the idea interested Maria Edgeworth as well as her father. In preparation for writing the "essay on the logograph," she read and was amused by John Wilkins's *An Essay towards a Real Character and a Philosophical Language* (1668), calling it a "scarce and very ingenious book" in the letter to Margaret Ruxton mentioned above (Pakenham 46). On the same topic, "Art of Conveying" also cites Gottfried Wilhelm Leibniz and Bernard Le Bovier de Fontenelle, along with Horne Tooke's *Epea Pteroenta, or the Diversions of Purley* (1786), which Manly describes as a radically egalitarian linguistic theory (*Language, Custom and Nation* 61–100), and which Edgeworth mentions several times in *Practical Education*.

Part of the appeal, for Edgeworth, of Tooke's theory of language may have been his appreciation of the role of "vulgar" speech in creating "winged words"; that is, in inventing abbreviations that speed up communication.[17] This links with Edgeworthian telegraphic theory, which was in part an argument for national—and transnational—progress in the flow of information.

Of course, the notion of universal communication is problematic because "universal" meant different things to different people. Whereas Leibniz's *characteristica universalis*, for example, was intended to facilitate the exchange of knowledge between learned men, the imagined potential of "universal" telegraphy bordered on the utopian and revolutionary. In an essay on the London newspaper *The Telegraph*, Mary Fairclough shows that the invention met with intense interest amongst radicals in 1790s Britain. "Telegraphic imagery," Fairclough writes, "demonstrates the possibility that an entirely figurative language of universal telegraphic communication might have material effects against legal and economic repression of political dissent" (27). The telegraph appears to have had a comparable symbolic appeal in Ireland: among the radical reading societies in Dublin was the Telegraph Society, active in 1794, which featured in the Defender trials of 1795–96 (Howell 252, 336, et passim). However, representations of telegraphs were varied, indicating that the implications of this new communications technology were neither widely understood nor universally welcomed. In England, the invention appeared across media and genres including newspapers, plays, songs, poems, and was even printed on ladies' fans; its treatments range from the expositional and patriotic to the satirical and wildly fanciful. An "Epigram, on the Telegraph" from the Belfast *Northern Star* (the newspaper of the Society of United Irishmen), 9 October 1794, offers both ridicule and circumspection. It conjectures that the "wond'rous invention of Gaul" would make "Post-boys, Express-boys, and couriers" redundant, but emancipate "hack horses" from the "hide-flaying whip." Ultimately, however,

the "Epigram" predicts that the telegraph would serve the interests of the military, monarchy, and government: "Gen'ra's, Kings; Statesmen all" would "whatever they chuse now, convey" (Hill 2).

At the telegraph's advent, Edgeworth's letters reveal her hope that it would, as a military technology, be able to neutralize what she felt as a threat to life and property. In December 1803, at the start of the Dublin-Athlone line's construction, she writes to her cousin Sophie Ruxton:

> I think my father and Francis will leave us in a few days and then God speed them! And keep Bonaparte away until the giant Isosceles is ready on the coast to meet him. I presume you have read the laws of the triangle and are appointed with this famous giant – Poor Lovell – it is a pity that he should not see the establishment of the telegraph in its prosperous days when he was such a steady and useful friend in adversity . . . (Pakenham 76)[18]

Perhaps wary of interception, or with the customary circulation of letters in mind, Edgeworth refers to the telegraph obliquely and gives only a vague idea of its coastal destination. But the "Vocabulary" that the Edgeworths produced around 1803 gives an indication of the kind of intelligence they expected the telegraphs to transmit. This code-book was socially, politically, and geographically specific, with messages including "Any appearance of fire signals," "Can the Yeomanry be ready to march at an hour's notice," "What is the disposition of the peasantry," "The French have landed at," and "Cut off the connection with the bogs." The final entry was presumably added for the occasion of the telegraph's display to the Lord Lieutenant: "By arms and science Hardwicke guards the throne—and blends a nation's glory with his own."

As a translational technology, the "Vocabulary" bears some relation to glossaries and other paratextual devices: notable features, as Alex Howard has discussed, in Edgeworth's *Castle Rackrent* (1800). Susan Egenolf argues that Edgeworth encodes in the book's glossary a warning about fires on Irish "fairy-mounts," suggesting that these may have conveyed intelligence during the Rebellion of 1798 (62–66). This invites further scrutiny of

Edgeworth's strategies of representation and encryption in *Castle Rackrent* and other "national tales," especially where fires are concerned. As Claire Connolly has discussed, there are two bonfires at the end of "The Absentee" (1812): the burning of Lady Clonbrony's detested yellow damask chairs, and Larry's burning of Old Nick the agent's duty turf, in place of Nick himself "in *effigy*" (Connolly 26; Edgeworth, "Absentee" 454). Of his fire, Larry writes to his brother:

> I wish you'd seed it—and all the men, women, and children in the town and country far and near, gathered round it, shouting and dancing like mad!—and it as light as day quite across the bog, as far as Bartley Finnigan's house. And I heard after, they seen it from all parts of the three counties, and they thought it was St. John's Eve in a mistake—or couldn't make out what it was; but all took it in good part, for a good sign, and were in great joy. (455–56)

This fire presents no threat. Its revolutionary telegraphic potential is transformed into an expression of jubilant spirit, met with confusion and superstition, but nevertheless "great joy." If there is a warning here about Irish fires and rebellion, it is confined to allusion, which after all works on a similar principle to semaphore: the meaning can only be grasped by those in the know, or those in possession of the vocabulary.

Butler argues that the "secret codes" in Edgeworth's "national novels" are "problematic because they are exclusive and divisive," but that "since Edgeworth's apprenticeship as an Irish writer took place in the 1790s, swift and secret communication was essential to her inclusive uncensorious non-doctrinaire account of the Irish in time, as a complex, hybrid people" ("Edgeworth's Ireland" 289). Along similar lines, Edgeworth's perception of the need for a telegraphic system of surveillance coexists with her belief in "freedom of opinion," as expressed in the manuscript essay "On the Education of the Poor" (c. 1800). Here, Edgeworth writes that

> The operations of thought are invisible to the eye of power, & no force can counteract them but that of reason. The ~~printing~~ press is a ^more powerful engine in society than the Cannon, and all attempts to restrain the freedom of opinion will only endanger instead of preserving public tranquility. It is well known that in all ages the most certain method to propagate any doctrine is to

> persecute its partizans. (M. Edgeworth and R. L. Edgeworth, "On the Education")

At different times, then, and in different ways, Edgeworth affirms and resists ideas of democratic openness in the public communication of intelligence. Along with education, both of the poor in Ireland and readers of Edgeworth's books, the telegraph would presumably mitigate some of the dangers posed by the press and other, more literally incendiary, technologies of communication.

4. "Lame Jervas"

The telegraph figures most recognizably in "Lame Jervas," a story in Edgeworth's *Popular Tales* (1804) that, according to Julia Wright, "promotes . . . the necessity of surveillance to ensure social order and justice" (150). It is the self-narrated tale of a Cornish tin-miner, Jervas, who early in life gets drunk and falls down a mine shaft, breaking and permanently injuring his leg. The benevolence of the mine owner, Mr. R— brings about a reform in character. Filled with gratitude, Jervas acts as an informer, warning Mr. R— of some of the miners' purloining of tin. His honesty and industriousness earn him the patronage of Mr. Y— , a retired surgeon, who teaches him to read (but discourages him from writing poetry). At Mr. Y—'s house, Jervas builds a model mine, through which he gains employment as assistant to an itinerant lecturer. During his travels with the lecturer, Jervas entertains some cadets at Woolwich military academy, one of whom invites Jervas to exhibit his model mine at his home. Here, Jervas recalls:

> The young spectators gathered round me at one end of a large saloon, asking me innumerable questions after the exhibition was over, whilst the master of the house, who was an East India Director, was walking up and down the room, conversing with a gentleman in an officer's uniform. They were . . . talking about the casting of some guns at Woolwich, for the East India Company. (27)

Jervas impresses the director by being able to tell him the "proportion of tin . . . used in casting brass canon at Woolwich," and the director proceeds to question him "upon a variety of subjects." Having ascertained that Jervas "explained [himself] well," "knew all [he] did know accurately," and "had the art of captivating the attention of young people," the director writes to Mr. Y— and Mr. R—, and "several other gentlemen" to make further inquiries into Jervas's character, and receives "perfectly satisfactory" answers. He gives Jervas Mr. R—'s letter, which relates the episode of the tin vein, saying "it will be a recommendation to you in any part of the world." The director then tells Jervas that "if [he] had no objection to go to India, [he] should be appointed to go out to Madras as an assistant to Dr. Bell, one of the Directors of the Asylum for the instruction of orphans; an establishment which is immediately under the auspices of the East India Company, and which does them honour" (28). This Dr. Bell is of course Andrew Bell, a correspondent of Richard Lovell Edgeworth's, who later toured Ireland with his so-called "Madras System" of education.[19]

From Bell's school, Jervas is sent on an embassy to the infamous Tipu, Sultan of Mysore. As Aileen Douglas has identified in her discussion of Bell's colonial pedagogy, this part of Jervas's tale "fictionalizes [the true story] of William Smith, a student of Bell's who demonstrated scientific equipment to Tipu Sultan" (162). Here, Edgeworth casts Tipu as a violent and impetuous, yet calculating autocrat. As Supriya Godwami points out, he is "complexly deployed" in the story "as a despotic slave-owner as well as a man with a keen scientific vision for his kingdom" (54). This echoes and partly subverts the trope in British culture whereby, according to Zaheer Baber, "Tipu came to be branded as the ideal, typical 'Oriental Despot,'" an "ideological construct [that] eventually sank into the consciousness of the British population" (127). It is remarkable, then, that despite the tyranny and cunning of Edgeworth's "Tippoo," he gains a potential edge over his enemies from the telegraph given to him by Jervas. As Sharon Alker summarizes, the "Tippoo Sultan that Jervas leaves behind

is a greater threat given his possession of the new war technology he has received from the English boy" (4). It is worth noting that this machine, described in the story as a "portable telegraph, in the form of an umbrella" (28–29), bears a resemblance to Richard Lovell Edgeworth's design for a retractable telegraph, which he compares to an umbrella in his "Supplement to Mr. Edgeworth's Essay on the Telegraph" (314).

The real Tipu was defeated and killed by British troops on 4 May 1799. News of his death arrived in London on 13 September 1799. It is therefore significant that, at the end of "Lame Jervas," Edgeworth added the date of October 1799, which is around the time that she, in Ireland, would have heard of Tipu's death. This encourages a reading of the story as a kind of counterfactual history: Edgeworth seems to invite the question, what would have happened if Tipu really *had* had the telegraph? Heuristically, Edgeworth prompts an awareness that unscrupulous actions overseas may prove counterproductive to British interests. For those cognizant of her father's struggle for government patronage, and in particular her brother's embassy to the Duke of York in 1796, an alternative reading might be that if the British did not take up such innovations, their enemies would.[20] Either way, "Lame Jervas" clearly participates in a discourse of European technological superiority, but it does not do so uncritically: if the telegraph is a marker for "enlightened" industry, it also signals the dangers of "arms and science." This equivocality reflects Edgeworth's ambivalence towards scientific "improvement" when unchecked by a corresponding improvement in the moral economy. Edgeworth is certainly positive about the potential of scientific education for the underprivileged: by such means, Jervas acquires a name as a gentleman, and is no longer known by the epithet "Lame." However, her concerns over the democratization of scientific learning (particularly, as Alker shows, in the field of chemistry) are evident in "Lame Jervas" and elsewhere.[21] In *Practical Education*, for example, Edgeworth warns that a "revolution

even in toy-shops should not be attempted, unless there appear a moral certainty, that we both may and can change for the better" (1: 35).

In "Lame Jervas," Tippoo's acquisition of military technology is ostensibly counterbalanced by the exporting of enlightenment values represented in Jervas's education of Tippoo's son Abdul Calie (based on Prince Abdul Kaliq, one of the two sons General Charles Cornwallis took from Tipu as hostages), and Jervas's freeing of the slaves in Tippoo diamond mine. Since it was published three years before the Slave Trade Act, however, readers may well have questioned the legitimacy of Britain's claim to moral, if not technological, superiority to the East.[22] The diamond ring Tippoo gives to Jervas as a reward for exhibiting a hot air balloon, and which Jervas brings back to England as part of his fortune, further muddies the waters: John C. Leffel argues that "[d]iamonds in Edgeworth's fiction are . . . both literally and figuratively, *tainted* wealth" (626). Thus, as Clíona Ó Gallchoir observes, Jervas's speech at the tale's conclusion ("Here I am, thank Heaven! once more in free and happy England, with a good fortune, clean hands, and a pure conscience") calls into question "whether it is, in fact, possible for a person in Jervas's station in life to acquire the kind of wealth that he now has and still to possess 'clean hands'" (6).

Despite such misgivings, there are indications that the Edgeworths conceived of the telegraph as potentially useful to the British in India. The "Art of Conveying" predicts a "communication by Telegraphs between Europe and the East Indies" adding that its "effects will be more beneficial to Europe than monopoly or conquest" (116). It also explains that, in the event that the vocabulary was seized by the enemy, the code could easily be changed by increasing each number in the signal by one, so that "if . . . 3664, stood in the vocabulary for gunpowder, by the addition . . . the number would stand . . . 4775, which might mean a Crocodile or Tippo-Saib, or any thing foreign to the real word" (137).

5. Boyce's telegraph

We return now to William Boyce, who was a member of Richard Lovell Edgeworth's telegraphic corps. It was likely thanks to this patronage that Boyce was able to travel to India as a free merchant around 1805, taking knowledge of the Edgeworth telegraph with him. In December 1813, Boyce submitted to the East India Company's Board of Commissioners a plan for establishing a line of telegraphs between Bombay and Calcutta. It was received with interest, though the Board pointed out that the wooden towers would be vulnerable to attack by "Pindarries," auxiliary cavalry forces that the East India Company considered "freebooters," or pirates (William Boyce's plan; Farooqui 23). Boyce changed the design to brick, and was asked to oversee the construction of a line between the British military garrisons at Barrackpore and Fort William in present-day Kolkata, which was completed in 1817. He left the project in 1818 with a reward of £1000 from the East India Company (Roy 53). George Everest later conducted a survey for the telegraph between Calcutta and Chunar, a distance of over 420 miles. A permanent line was constructed and operated by Indian workers between 1820 and 1828, then "kept on a caretaker basis" until 1830 (Wilson 196–98). Some of the towers were used in the "Great Trigonometrical Survey of India," and many are still standing (Phillimore 272; Gupta).

The appendix to the *Memoirs of Richard Lovell Edgeworth* contains a letter from "W****** B****" reporting on the progress of the Indian telegraph. In it, Boyce writes that his patron's name is "now universally known here"; the telegraph, he declares, "adds much to that celebrity, which *it* also ought in justice to have procured . . . in Europe" (2: 487). Papers at the National Library of Ireland indicate that Boyce sent numerous gifts to the Edgeworths, including agate handles, an ivory bell, fans, Chinese figurines, and a workbox. In a letter of 1814, Boyce describes the last of these as an "Indian box containing a lady's work-box and escritoire, with apparatus complete: composed of sandalwood, ivory and ebony, and a

composition of quicksilver and sea-shells, which resembles silver" (Fig. 4). The letter further relates that only one family in India "understands the art of making these boxes, . . . which has been passed from father to son from time immemorial," allowing Boyce to present it to Frances Anne Beaufort Edgeworth, as a great "curiosity" and a "tribute . . . to that lady," "being an article which is connected at once with industry and science" (R. L. Edgeworth and M. Edgeworth, *Memoirs* 2: 374–75).

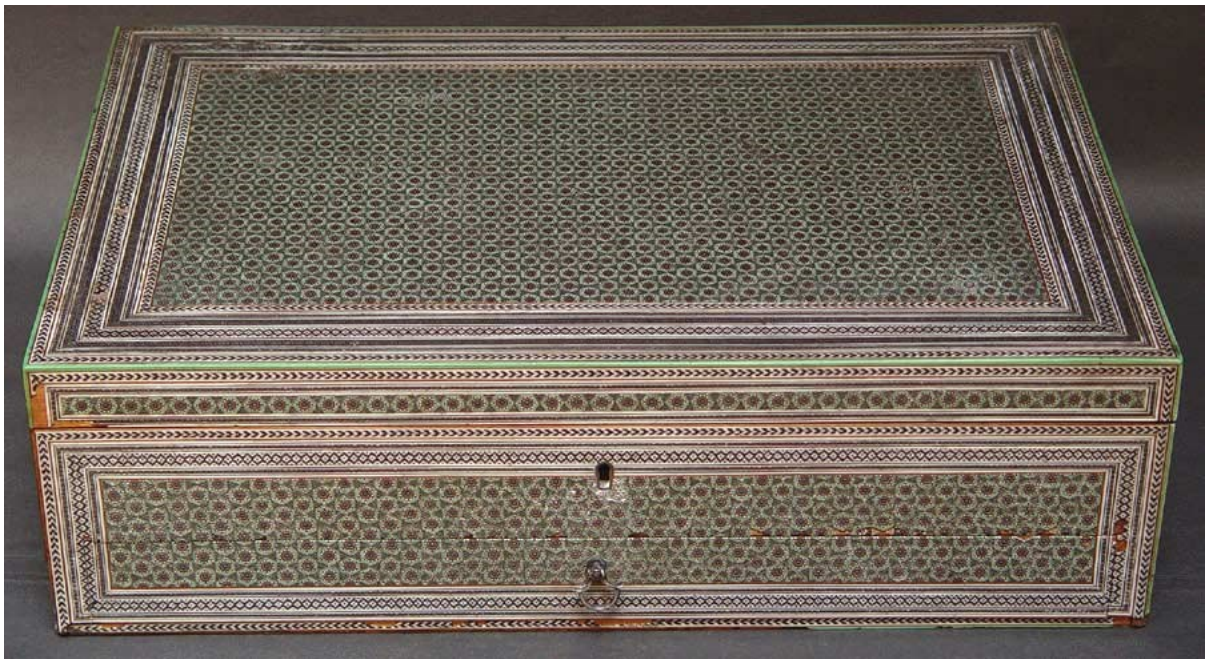

Figure 4. Workbox sent by William Boyce to the Edgeworths in 1814. Indar Pasricha Fine Arts, London. Reproduced with kind permission of the owner.

The significance of Frances Anne Beaufort Edgeworth's own connection to the "industry and science" of telegraphy is as yet unclear, but she seems to have taken an interest in Boyce. Her *Memoir of Maria Edgeworth* (1867) includes a letter to Sophy Ruxton, 12 April 1806, in which she wrote: "Only think of poor Boyce having been employed to establish a line of telegraphs from Bombay to Madras! He writes gratefully and sensibly about it."[23] A footnote tells us that Boyce was a "young man, brother-in-law to one of Mr.

Edgeworth's tenants, who had been employed by my brother to work Mr. Edgeworth's telegraph, and who was now in a merchant house at Bombay" (1: 197). This is inconsistent with the information Boyce gives about himself in his written proposal to the East India Company, where he states that, having been in "Mr. Edgeworth's Corps of Yeomanry" and "practising as a land surveyor in the Country chiefly under the patronage of Mr. Edgeworth," he "had the honor to be selected by him to act as first assistant in the business under himself, and his Brother in Law Captain Beaufort of the Royal Navy" (William Boyce's plan). The omission of Boyce's paramilitary background from the memoirs of both Maria and Richard Lovell Edgeworth, and the assurance Maria Edgeworth gives in the latter that Boyce had a "highly respectable character" and was "now in a good situation" (2: 375), suggests that both she and her step-mother wanted to play down the telegraph's martial associations, presenting instead a benignly commercial view of its use in India. Like Jervas, and through the written language of patronage and the language of gifts, Boyce demonstrates that he is "grateful" to his patrons; unlike Jervas, his transportation of the telegraph to India goes unquestioned.

By paying renewed attention to Maria Edgeworth's role in the project, this essay has brought into focus the literary and fictional aspects of the invention of Richard Lovell Edgeworth's optical telegraph. Further work is needed on the wider networks underpinning the telegraph's development in Ireland, including the Beauforts, and many questions remain about Boyce and optical telegraphy in India. The use of the electrical telegraph under British rule in India has been the subject of much excellent scholarship; it remains to be so well understood how the earlier technology "acquired the contours of the colonial power, both commercial and administrative" (Sarkar 90).[24] We have seen that Maria Edgeworth worked to promote the telegraph in Ireland, in a sense legitimizing such power, while also criticizing Britain's neglect of its "sister isle"; that her cryptographic allusions in *Castle Rackrent* and "The Absentee" are testament not only to her belief in the need for "secret and swift

intelligence," but also to the telegraphic fires and other acts of resistance that necessitated it; and that the tension in "Lame Jervas" between the imperatives of scientific and moral "improvement" reflects her ambivalence about the effects of new technologies. Edgeworth cannot not have foreseen the electrical era of "telegraphic imperialism" in India, to use Deep Kanta Lahiri Choudhury's phrase. Nevertheless, her narratives of invention make manifest the intimate and complex relations between literature, technology, and empire in the global Romantic period.

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Notes

[1] In a letter to Matthew Boulton, Erasmus Darwin described Richard Lovell Edgeworth as "the greatest Conjuror [he] ever saw."

[2] The machine was at various times named the "logograph," "telelograph," and "tellograph." In a letter of 1794, Maria Edgeworth explained to her cousin Sophy Ruxton that "both party spirit and national pride dislike the sound of the French telegraph" (Pakenham 38).

[3] Francis C. Moon observes that "invention is not just a moment of epiphany in a lone genius inventor, but is a culmination of an evolutionary process resulting from a network of people and institutions" (1).

[4] The letter, dated 9 December 1795, attests that Perrot (who was Jane Austen's maternal uncle) had "several conversations with [Richard Lovell Edgeworth] in 1767 on the subject of

speedy and secret conveyance of intelligence," was not present at the experiments, but remembered Richard Lovell Edgeworth mentioning them (R. L. Edgeworth and M. Edgeworth, *Memoirs* 2: 169). Richard Lovell Edgeworth had apparently shown the letter to James Caulfeild in 1795. An extract of it was also reproduced in "Art of Conveying" (127).

[5] Butler's attribution of the *Letter* is based on Edgeworth's September 1842 list of her own works and the income they generated, which Butler reproduces in her biography (*Maria Edgeworth* 492).

[6] Caulfeild (1728–99) had a leading role in the formation of the Irish Volunteers in the late 1770s and was an opponent of union with Britain.

[7] For further discussion of the politics of the *Letter*, see Manly, "Political Life."

[8] Philip Yorke, 3rd Earl of Hardwick, was Lord Lieutenant from 1801 to 1806.

[9] In 1804, Russia, Austria, and Britain entered into coalition against France, "reducing the availability of French troops"; Martello towers around the coast may have played a part in rendering the telegraph redundant (Kirwan 25).

[10] I have argued elsewhere that Edgeworth challenges assumptions of European technological superiority over China (Wharton 223–25).

[11] The first chapter in *An Essay on Irish Bulls* (1802) is on "Vulgar Errours" and begins with a reference to Browne's *Enquiry* (1). In *Practical Education*, Edgeworth writes of the "vulgar error of being amazed and *scandalised* at the tastes of other times and other nations" (2: 727); she also refers to Browne's "*Vulgar errors*" and Johnson's ridicule of his experiment with "magnetic dials" in one of her notes (dated 19 July 1796) in the appendix (2: 762).

[12] According to David Alff, "project pamphlets were ubiquitous in [seventeenth- and eighteenth-century] popular print culture and projectors were routinely denigrated for their grandiose promises and alleged deceit" (248).

[13] Heather Ellis has argued that formulations of scientific masculinity were more often concerned with the relations between men than they were with differentiating men from women (22).

[14] An early version of the poem, praising Lovell Edgeworth, appeared anonymously in the *Northern Star* for 31 August–3 September 1795. Another, later version by "R. L. E." was published in *The Poetical Register, and Repository of Fugitive Poetry for 1808-1809* (Davenport 16). As is clear from his *Memoirs*, Richard Lovell Edgeworth did write poetry (2: 489–92).

[15] In a letter to his son Charles Sneyd, written from Paris on 3 January 1803, Richard Lovell Edgeworth reports that he and Maria "went to hear and see the exhibition or lecture of M. Maimieux upon Pasigraphic or pasilatic Universal language." Richard Lovell Edgeworth continues, "I have long thought of forming a language that *might* become universal by means of the Telegraph and the dictionary or vocabulary belonging to the telegraph I proposed to regulate according to a philosophic arrangement of Ideas similar to the tree of knowledge in the novum organum of the great Bacon" (Colvin 66–67).

[16] Edgeworth refused the proposal, not wanting to leave her family in Ireland for a person she hardly knew, but seems to have thought highly of Edelcrantz. Frances Anne Beaufort Edgeworth writes that her daughter-in-law "was exceedingly in love" and "suffered much at the time and long afterwards" (142).

[17] My thanks to Susan Manly for her commentary on Tooke's *Epea Pteroenta* and its appeal for Edgeworth, which I am paraphrasing here.

[18] Edgeworth's brother Lovell was at that time interned as a political prisoner in France, not to be freed until Napoleon's fall in 1814 (Butler, *Maria Edgeworth* 197).

[19] Bell experimented with local educational practices to devise his version of the monitorial system (whereby teachers elect students they consider more capable to pass on learning to

other students) at the Military Male Orphan Asylum, a school for mixed-race children in Elambur, Chennai, then Egmore near Madras (Tschurenev 98).

[20] Lovell demonstrated and gave to the Duke a "portable reconnaissance telegraph" specially designed by Richard Lovell Edgeworth. According to the *Letter to Charlemont*, the army officer William Fawcett, who was present at this meeting, "seemed much pleased" with the invention, opining that it "might be employed in the West Indies to great advantage"; a further indication, perhaps, of the telegraph's perceived potential to facilitate the repression of resistance to colonial power, and in this case slave rebellion (17–19).

[21] On Edgeworth's ambivalence towards the democratization of knowledge, see also Douglas's discussion of working-class literacy in *Castle Rackrent* and *Popular Tales* (156–64).

[22] On slavery in *Popular Tales*, see Botkin; Boulukos; Cohen; and Manly, "Intertextuality, Slavery and Abolition".

[23] Boyce's earlier proposal to the East India Company, possibly made in person, was in fact unsuccessful.

[24] On the electrical telegraph in India, see Choudhury; Sarkar; and Bayly.

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