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Cover image: 16 tintype portraits of an unidentified sitter on a single plate, Division of Work and Industry, National Museum of American History, Smithsonian Institution.

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9. (Re)Assembling Reference Books and Recycling Images

The Wood Engravings of the W. & R. Chambers Firm

Rose Roberto

The Memoir of William and Robert Chambers (1872) narrates the story of two brothers, William (1800–1883) and Robert (1802–1871) Chambers, who created a publishing empire over several decades through personal initiative, hard-work, and promoting the philosophy of self-improvement and utilitarian progress derived from long-standing Scottish educational and culture values. Through their editorials, publications, and works of philanthropy, the brothers promoted both formal and informal education, as a means of lifting oneself out of poverty.¹ Their long-lasting legacy was W. & R. Chambers, established in 1832, which successfully operated as a family business until 1992 when it merged with George G. Harrap Limited, and became Chambers Harrap Publishers Ltd (CHPL).² After the firm's first twenty years, Chambers formed a partnership with J. B. Lippincott, a Philadelphiabased firm, in order to expand further into North American markets. Between 1859 and 1892, both publishers collaborated to produce the

The author thanks the Bibliographic Society for the Barry Bloomfield Award, the Catherine Mackichan Trust for travel assistance, and Jeff Loveland for advice on Encyclopaedia Britannica sources; Robert J. Schnolick, 'Intersecting Empires: W. & R. Chambers and Emigration, 1832–1844', The Biblotheck: A Journal of Scottish bibliography and book history, 24 (1999), 5–16 (p. 5).

² The firm is currently part of the international Hachette Livre conglomerate.

heavily-illustrated *Chambers's Encyclopaedia: A Dictionary of Universal Knowledge for the People,* 1860–1868 and *Chambers's Encyclopaedia: A Dictionary of Universal Knowledge, New Edition,* 1888–1892. Throughout this chapter, these books will be referred to respectively as the First Edition and the Second Edition of *Chambers's Encyclopaedia.* Examining these encyclopedia editions provides insight into the workings of a major Scottish publishing house and its dealings with an important American publishing firm, covering a period in which laws and international treaties were evolving, contested, and subject to interpretation. Given Chambers's significance, its concerns and working practices can be applied more widely to other nineteenth-century publishing firms.

This chapter will address several questions related to the themes of copyright, image production, and image circulation during the second half of the nineteenth century. Namely: Where did illustrations come from, and what explanations can be found for publishers' reliance on existing illustrations? What strategies did publishers such as W. & R. Chambers develop to combat unauthorized reproductions of their own works, while at the same time making use of others' images. Finally, how were images adapted into reference works, such as encyclopedias, and modified as they were reproduced?

Examining these questions through several case studies of images that appeared in the two editions of Chambers's *Encyclopaedia*, this chapter begins with an exploration of illustrations in the context of publishers' culture, which habitually borrowed and copied older and widely circulating content.

Sources for Visual Material in Chambers's Encyclopaedia

Between January 1862 and January 1863, a Japanese delegation consisting of 40 men — ambassadors and their aides — visited London, Paris, Berlin and St. Petersburg.³ They also made shorter visits to the Netherlands and Portugal. Led by Takenouchi Yasunori, who served as governor of Shimotsuke Province prior to the mission, the ambassador had two goals that he completed successfully: to negotiate a delay of five years before Japan would have to officially open up its port cities

^{3 &#}x27;The Times, 3 May 1862', in The Library of Nineteenth-Century Photography from the collection of Paul Frecker, 19th Century Photos, http://www.19thcenturyphotos. com/Japanese-envoy-122059.

to the West for trade, and to research the different European nations that would be their trading partners.⁴ As Edo Japan transitioned into the Meiji Empire, this trip was seen as highly influential on the next five decades of Japanese foreign policy.⁵ While they were traveling, the Japanese ambassadors were frequently photographed, and featured in major newspapers such as *The Times* in London and *Le Siècle* in Paris.

The entry for 'Japan' in the First Edition of Chambers's Encyclopaedia contains a reproduction of a widely circulated photograph by Londonbased photographer Robert Vernon Heath showing three of the Japanese ambassadors, whose image was not only featured in *The Times*, but was also turned into a carte de visite that was sold widely.6 A direct connection can be made between the encyclopedia's entry with its wood engraved print, translated onto a wood block by an unknown employee of the Chambers firm, and the carte de visite produced by Robert Vernon Heath. (See Figures 1a and 1b). First, the caption beneath the woodengraving copies the spelling and diacritics of the ambassadors' names on the carte de visite. Second, the caption states that the image was 'from a photograph' produced by Heath. However, it does not look completely identical. A practical consideration when designing the page layout was to make the image fit the space allocated for the 'Japan' encyclopedia entry. Therefore, the image layout was altered from portrait to landscape to fit the format, as can be seen on the woodblock and its print.

This image provides some insight into the production of the First Edition, communicating two things. First, it demonstrates that the Chambers firm was capable of sourcing images within a lead time of only one year. Appearing in 1863, Volume 5 incorporated a photograph taken in April 1862, shortly before the French leg of the ambassadors' journey. By including this relatively current and popular image of people in their pages, the publishers could directly connect with potential audiences. It also shows that the Chambers firm was not averse to copying visual material produced by others.

⁴ Mayako Shimamoto, Koji Ito, & Yoneyuki Sugita, *Historical Dictionary of Japanese Foreign Policy* (London: Rowman and Littlefield, 2015), p. 79.

⁵ Andrew Cobbing, *The Japanese Discovery of Victorian Britain: Early Travel Encounters in the Far West* (London: Routledge, 2013), p. 173, https://doi.org/10.4324/9781315073491.

⁶ Many popular nineteenth-century albumen prints are online at: www.19thcenturyphotos.com.



Fig. 1a Print of 1862 Japanese Delegation to Europe with caption in *Chambers's Encyclopaedia*, 1863, Volume 5, based on a *carte de visite by* Vernon Heath, 1862.



Fig. 1b Woodblock for print (T.2011.56.318), National Museums Collection Centre, Edinburgh, photo by Rose Roberto.

Second, the image itself was consistent with the narrative of 'Western progress' reflected in many Chambers publications. Not only is the inevitability of technological progress explicitly discussed in the text

of this and other entries, but the caption reference 'from a photograph' reinforces this message by directly showing the technologies of image reproduction and rapid international travel available through steam-powered ships. Many scholars have debated the documentary evidence around the inventive aspects of photographs contesting the idea of their inherent authenticity. However, the Chambers' position seems to reflect the belief that the mechanical nature of photography imbued its images with objectivity. Their captions and editorial commentary state photographs provided more accurate information to their readers. At the same time, the subjects depicted in the photographs — foreign dignitaries traveling around Europe on a trade mission — testified to an interconnectedness of the mid-nineteenth century world, and the expansion of capitalism. This image further implies the inevitability of European expansion in Asia.

Arguably, the Japanese elite recognized that expansion by Western powers was imminent, and were politically astute enough to begin establishing economic and political relationships with Europe to avoid their own country's colonization. This diplomatic mission seemed to be aimed at adapting to and learning from the Western countries they were visiting, as well as endearing themselves to the public through the medium of illustrated newspapers. By 1865, only three years later, business entrepreneurs in Europe were exporting objects promoting Japanese aesthetics and visual imagery. With the approval of the Japanese government, shops were set up in Paris and other cities which specialized in selling prints and albums made in Japan, proving to be very popular and influential on European art.⁹ There were also books published to describe Japan and its culture.

Michael Bhaskar, a writer and expert on publishing and the media, argues that all publishers undertake four activities: framing, modeling, filtering, and amplifying.¹⁰ He states that content cannot be uncoupled

⁷ Geoffrey Belknap, From a Photograph: Authenticity, Science and the Periodical Press, 1870–1890 (Bloomsbury: London, 2016).

⁸ David Patrick, 'Preface', in *Chambers's Encyclopaedia: A Dictionary of Universal Knowledge, New Edition.* Volume I, 2nd edition, ed. by David Patrick (Edinburgh: W. & R. Chambers, 1888).

⁹ Linda G. Zatlin, Beardsley, Japonisme, and Perversion of the Victorian Ideal (Cambridge: Cambridge University Press, 1997), pp. 32–36. Vincent Van Gogh frequented shops selling Japanese art.

¹⁰ Michael Bhaskar, *The Content Machine: Towards a Theory of Publishing from the Printing Press to the Digital Network* (London: Anthem Publishing Studies, 2013), p. 89.

from publishing; the way an audience experiences a given work is a critical part of what defines the latter. Content must be framed or packaged for distribution and presented to a specific audience, and it is packaged according to a model. Models help publishers organize and market their content. When enough publishers follow similar models, new genres emerge; ones that are reinforced when other publishers replicate the model's format(s) in new works.

According to Bhaskar's theory of publishing, 'the encyclopedia' is a specific model for a type of publication, that can only exist in a specific time and place, according to the technologies and knowledge of that time. While the idea of an encyclopedia goes back to Roman antiquity, from 1690 to 1830, the scope of encyclopedias kept pace with expanding knowledge of the world.¹² By the 1840s, the encyclopedia genre stabilized into a specific form and average size, owing to economics and publisher intent. Prior to 1840, works of reference such as encyclopedias were aimed at elite audiences. 13 When more men of business became publishers, their commercial interests transformed the previouslystandard, subscription-based publishing model requiring a handful of patrons interested in funding an encyclopedia upfront, into publishing models that sought to take advantage of economies of scale. Wider social factors, such as the rise of literacy and population shifts into cities also incentivized the publishing trade to create products appealing to a mass market.14

Combining business expertise in the publishing world with nineteenth-century printing technology, publishers experimented with reframing similar content and repackaging it for different markets. Many images eventually used in the First Edition came from an older publication, Chambers's *Information for the People* (1833–1834). Released

¹¹ Bhaskar, The Content Machine, p. 139.

¹² Robert Collison, Encyclopaedias: Their History Throughout the Ages, A bibliographical guide, with extensive historical notes, to the general encyclopedias issued throughout the world from 350 B.C. to the present day (New York: Hafner Publishing Co Ltd, 1966). Also see: William A. Katz, Cuneiform to Computer: A History of Reference Resources, 4 (The History of the Book) (London: The Scarecrow Press, Inc, 1998).

¹³ Jeff Loveland, 'Why Encyclopedias Got Bigger... and Smaller', *Information and Culture: A Journal of History*, 47:2 (2012), 233–254.

¹⁴ Rose Roberto, 'Democratising Knowledge and Visualising Progress: Illustrations from *Chambers's Encyclopaedia*, 1859–1892' (unpublished doctoral thesis, University of Reading, 2018), pp. 88–90

in serial form over forty-eight weeks, with each pamphlet-sized part covering a different topic, each part sold for a half-penny, and included attractive wood-engraved illustrations. In 1842, *Information for the People* was repurposed from a serial publication into a bound two-volume set. This bound format is considered to be the direct precursor to *Chambers's Encyclopaedia*. ¹⁵ Besides the First Edition of their encyclopedia, parts of *Information for the People* were also initially reused in *Chambers's Education Course*, a schoolbook series first issued in 1835, ultimately containing over one hundred titles. ¹⁶

Jeff Loveland, a noted historian of encyclopedias, documents various types of copying or recycling that European encyclopedia publishers historically engaged in over a 400-year period, finding numerous cases where older versions of other encyclopedias were raided. Dictionaries, atlases, and periodicals were also readily cannibalized to produce 'new' encyclopedic works. In his survey of various encyclopedias, Loveland notes the blurred lines between publishers compiling and revising older encyclopedias, which in many cases included word-for-word copying, abridgement, and paraphrasing.¹⁷

Editors and publishers sometimes made contractual arrangements for translations of significant and well-known encyclopedias into different languages but they also self-plagiarized and recycled parts of longer works into shorter and 'updated' editions.¹⁸ Charles Knight, a nineteenth-century publisher often compared with Chambers, also transformed his famous, twenty-seven-volume *The Penny Cyclopaedia of the Society for the Diffusion of Useful Knowledge* (1833–1843) into the shorter *English Cyclopaedia: A New Dictionary of Universal Knowledge* (1854–1862); the latter divided the original *Penny Cyclopaedia* content into themed sets

Aileen Fyfe, 'The Information Revolution' in *The Cambridge History of the Book in Britain, Vol. VI, 1830–1914*. ed. by David McKitterick (Cambridge: Cambridge University Press, 2009), pp. 567–594 (p. 581).

¹⁶ William Chambers and Robert Chambers, eds., *Chambers's Information for the People* (Aug. 8, 1840) IX 44, p. 23.

¹⁷ Jeff Loveland, *The European Encyclopedia: From 1650 to the Twenty-First Century* (Cambridge: University of Cambridge Press, 2019), p. 146.

¹⁸ Loveland, The European Encyclopedia, p. 147; Andrew Findlater, 'Preface', in Chambers's Encyclopaedia: A Dictionary of Universal Knowledge, vol. 1, ed. by Andrew Findlater (Edinburgh: W. & R. Chambers, 1860). Chambers's Encyclopaedia was initially meant to be only a revised version of Brockhaus's German-language Conversations-Lexicon.

focused on geography, natural history (NH), biography, and arts and sciences. Each of these divisions were sold separately, and contained between four and eight volumes. The marketing and sales potential for these smaller encyclopedia divisions, especially the NH division which contained nearly 60% of the total images, allowed them to reach larger global audiences. British biologist Alfred Russel Wallace, known for independently discovering evolution by natural selection, valued these illustrated books, carrying the NH division around Asia during his field research.¹⁹

Indeed, natural history illustrations were considered important, and book publishers frequently used artists' paintings and drawings without their permission or acknowledgement before passage of the Fine Arts Copyright Act of 1862. Christine Jackson, a historian of visual representations of the natural world, sees the new copyright act having a knock-on effect on publishing practice after 1864.²⁰ An example Jackson provides is *A History of British Birds*, a natural history work for adults and children, that was authored by Rev. F. O. Morris, and published in 1870. The engraver, Benjamin Fawcett, copied the original designs by Thomas Bewick who lived a century earlier.²¹

A large portion of the Chambers's First Edition birds, mammals, fish, reptiles and amphibians, the most frequent subjects chosen by editors to be illustrated, were copied from or heavily influenced by Charles Knight's *Penny Cyclopaedia*. ²² A detailed comparison of the illustrations in the First Edition of *Chambers's Encyclopaedia* with those in the *Penny Cyclopaedia* reveals strong correlations between their visual, subject, and compositional elements. Examples of the ways in which the First Edition of Chambers visually emulated illustrations from *Penny Cyclopaedia*, are shown in Figures 2a and 2b, and in Figures 3a and 3b.²³

¹⁹ Wallace's letter to Stevens, 12 May 1856 in Alfred Russel Wallace: Letters from the Malay Archipelago, ed. by J. Van Whye and K. Rookmaaker (Oxford: Oxford University Press, 2013), pp. 79–83. Wallace mentions acquiring the four volumes of Knight's encyclopedia on natural history. N4:12ff; vols. 1–2 t. Annotated copies of vols. 1–2 are in the Linnean Society Library.

²⁰ Christine Jackson, Bird Etchings: the illustrators and their books, 1655–1855 (Cornell: Cornell University Press, 1989) p. 28; Ronan Deazley, 'Commentary on Fine Arts Copyright Act 1862', in Primary Sources on Copyright (1450–1900), ed. by Lionel Bently and Martin Kretschmer, www.copyrighthistory.org.

²¹ Jackson, Bird Etchings, p. 28.

²² Rose Roberto, 'Democratising Knowledge' pp. 122–125.

²³ Roberto, 'Democratising Knowledge', pp. 164–165

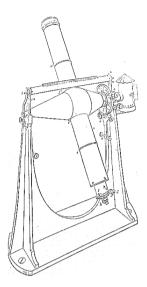


Fig. 2a 'Transit' illustrations found in *Penny Cyclopaedia*, Volume 25, 1843, p. 123.

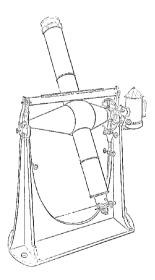


Fig. 2b 'Transit' illustration found in *Chambers's Encyclopaedia*, vol. 9, 1868, p. 512. Images are not to scale.

As can be seen in Figure 2b, the telescope illustration found in the entry for 'transit instrument' used in Volume 9 on page 512 of Chambers's Encyclopaedia First Edition looks nearly identical to the telescope found in Volume 5, page 123 of Penny Cyclopaedia as shown in Figure 2a. The major differences are related to size. In the Penny Cyclopaedia the illustration is presented on a much larger scale, taking up an entire page of the encyclopedia's layout, while Chambers's smaller telescope illustration fits neatly into one of its two-column page layouts. While there are older encyclopedias with transit instrument illustrations, the Chambers and Penny illustrations are both wood engravings that were integrated into the page layout along with the text. Previous illustrations of this telescope, such as the eighth edition of Encyclopaedia Britannica, were made using the metal engraving technique which required images to be printed on separate paper from the paper that the text was printed on. The result of using separate printing techniques is that readers viewed illustrations as a fold-out plate. Inclusion of fold-out plates added paper and labor costs for the publishers who passed on the cost of making illustrations to their readers. The eighth edition of Encyclopaedia Britannica, as well as its earlier editions, were aimed at audiences who could afford to pay for a higher end product. Chambers's Encyclopaedia is more closely linked with Penny when considering production techniques and audience markets.

Comparisons between *Chambers's Encyclopaedia* and the *Penny Cyclopaedia* show that most of the same species of plants and animals that were illustrated in Chambers's had previously appeared in the *Penny Cyclopaedia*. While there are many cases of nearly identical illustrations, such as the transit instrument, some images are *nearly* alike. For instance, the entry for 'dragon', a common name applied to various saurian reptiles, demonstrates the visual equivalent of plagiarism by textual paraphrasing. While these representations of reptiles many not exactly match, both illustrations present the animal in a G or reverse G formation, with long tails arranged in a stylized manner at the bottom of the picture's composition. The differences between the pictures are minor: the Chambers dragon is posed in what seems to be its habitat — with foliage as part of its background — while the Penny specimen has close-up details of the head and claws. If one

remembers that wood-engraved illustrations print in reverse, their poses facing opposite directions provide evidence of wood engravers copying another publication's images.

The entry for 'tattoo' in both Penny and Chambers (see Figures 3a and 3b, respectively), provides another example of a different type of copying by textual and visual paraphrasing. Despite the Chambers entry being shorter, both Penny and Chambers cover certain main points in their respective articles, which state that tattoos are a practice of 'uncivilised societies', that the English word 'tattoo' comes from the Polynesian word 'ta' which means 'to strike', and that New Zealanders tattoo their faces as a sign of achieving adult status. Both encyclopedia articles further report that tattooing was practiced in Ancient Rome and pre-Roman Britain, and that there is a Biblical passage in Leviticus prohibiting the practice of tattooing. Additionally, both Penny and Chambers list the contemporary ethnic groups that continue to engage in its practice, speculating that it can be seen as a form of initiation within these ethnic groups. It is worth noting that other encyclopedias pre-dating the First Edition of Chambers do not include an entry for 'tattoo.'24 It is only Charles Knight's encyclopedia that contains this information, again indicating how the Penny Cyclopaedia influenced Chambers.

Figure 3a shows one of the two illustrations used for the entry 'tattoo' in Volume 24 of the *Penny Cyclopaedia*. Figure 3b shows an illustration in Volume 9 of Chambers. While the images feature differing illustration styles (discussed in the next section), the visual information presented in both editions has similar content, in that both depictions focus on highlighting areas of the face where New Zealand Maori were tattooed.

The most likely explanation for the number of times that Chambers appears to be copying the *Penny Cyclopaedia* imagery and text was that Chambers's was *actually copying* portions of it. The business records in the Chambers archives show that Chambers had access to the *Penny Cyclopaedia* electrotype plates. In 1854, William Somerville Orr, the former London agent of the Chambers's firm, went into debt,

²⁴ Other British encyclopedias examined for 'tattoo' entries include: *Encyclopaedia Britannica* (1853–1860), eighth edition, and the *London Encyclopaedia* (1826). The latter stops at 'S'. *Imperial Dictionary* (1850), contains an illustrated 'tattoo' entry, but *Penny Cyclopaedia* is where it appears first.



Fig. 3a 'Tattoo' illustrations in *Penny Cyclopaedia*, vol. 24, 1842, p. 100. Image is not to scale.



Fig. 3b 'Tattoo' illustration in entry for *Chambers's Encyclopaedia*, vol. 9, 1867, p. 313. Image is not to scale.

owing the firm approximately £10,000.²⁵ Orr paid part of his debt by giving Chambers stereotype plates for various publications from Charles Knight, including the *Penny Cyclopaedia*, which Orr had in his

²⁵ Sondra Miley Cooney, 'William Somerville Orr, London Publisher and Printer: The Skeleton in the W. & R. Chambers's Closet', in Worlds of Print: Diversity in the Book Trade. Ed. by John Hinks and Catherine Armstrong (London: The British Library, 2006), p. 144. The total amount of money still owed to the Chambers firm after transfer of Orr's property was £3930/17s/2d. This chapter provides a longer account of the business dealings between Orr and the Chambers firm.

possession and was intending to publish himself. While Chambers did re-publish several of Knight's works, ultimately the firm decided against re-publishing the *Penny Cyclopaedia*, because Orr had not received copyright from Knight — only permission to update and reprint it.²⁶

From a business standpoint, the Chambers editors made a wise decision to carry on production of the firm's own encyclopedia, begun in 1852.27 Charles Knight himself experienced problems when producing Penny Cyclopaedia, which was not ideally organized nor a profitable venture. In the 1830s, Knight wanted to produce an eight-volume encyclopedic work, which he thought should be sold for approximately 72 pence in total.²⁸ Recalling the *Penny Cyclopaedia* project years later, Knight stated with much regret that unlike the British Almanack (begun 1828) and the Penny Magazine (1832-1845) which he produced in collaboration with the Society for the Diffusion of Useful Knowledge (SDUK), he could not manage the encyclopedia project effectively because he did not have complete control over it.29 This was due to a 'well-intentioned' but 'interfering advisory board'. Many SDUK board members were academics from University College London, who insisted on including numerous topics that Knight, and later Chambers, thought 'unfit for the middle and working classes' because inclusion of so much material made it prohibitively expensive, putting it out of reach for them.³¹ While salaries varied during the mid-nineteenth century according to region and type of employment, in the 1860s, an engineer (considered middle class) could earn £110 per year, a footman would

²⁶ Advertisement for reprinted versions of Knight's works published in 1854, in Miscellaneous correspondence and other papers concerning the publication of various works e.g., 'The Pictorial History of England', 'The Pictorial Bible', 'The Penny Cyclopaedia', 1854, vol. 132 (unpublished W. & R. Chambers Archives, Deposit 341, National Library of Scotland).

²⁷ Chambers paid Brockhaus for translation rights for its unillustrated *Conversations Lexicon* (10th edition) from German into English.

²⁸ Padraig S. Walsh, *Anglo-American general encyclopedias: a historical bibliography*, 1703–1967 (New York: Bowker, 1969), p. 142. Each individual volume was meant to cost 9 pence each. However the cost went up to 18 pence in 1836 and continued to increase, ultimately costing nearly £8 in total.

²⁹ Charles Knight, Passages of a Working Life During Half a Century: Prelude of Early Reminiscences (London: Bradbury and Evans, 1864), p. 334.

³⁰ Valerie Gray, Charles Knight: Educator, Publisher, and Writer (Aldershot, Hampshire: Ashgate, 2006), p. 55.

³¹ Chambers and Chambers, *Information for the People*, Volume 2, ed. by William and Robert Chambers (Edinburgh: W. & R. Chambers, 1842), p. 637.

earn just under £30 per year, and a maid about £3 5s per year. At £4 10 shillings, *Chambers's Encyclopaedia*, could be in reach of a footman's salary.³² In contrast, the *Penny Cyclopaedia* took over a decade to complete because the encyclopedia project ballooned into a twenty-seven-volume set, finally costing the impatient subscribers nearly £8 for the entire set.³³

By not reissuing the *Penny Cyclopaedia*, the Chambers firm also avoided a market clash with Knight in the 1850s, who was publishing the aforementioned *English Cyclopaedia*. Although the subject coverage of the *English Cyclopaedia* was repackaged into self-contained divisions with updated text, the *English Cyclopaedia* carried previous illustrations initially appearing in the *Penny Cyclopaedia*. It is perhaps for this reason that Chambers saw no marketing value in acknowledging the Penny's visual influence on its own encyclopedia. Another disincentive for publicizing the connection came five years prior to the release of their encyclopedia, when Chambers tentatively announced an updated *Penny Cyclopaedia* reprint. Various letters from the public expressed concern over the level of inaccurate or outdated information Penny contained. Chambers's response to this feedback is reflected in a letter dated 28 November, 1854 to Lippincott:

...You will have heard that we have abandoned the intention of bringing out a reissue of the *Penny Cyclopaedia*; our reason for this step being the timely discovery that its proprietors were financially unable to keep up with the publication. We have bought from them the Pictorial Bible and the Pictorial History of England [...] Your best endeavours are asked on behalf of these works, as it would be a matter of first importance to us to reckon in a certain sale in America.³⁶

³² Roberto, 'Democratising Knowledge', p. 232. An alternative to purchasing encyclopedias were subscription libraries. Library records show *Chambers Encyclopaedia* available in Cumbria, Dumfriesshire, Devon, Exeter, Essex, Flintshire, Innerpeffray, London, Leeds, Manchester, Newcastle, Nottingham, and Stirling.

³³ Fyfe, Steam-Powered Knowledge, p. 69.

³⁴ Charles Knight, 'Preface', in English Cyclopaedia: A new dictionary of universal knowledge, Arts & Sciences, vol. 1, ed. by Charles Knight (London: Bradbury and Evans, 1859), pp. vii–viii.

³⁵ Chambers firm to R.S. Burn, in *Miscellaneous correspondence and other papers concerning the publication of various works e.g., 'The Pictorial History of England', 'The Pictorial Bible', 'The Penny Cyclopaedia', 1854*, vol. 132 (Unpublished W. & R. Chambers Archives, Deposit 341, NLS).

³⁶ Chambers firm to Lippincott, in *Miscellaneous correspondence and other papers concerning the publication of various works* (Unpublished W. & R. Chambers Archives, Deposit 341, NLS).

The Chambers firm was aware that reprinting Penny could lead to problematic copyright issues, could entail a difficult production schedule, and would lead to tepid public reception made the editors decide undertaking it was financially risky, and a waste of their resources. However, since *The Pictorial Bible* and *The Pictorial History of England* were one-volume works, not requiring revising, the Chambers firm did issue them, but they were not profitable.³⁷

It is worth noting here that both Chambers and Knight used wood engraving for their illustrated publications. By choosing this form of relief printing — which allows images to be printed alongside text — rather than by metal engraving processes, which required different paper and separate printing processes, they were choosing to produce works aimed at the middle class (and those aspiring to join it). Metal engraving incurs extra costs for additional paper and extra production time, due to added labor required to assemble works with illustrations due to the additional labor required to make the quality print and integrate it into the bound volume. Typically, added production costs are passed down to consumers as noted earlier. However, with integrated printing technology, money saved on production could then be passed down to Chambers's Encyclopaedia customers. The price for the entire ten-volume set of the First Edition was £4 10 shillings, which could be paid in installments. The cost for the eighth edition of Encyclopaedia Britannica was 30 shillings per volume, and there were twenty-five volumes in the series.

The Culture of Copying Among Encyclopedia Publishers

While the previous section shows how the Chambers firm engaged in copying, this next section discusses how others copied from Chambers, and how unauthorized copying was generally quite widespread. Loveland's survey states that before the early twentieth century, when international copyright agreements were in place, publishers

³⁷ Cooney, Sondra, p. 145. By 1868, *The Pictorial Bible* only made Chambers a profit of £889, and *The Pictorial History of England* incurred a £500 loss. Lippincott also mentioned that *Pictorial History* did not sell well.

rationalized copying on the following grounds. First, *all* encyclopedias copied content from older sources. Second, the editors stated they were serving the public's best interests because abridged versions and translations could add value to the original material.³⁸ Finally, European intellectuals and writers increasingly considered there to be a body of classical works of literature that simply belonged to everyone — what we now regard as public domain material.³⁹ This supports the findings of Meredith McGill, a scholar of American literature. In her study of the American 'culture of reprinting' between 1834 and 1853, she finds that numerous publishers argued against registering fact-based works for copyright on the grounds that texts with factual information, 'were not copyrightable because they were based on facts, which were public property'. 40 In addition, because many reference works were marketed as 'useful works', there was widespread doubt around the creative properties behind their composition, unlike the more obvious originality required for composing fiction or poetry. For publishers, practical works were seen as appealing commodities and good longterm investments, since historically, they 'had broad appeal' to diverse audiences.41

In 1879, the text of the First Edition of *Chambers's Encyclopaedia* was over twenty years old, yet still contained 'useful facts'. Because of the First Edition's age, it is clear that William Harrison De Puy, editor of *The People's Cyclopaedia of Universal Knowledge*, considered the Chambers text to be up for grabs in the United States. Furthermore, as a work by a British author who was not resident in the United States, the work was, indeed, not protected by American copyright law. De Puy, a reprinter working for Phillips & Hunt, an imprint of Methodist Tract Society, found a market for repackaging (or re-framing according to Bhaskar) and printing encyclopedias. De Puy was also responsible for editing the *Methodist Yearbook*, *The Methodist Almanac*, and other reprinting

³⁸ Loveland, The European Encyclopaedia, p. 150.

³⁹ Ibid.

⁴⁰ Meredith L. McGill, *American Literature and the Culture of Reprinting* 1834–1853 (Philadelphia: University of Pennsylvania, 2003), p. 71.

⁴¹ McGill, p. 340. Her study cites James Gilreath, 'American Literature, Public Policy, and the Copyright Laws before 1800', in *Federal Copyright Records* 1790–1800 (Washington, DC: Library of Congress, 1980), xv–xxv.

⁴² The Methodist Tract Society had several book imprints. In the 1870s, two were Phillips & Hunt, based in New York and Walden & Stowe, based in Cincinnati.

projects, including *An American Dictionary of the English Language* originally complied by Noah Webster in 1828.⁴³

In his *People's Cyclopaedia of Universal Knowledge*, De Puy engaged in a combination of word-for-word copying and abridgement, taking text from Chambers while simultaneously copying illustrations from Webster's dictionary. On average, De Puy standardized its entries into three or fewer paragraphs of plagiarized text from the Chambers's First Edition. This abridgement meant that the ten volumes of *Chambers's Encyclopaedia* could be condensed into two volumes for *The People's Cyclopaedia of Universal Knowledge*. This smaller version was also made possible because dictionary illustrations are typically smaller than encyclopedia illustrations.

Why would De Puy cannibalize two different reference works? First, it kept costs down. Overall, the First Edition contained over 4,000 images, and the majority of them were larger than illustrations typically found in standard dictionary entries. As the nineteenth century unfolded, dictionaries tended to squeeze entries into a three-column page layout or resorted to other typographical means to fit more material in the available space.44 The 1865 edition of Webster's Dictionary also appears to use woodcuts rather than wood engravings, which would have contributed to bringing costs for The People's Cyclopaedia of Universal Knowledge down even more because less paper was needed for smaller illustrations. Woodcuts were also easier to reproduce than wood engravings, because generally they are simpler and less detailed than the latter.⁴⁵ However, The People's Cyclopaedia of Universal Knowledge claims it contains more than 5,000 illustrations, and a few dozen of them are larger than most standard dictionary images, leading to a second theory: De Puy simply chose to use illustrations from Webster's Dictionary because as a reprinter of this work, he had access to the Webster images and it was convenient

⁴³ W. H. De Puy (1821–1901) also seems to have worked on two other encyclopedia projects which may have also been cheap reprints, namely the *Encyclopaedia Britannica* and the *World-Wide Encyclopaedia and Gazetter*. University of Pennsylvania Online Books Page, http://onlinebooks.library.upenn.edu/webbin/book/lookupname?key=De%20Puy%2C%20W.%20H.%20(William%20 Harrison)%2C%201821-1901.

⁴⁴ Paul Luna, 'Marks, Spaces and Boundaries', Visible Language, 45 (2011), 139–160.

⁴⁵ Paul Luna, 'Picture This: How Illustrations Define Dictionaries' in *Typography Papers, Volume 9*. (London: Hyphen Press, 2013), p. 158.

for him, since the small-scale images worked adequately in *The People's Cyclopaedia's* more compact layout.

Until the mid-nineteenth century, some American publishers specialized in mid-priced or cheap textbooks, or practical manuals produced by taking British-authored texts and reprinting them on less-expensive paper with cheap binding, and selling them at a fraction of the cost of British originals, which was perfectly legal since American copyright law for most of the century did not protect works by authors who were not citizens or residents of the US.⁴⁶ According to the New York-based Methodist Episcopal Church's magazine, the Methodist Tract Society committee was established in order to produce and sell inexpensive material from their Methodist Book-Room.⁴⁷ Very boldly, the 'Publisher's Announcement' in the opening pages read:

The publishers of *The People's Cyclopaedia of Universal Knowledge* make no apology for adding another work of its class to the number already in the market. Long experience and close observation of the wants of the public have led them to believe that, in offering to the people a complete Cyclopaedia in a thoroughly condensed form, divested of much of the verbiage found in larger and more costly works, they are supplying a real and generally recognized want. Another reason for issuing this work is the high price of all other Cyclopaedias. The present is the first successful attempt to put upon the market a really desirable work of this character at a price within reach of all.⁴⁸

Not much more is known about editor W. H. De Puy aside from his involvement with the *People's Cyclopaedia*. However, library records do link his name to several later reprinted encyclopedia projects: among them, unauthorized American versions of the ninth edition of *Encyclopaedia Britannica*, published by R. S. Peale and Company of Chicago in 1891, and a reprint of the Peale reprint version by the Werner

⁴⁶ Aileen Fyfe, *Steam-powered Knowledge: William Chambers and the Business of Publishing*, 1820–1860 (Chicago: The University of Chicago Press, 2012), p. 191. The law changed in 1891 but the procedures were still complicated for foreign authors and publishers, who looked for protectionist policies.

⁴⁷ The Methodist Episcopal Church. *Methodist Magazine: Designed as a compend* [sic] of useful knowledge and of religious and missionary intelligence for the year of our Lord, 1826, vol. 9 (New York: N. Bangs and J. Emory, 1826). p. 141–143. Publications in 1826 were sold for 10 cents for each 100 pages.

⁴⁸ William H. De Puy, 'Preface for Fourth Edition Supplement' *The People's Cyclopedia of Universal Knowledge* (New York: Phillips & Hunt, 1881).

Company of Akron in 1893.⁴⁹ The relief images in the unauthorized *Encyclopaedia Britannica* published by R. S. Peale and Company match those found in the authorized A & C Black version, with the addition of fold-out color maps.⁵⁰ It seems that De Puy moved around the United States working to compile, repurpose, and reissue earlier standard reference books for various low-priced publishers.

The People's Cyclopaedia of Universal Knowledge sold 40,000 volumes before 1882.⁵¹ While the extensive unauthorized copying found in *The People's Cyclopaedia of Universal Knowledge* does not seem to have financially hurt W. & R. Chambers whose sales figures of their First Edition by 1880 numbered 80,000 sets as the official American publisher of *Chambers's Encyclopaedia*, J. B. Lippincott took issue with whom they called 'third-rate publishers' (such as Phillips & Hunt) affecting Lippincott's profit and reputation for quality.⁵² It seems they had reason for concern.

Until 1891, there was no American copyright protection for works by authors who were not citizens or residents of the US. This resulted in American works being unprotected abroad and domestic publishers competing with each other to produce cheap editions of foreign works. Paul Robert Kruse documents copyright cases between 1875 and 1905 filed by A & C Black, the Edinburgh-based publisher of the *Encyclopaedia Britannica's* 7th, 8th, and 9th editions, showing that Britannica was pirated at least twelve times — with multiple lawsuits overlapping in American courts before ownership of Britannica passed to American

⁴⁹ Paul Kruse, 'Piracy and the Britannica: Unauthorized Reprintings of the Ninth Edition', The Library Quarterly, 33 (1963), 313–328, https://doi.org/10.1086/619159; John M. Ockerbloom, 'De Puy, W. H. (William Harrison), 1821–1901', in The Online Books Page, University of Pennsylvania Libraries, and Internet Archive (n.d.)

⁵⁰ A cursory comparison of images was conducted in Volume XIII of the A & C Black edition of the *The Encyclopaedia Britannica* volume containing entries for the letter 'T', published in 1888, with Volume XIII of the R.S. Peale reprint edition of *The Encyclopaedia Britannica*, published in 1893 by the Werner Company. While new maps and additional American entries were later added, the wood-engraved illustrations were consistent with those found in the original Black edition. There is further scope for investigation of all images in the 9th edition of *Encyclopaedia Britannica*.

⁵¹ De Puy, 'Preface for Fourth Edition Supplement', no page number.

⁵² Pub. Ledger No.2, 1845–67, vol. 275 (unpublished W. & R. Chambers Archives, Deposit 341, NLS). Lippincott Company to Chambers, 17 September 1893, in Correspondence files, Letter pressed book, half calf binding with red sides, Volume 10.3 (unpublished W. & R. Chambers Archives, Deposit 341, NLS).

businessmen.⁵³ In the United States, American reprinters vastly outsold editions by A & C Black. Kruse estimates that while 50,000 sets of the *Encyclopaedia Britannica's* 9th edition were sold by 1897 in US markets, about 100,000 sets of unauthorized editions by American reprinters were sold by that time.⁵⁴

Despite the efforts of several authors and their official American publishers for copyright protection, many American publishers did make a profit from reprinting in the United States. Since reprinting benefited them directly, these publishers lobbied the US Congress against protecting foreign works. In the absence of copyright protection for foreign works, publishers resorted to several strategies to try to protect their interests. First, major American publishers established professional courtesy agreements with each other. In the nineteenth century a group consisting of nine major American publishers was formed, and it included the Lippincott firm. All nine firms agreed to a set of norms in order to avoid ruinous competition with each other. The first firm to reprint a work by a British author would claim the field, and the others would agree to respect that arrangement by not undercutting them. This was effective for the most part.⁵⁵ Lippincott alludes to the American professional courtesy agreement between D. Appleton of New York and themselves in this 1871 letter to Chambers.

It should [...] be known to you that when we arranged with your firm to take up work [on printing *Chambers's Encyclopaedia*] the Messrs Appleton, of New York had already commenced in the re-publication, and it is not too much perhaps to claim that but for our instrumentality in forcing them to abandon the field...you [Chambers] would hardly have realized the sum of £1800. 56

⁵³ Kruse, 'Piracy and the Britannica', p. 314. This article is an extract of Kruse's doctoral thesis: 'The Story of the Encyclopaedia Britannica, 1768–1943' (unpublished doctoral thesis, University of Chicago, 1958); Loveland, *The European Encyclopaedia*, p. 149.

⁵⁴ Kruse, 'Piracy and the Britannica', p. 328.

⁵⁵ Robert Spoo, 'Courtesy Paratexts: Informal Publishing Norms and the Copyright Vacuum in Nineteenth-Century America', *Stanford Law Review* 69 (2017), 637–710 (pp. 660–661). The nine publishing houses mentioned are: J. B. Lippincott and Co; J. R. Osgood and Co.; D. Appleton and Co.; Roberts Brothers; G. P. Putnam's Sons; Harper and Brothers; Macmillan and Co.; E. P. Dutton and Co.; Henry Hold and Co., pp. 653–654, 660, 662

⁵⁶ Lippincott Company to Chambers, 17 August 1874, in Correspondence 1865–1874, Letter pressed book, bound in leather, vol. 1.9, pp. 71–76 (unpublished J. B. Lippincott

As the authorized publisher and printer of *Chambers's Encyclopaedia* in the United States, Lippincott was positioned to pressure D. Appleton not to reprint the First Edition.⁵⁷ Considering the revenue that A & C Black lost due to the unauthorized reprinting of Britannica, this is no small achievement by Lippincott.

Another option available to a major publisher would be to engage in more informal means of shunning novice publishers and smaller firms, so that they never had a national American audience. Loveland provides several examples where this strategy of publishers complaining loudly in public worked, with potential customers purchasing official editions rather than reprints. Ultimately, despite the impressive sales figures reported for *The People's Cyclopaedia of Universal Knowledge*, the publication was forever linked to the Methodist Episcopal Church mission in America, which concentrated on producing cheap educational material for Christian audiences. Arguably, although Lippincott raised concerns in letters to Chambers, the Methodist Episcopal Church and its imprint of Philips & Hunt occupied a different part of the market than J. B. Lippincott or D. Appleton.

Finally, another strategy employed by major publishers to prevent reprinting was to flood the market with updated versions or entirely new editions of a reference work. The Chambers firm, in association with Lippincott, employed this strategy, and images were to be a crucial part of updating the *Chambers's Encyclopaedia* brand.

On-the-Ground Book Production Management

The business relationship and personal rapport between Chambers and Lippincott was established in December of 1853, when William Chambers was in Philadelphia and met Joshua Ballinger Lippincott, founder of J. B. Lippincott, face to face. The men found that they had much in common. Both operated family-run businesses, and they both

Company Archives, Collection 3104, The Historical Society of Pennsylvania).

⁵⁷ D. Appleton would publish its own encyclopedia, Johnson's Universal Cycloapedia, in 1874

⁵⁸ Loveland, The European Encyclopaedia, p. 155.

⁵⁹ Oliver S. Baketel, ed., Methodist Year-book 1921 (New York: The Methodist Concern, n.d.), pp. 160–163.

entered the printing and publishing trade before they had reached the age of twenty. Joshua B. Lippincott was remembered as 'genial' with 'frank and simple' manners [...] inspiring the stranger with confidence and winning for him many friends'.⁶⁰ William Chambers writes about how he had been impressed with Joshua personally and the Lippincott's business overall, and saw wide sales potential for Chambers publications through the Lippincott's book trade distribution network.⁶¹

After William's visit, Robert Chambers also begun corresponding with Joshua B. Lippincott, and in 1860, Robert stayed at the Lippincott home when he visited Philadelphia. Joshua B. Lippincott initially acted as an American distributor for Chambers's publications, including bound versions of *Information for the People, Chambers's Miscellany*, and the Knight reprints. He eventually also published American versions of *Chambers's Cyclopaedia of English Literature* and *Chambers's Book of Days*. When work began in earnest on the First Edition of *Chambers's Encyclopaedia*, Lippincott put Chambers in touch with US-based contributors who could write entries on American subjects.⁶² The rationale for this was twofold. Americans would know their subjects better (and by the Second Edition, many were well-known experts in various fields). Additionally, entries written by Americans could be covered by US copyright, and this would enable them to sue for any infringements in US courts.

Copyright was a topic that came up in many letters between the Lippincott and Chambers firms, even when it was not the main issue under discussion. A heated epistolary exchange between the two firms occurred during the end of 1873 and 1874 over the encyclopedia project, showing that the working relationship was not entirely smooth. This was especially true when the next generation of Lippincott and the Chambers family members took over the business from their fathers.⁶³

^{60 &#}x27;Obituary of Joshua B. Lippincott, 1886', Philadelphia's Evening Bulletin, cited in J. S. Freeman, Toward a Third Century of Excellence: An Informal History of the J. B. Lippincott Company (Philadelphia: J. B. Lippincott Company, 1992), p. 15.

⁶¹ William Chambers, *Things As They Are In America* (Edinburgh: W. & R. Chambers, 1854), p. 321.

⁶² Fyfe, Steam-powered Knowledge, p. 231.

⁶³ Two sons, Craige Lippincott and J. Bertram Lippincott, would go on to run the J. B. Lippincott firm after Joshua Ballinger's passing. Robert Chambers's son Robert

Letters reveal misunderstandings related to editorial roles around the encyclopedia project. Four questions arose that would shape the future of the encyclopedia partnership: Who should have the final editorial say in content when it came to publishing *Chambers's Encyclopaedia*? How would profits be divided? Who would 'own' the final intellectual content of the published work? Finally, how should copyright be claimed in different countries?

The Appendix to this chapter contains a transcript of the 1887 contract to produce an international encyclopedia in 10 volumes, consisting of 520 sheets of 16 pages each.⁶⁴ The contract attempts to resolve the most contentious issues between the two firms raised after the First Edition was published. The agreement addressed three areas: copyright, payments, and production schedule. Copyright was claimed by Chambers for the encyclopedia outside the United States, while Lippincott claimed copyright within the United States until 1912. At the end of this period, Lippincott agreed to transfer copyright back to the Chambers firm, along with the plates themselves. Lippincott retained the right to alter and update subsequent print-runs of this edition subject to final editorial approval from the Chambers firm. 65 Both firms agreed to protect and uphold copyright for each other in American and British territories respectively. Both agreed on a payment schedule which included Lippincott paying for importation fees of electrotype plates into the United States and Chambers agreeing to providing fees for American encyclopedia contributors. The Second Edition was not eligible for copyright production under the International Copyright Act of 1891, because all ten volumes of the encyclopedia counted as one work, dating from the release of its first volume in 1888. In an 1876 case involving the Encyclopaedia Britannica, Judge Butler had ruled that US copyright protection could not be awarded retrospectively.66 Nevertheless, Lippincott had already claimed US copyright with the

Chambers Jr, and later his grandson Charles Edward Stuart Chambers, also succeeded as editors and owners of W. & R. Chambers.

⁶⁴ Contract of New Encyclopaedia by W. & R. Chambers and J. B. Lippincott (1887), in *Contract between J. B. Lippincott and Chambers*, vol. 444 (unpublished W. & R. Chambers Archives, Deposit 341, NLS).

⁶⁵ An updated version of *Chambers's Encyclopaedia* (Second Edition) was printed in 1901.

⁶⁶ Scribner v. Stoddart, 21 Fed Cases 876 (1879) ruling in case of *Encyclopaedia Britiannica*, quoted in Kruse, 'Piracy and the Britannica', pp. 315–316.

release of each volume on the grounds that *Chambers's Encyclopaedia* was manufactured in Philadelphia.⁶⁷

The 1887 contract is a testament to how precise some aspects of publishers' planning could be in terms of page layouts and illustrations that must have already been calculated in advance, and how they attempted to resolve potential problems inherent to working transnationally. What is notable about this contract is that images were an integral component of negotiations for all three areas of copyright, payment, and production schedules. What's more, the images played a significant role in the publishers' strategy to differentiate the First Edition, which was being reprinted in unauthorized versions by William De Puy (and likely others), and what they began referring to in correspondence with each other as their 'New Edition'.⁶⁸

How New Illustration Styles Presented the Face of 'Modernity'

The Second Edition of *Chambers's Encyclopaedia* has a larger physical layout than the First Edition. The First Edition page size is 25.5 cm x 17 cm, while pages in the Second Edition measure 26.5 cm x 18 cm. The Second Edition was also printed on calendared paper. This means that when potential customers picked up a volume in the late 1880s, and leafed through its pages, they would have immediately felt the smooth surface, noticing that the text was more readable and that the images on the page had crisper lines. The illustrations in the Second Edition also seemed to be radically reimagined by W. & R. Chambers's art department headed by J. R. Pairman, as shown in Figures 4a and 4b, depicting illustrations in 'Arabian Architecture' entries.

⁶⁷ Lippincott to Chambers, 21 July 1891, in *Penn Letter Book*, Volume 5.7, p. 309 (unpublished J. B. Lippincott Company Archives, Collection 3104, The Historical Society of Pennsylvania).

⁶⁸ Chambers to Craige Lippincott, 4 October 1886, in *Correspondence between J. B. Lippincott and W. & R Chambers*, Volume 211 (unpublished W. & R. Chambers Archives, Deposit 341, NLS).

⁶⁹ Calendared paper is achieved mechanically by hard pressure and heated rollers used to smooth it, often leaving it with a shiny, even surface. Calendared paper was commonly used in Britain by the 1880s.



Fig. 4a 'Arabian Architecture' entry, with caption, *Chambers's Encyclopaedia*, First Edition, vol. 1, p. 346. Image is not to scale.



Fig. 4b 'Arabian Architecture' entry, with caption, *Chambers's Encyclopaedia*, Second Edition, vol. 1, p. 364. Image is not to scale.

Viewed side-by-side, these examples show that in comparison to First Edition images, a large number of Second Edition images emulate the aesthetics of photography, and have moved away from illustrating a general concept to instead depict a specific place, animal, or item that served as a model for the illustration. The Preface of the Second Edition of *Chambers's Encyclopaedia* provides a partial explanation for this visual make-over:

...In the twenty years [since the completion of *Chambers's Encyclopaedia*] much has happened to call for a completely different treatment of many articles. New subjects have emerged; many have become of greater importance [...] The publishers have therefore resolved to issue a thoroughly new edition of the Encyclopaedia.

[...] The illustrations, a department superintended by Mr J. R. Pairman, are mostly new, and will be found much in advance of the old, alike in accuracy and in artistic character. A large number are from photographs taken for this work.

The Publishers are confident that they are offering to the English-speaking world a really new and greatly improved edition of a work which has in the past received a large measure of popular approval.⁷⁰

Many of the emerging subject areas referred to above by David Patrick, the Second Edition's editor, can be tracked by examining the subjects chosen to be illustrated. In both editions the most frequently illustrated depictions were of animals, plants, machines and vehicles, architectural and built environments, and medical and anatomical structures.⁷¹ These subjects reflect the wider popularity of the natural world, but also the Victorian fascination with technology and appreciation for new mechanical devices related to transport and communication, which changed their lives and shaped their experiences in growing urban centers.

The world looked different between the 1860s and the 1890s, and the editorial staff for *Chambers's Encyclopaedia* chose illustrations which they saw as visually reflecting improvements in the world around them.

⁷⁰ Patrick, 'Preface'.

⁷¹ Roberto, 'Democratising Knowledge', pp. 122–123. Twenty-seven subject categories were identified and classified using CCO (Cataloguing Cultural Objects), a cataloguing standard developed by the Visual Resources Association (VRA) in association with the J. Paul Getty Museum. The top seven categories are vertebrates, botanical specimens, machines/vehicles, architecture, medical specimens, and invertebrates.

For instance, the depiction of two subject areas — microorganisms and human figures — changed significantly between the First and Second Edition. While there were only twenty-nine illustrations in the First Edition of microscopic life forms such as amoebae and various parasites, the Second Edition reflects the growth of Germ Theory in the 1870s by including illustrations based on the work of Robert Koch and Louis Pasteur. While there were 133 depictions of people and human forms in the First Edition represented in historical portraits, religious portraits, mythical creatures and as part of decorative flourishes, by the Second Edition only sixty-seven illustrations of people were retained in entries related to ancient civilizations, foreign countries, or as schematic representations demonstrating a medical or technical concept. Additionally, with the exception of schematic depictions of humans, illustrations mimic the aesthetics of photographs. This is called 'facsimile-style illustration'.73

Arguably, the technique for making and using facsimile-style illustrations was not a completely new one for *Chambers's Encyclopaedia*. There are instances of facsimile-style illustrations in the First Edition, such as the portrait of the Japanese Ambassadors (see Figure 1b) and the Maori man with tattoos (see Figure 3b). What does change between editions is the frequency with which one style of illustration is employed over another.

Overall, three types of illustration styles were found in both editions of *Chambers's Encyclopaedia*: schematic, facsimile, and pictorial.⁷⁴ Table 1 provides a comparative chart of all three styles next to one another. A schematic illustration shows the main form and features of an object or person, usually in reflected in a simplified drawing aiming to help readers understand a more complex concept or an abstraction. For instance, a medical diagram that explains where internal organs are

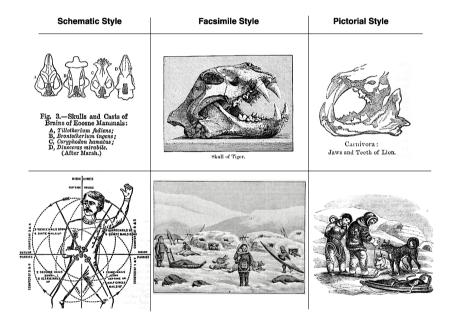
⁷² Louis Pasteur contributed the 'Hydrophobia' entry to the Second Edition of *Chambers's Encyclopaedia*, vol. 6. Hydrophobia is an older term for the rabies virus.

⁷³ Roberto, 'Democratising Knowledge', p. 118

⁷⁴ The terms`pictorial' and 'facsimile' are widely used by Gerry Beegan, *The Mass Image: A Social History of Photomechanical Reproduction in Victorian England* (Basingstoke: Palgrave Macmillan, 2008), and 'schematic' is used by by Michael Twyman: 'A schema for the study of graphical language' (tutorial paper), in *Processing Visible Language*, ed. by P. A. Kolers (New York, Springer, 1979), pp. 117–150. Other histories of print scholars use 'pictorial' interchangeably with 'interpretive', but I find the term problematic because facsimile-style also requires the interpretation of a three-dimensional object in two-dimensional space.

located in the body, or a map or plan of a city that only illustrates certain highlighted features. Examples of schematic-style illustrations in Table 1 compare skull sizes and main features of extinct mammals of different of different species or show different fencing stances and positions.

Table 1 Examples of schematic, facsimile and pictorial illustration styles found in *Chambers's Encyclopaedia*. Further information is presented on the National Museums Scotland webpage: https://www.nms.ac.uk/collections-research/our-research/highlights-of-previous-projects/chambers-collection/research/illustration-styles-and-subjects/.



The goal for the use of a facsimile-style illustration is verisimilitude, which depicts an object, person or place in a way that is as realistic as possible, or reproduces how it might be encountered in the physical world. Table 1 provides examples of facsimile-style illustrations based on photographs taken of the places or objects exiting in the real world for the Second Edition, contrasted with First Edition images. For instance, Figure 4b shows the Mosque of Kait Bey in Cairo, which took up one quarter of the page layout in the Second Edition volume in which it appeared.

Furthermore, photographic printing technology was not advanced enough in the 1880s to print actual photographs, so many wood engravers

were still being employed to translate photographs onto woodblocks that were then printed with text or as templates for electrotypes. This is why captions based on actual photographs were attributed to an actual photographer who originally composed, chemically developed a negative, and made a print of a photograph.

Finally, what print scholars classify as pictorial style has roots in eighteenth-century aesthetics, when concepts of the beautiful, the sublime, and the picturesque were tied to ideas of 'good taste' in visual art, literature, and music. Pictorial-style illustrations were highly influential and tied to the visual aesthetics of eighteenth-century copperplate engravings; they also profoundly influenced wood engraving, not only in books but in illustrated newspapers, journals, and magazines. Many celebrated wood engravers in the late 1700s and early 1800s, such as Thomas Bewick, founder of the Newcastle tradition of wood engraving, and John Thurston and Allen Robert Branson, associated with the London School of wood engraving, initially trained as copperplate engravers. They and their apprentices, William Harvey, John Jackson, Ebenezer Landells, Joseph Swain, George Dalziel, and later William James Linton, formed a direct line of descent from the first generation of wood-engraving masters of the trade to the creators of popular illustrated books and periodicals. 75 William Harvey incidentally worked on Charles Knight publications in the 1830s, including the Penny Cyclopaedia. Woodblocks from the Dalziel Brothers were commissioned for Chambers publications as well.

For most of the earlier part of the nineteenth century, pictorial-style illustration was connected with high culture and fine-art prints. There was also a widespread belief among influential art critics such as John Ruskin and publishers such as Charles Knight that illustrations could not only educate lower classes, but provide beauty that was morally uplifting, communicating deeper universal truths revealed through imagination and artistic expression.⁷⁶

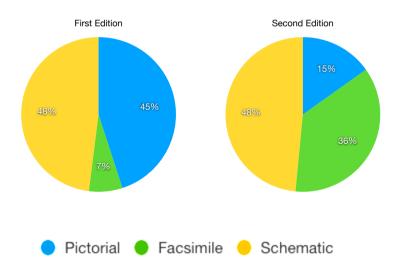
By the 1880s, Ruskin's Romantic sensibilities and dislike for what he called the `mechanical aspects' of industrialization were seen as

⁷⁵ Brian Maidment, 'The *Illuminated Magazine* and the Triumph of Wood Engraving', in *The Lure of Illustration in the Nineteenth Century*, ed. by Laurel Brake and Marysa Denmoor (Basingstoke: Palgrave-Macmillan, 2009), pp. 17–39.

⁷⁶ Letter from John Ruskin to Rev. W. L. Brown, September 28, 1847. Quoted in Michael Sprinker, 'Ruskin on the imagination', *Studies in Romanticism*, 18:1 (1979), 115–139.

old-fashioned by the editors of *Chambers's Encyclopaedia*; they saw the Second Edition as an opportunity to update a large portion of the illustrations found in Chambers and reevaluate what images it would contain. A comprehensive study of both encyclopedias revealed that the First Edition contained 4,066 illustrations, while in the Second Edition there were only 3,256 illustrations.⁷⁷ Table 2 presents the proportion of different styles of illustrations per edition, showing schematic style illustrations remained relatively unchanged. However, the proportion of facsimile-style illustrations increased from seven percent in the First Edition to thirty-six percent in the Second Edition, while proportionally the pictorial style illustrations decreased from nearly half at forty-five percent in the First Edition to fifteen percent. To compensate for 800 fewer illustrations in the Second Edition, editorial staff at Chambers included more fold-out maps and tables.⁷⁸

Table 2 Comparison of illustration styles found in the first two editions of *Chambers's Encyclopaedia*. The First Edition contained 4,066 images. The Second Edition had 3,256. Proportional pie chart based on data of sampling five of ten volumes across both editions.



⁷⁷ Roberto, 'Democratising Knowledge', p. 111.

⁷⁸ The First Edition had thirty-three fold-out maps; while the Second Edition's number rose to fifty-eight. The First Edition used 506 tables to present information, while in the Second Edition more than sixty were added at 567 tables.

At first it seems counterintuitive for there to be fewer illustrations (overall) in the Second Edition, given that the cost of paper and labor declined by the end of the 1800s, and technological methods for duplicating images had improved in terms of speed and fidelity to the original(s).⁷⁹ However, considering the complicated logistics needed to transport electrotype plates across the Atlantic in a timely manner as per the contractual agreement with Lippincott, Chambers streamlining as many processes as possible was a reasonable step. A practical way to do this was by commissioning fewer illustrations for the Second Edition, and being selective in choosing what was to be illustrated.

The commissioning of new engravings with a predominantly different illustration style also served a useful marketing purpose: Chambers could claim their new images were 'much in advance of the old'.80 The Second Edition notably relied on emulating images in the style of popular photographers, among them Francis Frith and Gambier Bolton. Francis Frith was an English photographer and the founder of Francis Frith & Co, the first firm dedicated to publishing and selling photographs of foreign places as well as cities and vistas around the United Kingdom. Frith's photographic postcards were on sale in 2,000 shops in England by the end of the mid-nineteenth century.⁸¹ Another example of a well-known photographer was Gambier Bolton, a fellow of the Royal Geographical Society, and member of both the Zoological Society and the Royal Photographic Society. Bolton is remembered as an animal photographer who frequently photographed zoo animals across Europe and North America. Bolton's work regularly appeared in popular Victorian magazines. He also published several books illustrated with his own photographs including: A Book of Beasts and Birds and The Animals of the Bible.82

⁷⁹ Alexis Weedon, Victorian Publishing: The Economics of Book Production for a Mass Market, 1836–1916 (Aldershot, Hampshire: Ashgate, 2003), p. 71.

⁸⁰ Patrick, ed. 'Preface', Chambers's Encyclopaedia, 1888, Volume 1 [n.p.]

Bill Jay, Victorian Cameraman, Francis Frith's views of Rural England 1850–1898 (Newton Abbot, Devon: David & Charles, 1973), p. 30; Patrick, 'Preface'. No evidence has been found in the Chambers archives that suggest Bolton or Frith objected to use of their work. Based on the editorial acknowledgement from Patrick to J. Pairman for 'sourcing' so many images in his role as Art Director, Pairman could very well have contacted different photographers or publishers. There are records he was in contact with the Dalziel Brothers' firm to commission woodblocks for the Chambers's Book of Days.

⁸² Ken Jacobson and Anthony Hamber, Etude d'Après Nature: 19th Century Photographs in Relation to Art (Petches Bridge: Ken & Jenny Jacobson, 1996), p. 171.

While the 'moorish gateway' illustration in Figure 4a looks similar to images in older Chambers publications, the Second Edition illustration presents a more modern aesthetic based on a photo by Frith, taken in Cairo. Ten illustrations in the Second Edition can be directly attributed to Frith. In contrast to an illustration for the 'Rhinoceros' entry in the First Edition which is visually similar to the *Penny Cyclopaedia's Rhinoceros Indicus*, the illustration of *Rhinoceros unicornis* found in the Second Edition emulates a photograph by Bolton circa 1882 at the Breslau Zoo, in former Prussia. In contrast to an illustration of the illust

In the Second Edition, photographic sensibility was such a priority in visual presentation that even when illustrations were not based on actual photographs, the volume contains illustrations staged to look like them. Among the birds in the Second Edition, images of different species of pigeons have been traced to (pictorial-style) illustrations in *An Illustrated Manual of British Birds* (1889), by Howard Saunders, including illustrations for 'Kite', 'Quail,' and 'Woodpecker' entries, the volumes published between 1890 and 1892. In Table 1, there is a facsimile-style illustration used in the Second Edition for the 'Eskimo' entry. The Second Edition illustration was based on drawings by the author of the Second Edition's 'Eskimo' entry, Dr. Henrich Johannes Rink. Or. Rink was a pioneer in the study of glaciology, and later a long-term resident of Greenland while serving as a Danish government administrator. Rink and his wife, ethnographer Nathalie Sophia Nielsine Caroline (Signe Rink), researched and published findings on the Greenland

^{83 &#}x27;The Moors of Spain', in *Chambers's Miscellany of Useful and Entertaining Tracts*, ed. by William and Robert Chambers (Edinburgh: W. & R. Chambers, 1846), p. 106; Roberto, 'Democratising Knowledge', pp. 215–216. The Second Edition specifically credits his work 10 times, although a further handful of illustrations look very similar to Frith's widely circulated photographs.

⁸⁴ Roberto, 'Democratising Knowledge', p. 216.

⁸⁵ Howard Saunders, *An Illustrated Manual of British Birds, Rock Dove*, London: Gurney and Jackson. p. 471, Stock Dove, p. 469, King-Dove or Wood-Pigeon, p. 467); A digitized version of *An Illustrated Manual of Birds* is online at the Biodiversity Heritage Library: https://www.biodiversitylibrary.org/bibliography/13544.

⁸⁶ David Patrick, ed., Chambers's Encyclopaedia: A Dictionary of Universal Knowledge, vol. 4, 2nd edition (Edinburgh: W. & R. Chambers, 1889), p. 422; S.M. Cooney, 'A Catalogue of Chambers's Encyclopaedia 1868', The Bibliotheck: A Journal of Scottish Bibliography and Book History, 24 (1999), p. 106; Andrew Findlater, ed., Chambers's Encyclopaedia: A Dictionary of Universal Knowledge, vol. 4 (1865), pp. 129–130. 'Esquimaux or Eskimo' is the actual title of the First Edition entry.

native population's language and culture.⁸⁷ The Chambers illustration depicts a winter station in Greenland with details such as the physical scale of a kayak in relation to a person who might use it, and reveals details of actual Eskimo igloos that were not perfect domes, and are partially dugout structures. People can be seen emerging and entering from underground entrances. Due to many visual elements — such as a border surrounding the image — and the framing perspective of human foreground figures in relation to the animals and distant snow-covered mountains, the illustration has photographic qualities.

These photographic cues show that Chambers embraced the marketing strategy to provide readers of the New Edition with information written by subject experts, whose names were presented to readers at the opening of each Second Edition volume. The verisimilitude style of illustration adopted also communicated the more modern, technical sensibility of photography. For this reason, Chambers and Lippincott publicized the Second Edition as being superior to the older edition, and by extension superior to unauthorized editions copying the First Edition.

Conclusion

Sources for encyclopedia illustrations changed between the 1860s and the 1890s. Most illustrations came from older sources, and encyclopedia publishers relied on them for market appeal — but also because illustrations communicated two types of messages to their audiences. First, they visually communicated didactic information relevant to the entry in question, or helped readers to better understand the entry they had just read. Second, illustrations communicated indirect information about the publisher, which today we might call brand marketing.

From the 1830s to the 1850s, founders of W. & R. Chambers promoted individual and societal progress, and provided tools in the form of low-priced publications for individuals to improve their minds and better their circumstances. Although the First Edition was published in the 1860s, production of *Chambers's Encyclopaedia* began in the late 1850s, and therefore the work reflects the working practices and values of both William and Robert to promote high morals, good taste, and practical

⁸⁷ Mark Nuttall, Encyclopedia of the Arctic (Abingdon, Oxon: Routledge, 2012), p. 158.

ways to an intellectually rewarding life. This is reflected visually in the pictorial illustration style chosen for a large portion of the images, which Chambers repurposed from its own, earlier publications, and from images commissioned by fellow publisher Charles Knight, who shared the former's values and aims, but whose works were more popular in the 1830s.

By the late 1880s, the Chambers firm had been in business for over 50 years and the next generation had taken over major responsibilities of running the firm. The illustration style promoted in the Second Edition was verisimilitude, which tied into a marketing strategy that advertised the Second Edition as having up-to-date information in the form of more tables of data, additional newly designed maps, and a visual aesthetic mimicking photographs. In the promotional language of the encyclopedia, editors took for granted that fin-de-siècle audiences would appreciate how photographic facsimiles provided current and authoritative information.

Indeed, the illustrations in Chambers proved to be commercially valuable. Before the last two volumes of the Second Edition were issued, Lippincott asked Chambers to purchase the right to reuse some 400 images for two of their upcoming textbooks: *A Course on Zoology: Designed for Secondary Education*, and *Home Life in all Lands*. The Chambers firm charged \$1 per image for copyright permission and their use in the named publications. *A Course on Zoology*, published in 1893, used nearly 300 images originating from Britain, but with text translated from a French-language book co-written by a French educator and natural history expert. *Home Life in all Lands* was published circa the 1890s and had a fifth reprinting between 1907 and 1911. The text was provided by prolific American history textbook writer Charles Morris, who wrote dozens of books for the Lippincott firm. The preface of the Zoology book states:

The illustrations form an important feature of [this work]. We desire to extend our thanks to Messrs. W. & R. Chambers for permission to use these [illustrations] from the new *Chambers's Encyclopaedia*, without which it would have been extremely difficult to give the book its present value in this respect [...] Many [illustrations] are from photographs, and of special scientific value.⁸⁸

⁸⁸ C. de Montmahou and H. Beauregard, Translated by Wm. H. Green, 'Preface', in *A Course on Zoology Designed for Secondary Education* (Philadelphia: J. B. Lippincott Company, 1893), p. 3.

In *Home Life in all Lands*, Charles Morris records a similar sentiment, noting that he had 'the privilege of using so many of the illustrations' from *Chambers's Encyclopaedia*.⁸⁹

Through agreements and business practices, American versions of Chambers's Encyclopaedia were printed by Lippincott in the US. While the firms argued that the contributions by authors resident in the US were protected for the First Edition, they recognized material that had already been published in the UK would not have been protected. A contract drawn in 1887 attempted to allow the works to gain US copyright protection, and was mutually the profitable for both publishers, because it provided clear guidance for both firms in terms of production and claims for intellectual property. As publishers, Chambers, and later Lipponcott, treated encyclopedia content as a commodity, while text and images were viewed as separate entities that could be easily assembled, repurposed, printed and reprinted on an industrial scale. Images were crucial to amplifying specific content, they were components to be recycled and reframed with different text, and repackaged into a new book for a different market. This was, and is, a successful publishing strategy that continues today.

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⁸⁹ Charles Morris Home Life in all Lands (Philadelphia: J. B. Lippincott, 1907), p. vi.

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Appendix

Contract for New Encyclopaedia by Lippincott and Chambers 1887

It is minuted and agreed upon between William and Robert Chambers Publisher, Edinburgh, Scotland hereinafter termed, the first party on the first part and J. B. Lippincott Company Publishers, Philadelphia, United States, hereinafter termed the Second Party on the Second Party in manner fall owning that is to say, the said parties, considering that they have entered into arrangements relative to the publication of Chambers International Encyclopaedia in (10) volumes consisting of five hundred and twenty (520) sheets of sixteen (16) pages each with maps and which the first party is the owner. And now seeing that in order to regulate their respective rights and interests and prevent disputes and differences the parties hereto have resolved to execute these pursuits. Therefore the said 'parties' have agreed and do heartily agree and bind and oblige themselves, and their respective presentations and successors as follows: [?]

(First) The First party agrees to supply the Second party with Electrotype plates of the text and wood engravings of said work at the rate of two pounds thirteen shillings (£2.13.0) for each sixteen (16) pages [?] of and the said first party agrees to have the plates of the first volume completed if possible not later than October one thousand and eight-hundred and eighty seven (1887) The succeeding volumes to be furnished at such periods thereafter as may be found, practicable, and to supply impressions of the maps and other illustrations pertaining to the work as, from the wood engravings at the rate of one shilling and three pence (11/3), if the maps and other illustrations don't exceed fifty (50)any maps above fifty (50) in number to be charged at the same profitable rate. All expense of packing, shipping, freight, insurance duties etc. to be paid by the second party, the payments to be made quarterly as in clause three of this agreement. The first party further gives the sole and exclusive right of publication and of sale of the said ten in the United States of America to the Second Party during the continuance of this agreement. This right-shall be limited to the United States of America. It is agreed that the expense of alteration on the American plates that may be made from time to time to keep the work up to date shall be paid by the Second party (Second). It is further agreed that the first part shall pay the cost of preparation of such American Articles as the parties hereto shall deem advisable, this cost of preparation shall include the following items: payment to authors; cost of procuring copyrights, and of any assignments of said rights and such legal expenses as are directly connected, with the procuring and assigning of the said copyrights; and it is further agreed that the copyright of the same in the British Empire shall be the property of the first party. The American copyright to be the property of the Second Party during the continuance of this agreement, the Second party agrees to transfer the American copyright to the First Party on termination of this agreement. It also agrees that these American articles shall be subject to Editorial Revision of the first party, before being incorporated.

[Second Page]

III Incorporated in the Work (Third) The Second Party in consideration of the foregoing stipulations agrees to manufacture the work in appropriate style from the aformentioned electrotype plates and the maps and furnished and to use their facilities for its sale, and to pay the first party a royalty of one and half (1 1/2) gold dollars of present weight and fineness for every ten (10) volumes of the work sold by the said Second Party equal to fifteen (15) cents for each volume, containing fifty two (52) sheets of sixteen (16) pages with maps, sold during the continuances as in volumes the Royalty, at the same rate of fifteen (15) cents for every fifty two (52) sheets of sixteen (16) pages sold, the amount of sales to be certified annually by the Secretary of J. B. Lippincott Company verified by this affidavit before a notary public. Accounts to be rendered and payments to be made quarterly, by Bank Bill at the sixty (60) days sight in February, May, August and November of each year. (Fourth) it is further agreed between the two parties that each shall take the necessary action regarding the simultaneous of the other issue of the different volumes of the work to protect, the Second party in the copyright of the aforesaid American Articles (Fifth). It is agreed that i/i at any time it many be deemed advisable by the Second party to import the sheets of the British printed edition of the said work, the first party shall supply the same in terms — of not less than two thousand (2000) copies of any one volume at two (2) shillings per volume in sheets unfolded, subject to advance of price corresponding to any material advance, in the price of paper of All expense of packing, shipping, freight- insurance quarterly as in clause three (Sixth) On the termination of this agreement it is agreed that the Electrotype plates shall be returned to the first Party who shall pay for them to the Second party then value at the price of stereotype metal. The first party agreeing that the said plates shall be immediately destroyed. (Seventh) This agreement shall continue for the term of twenty (20) years from the date of the issue of the last volume of the work unless terminated by mutual consent or unless either of the parties ceases to fulfil its stipulations. In the event of any disputes or differences arising as to the meaning of this agreement, or as to the rights and interests of the parties under if both parties agree to refer the source to the Lord advocate for Scotland when failing to the Solicitor General for Scotland for the time being? and they agree to accept his decision as final. This submission shall be made by written or printed briefs and neither party shall...

[Third Page]

have the right to appear before the arbiter either in person or for legal representative only attorney of any kind. The expenses of this arbitration to be paid equally by both parties (Lastly) the parties hereto agree and bind and oblige themselves, and their respective fore-said to implement this agreement in all its parts the one to the other. In Witness thereof these pursuits writt en upon this and the two preceding pages of stamped paper, William Frederick McAlpine apprentice to Lindsay McKeny, written to the Signet-Edinburgh.

Signatures

William & Robert Chambers Robert P. Morton Secretary of J. B. Lippincott Company

[Original document held at National Library of Scotland, W. & R. Chambers Archives, Dep 341–444]