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Article abstract

In the second half of the eighteenth century, as the magazine publishing industry grew, illustrations became a fundamental element of magazines, and some of the most ambitious publishers began offering readers coloured illustrations. This article examines a series of coloured illustrations published in *The Universal Magazine of Knowledge and Pleasure*. Launched in 1752, this series depicts subjects from natural history, including birds, animals, and plants. These plates were a critical vehicle in adapting and circulating elite scientific publications to a wide and diverse audience. As material objects, they were challenging to produce, but they were very important to the magazine's appeal to readers. Offering wondrous visual spectacles in print, the series entwined narratives of curiosity, natural history, exotic travel, and colonialism.

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Eighteenth-Century Magazine Illustration and Copper Plates Coloured from Nature

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The eighteenth-century British magazine industry grew rapidly, evolved quickly, and was intensely competitive. Illustrations began appearing in magazines in the 1740s, and within a few years they were well-established as integral to the product. Leading publishers employed illustrations to ensure that their magazines remained competitive and to distinguish them from similar products; distinctive plates could be invaluable in shaping a publication's overall identity. In the early 1750s, some of the most ambitious publishers started to offer readers coloured illustrations; initially, these plates were often reserved for subjects of natural history. The developments of the medium of coloured illustration and of the scientific genre of natural history were closely entwined, and the requirements and limitations of the production process of magazine illustration were critical to the designs of the coloured plates and to the information they offered readers. This development is evident in several titles. The most high-profile magazine to run a series of coloured natural history plates was *The Universal Magazine of Knowledge and Pleasure* (hereafter *The Universal Magazine*); the popular serial publication launched a sequence of such illustrations in 1752. Between 1752 and 1755, *The Gentleman's Magazine*, one of the country's most successful titles, also published coloured illustrations of several birds and plants, as well as a few snakes.¹ Moreover, the short-lived *The Grand Magazine* featured

1. *The Gentleman's Magazine* 22 (1752): plates facing pages 276, 300, 364, 412, 483. *The Gentleman's Magazine* 23 (1753): plates facing pages 172, 268, 324, 472, 512, 609.

coloured natural history plates regularly: in 1758 and 1759, its publishers offered their readers illustrations of numerous animals, including deer, monkeys, birds, an elephant, and a rhinoceros.² When *The Royal Magazine* initially came out in 1759, it included a coloured natural history plate in its first issue and many more in subsequent ones.³ All of these magazines were competing with one another, and this competition ensured that the coloured natural history plate became a popular type of magazine illustration in mid-eighteenth-century Britain.

In this essay I investigate how *The Universal Magazine* adapted elite natural history illustrations to create novel coloured plates for their readers—images that were intended to elicit wonder and curiosity. The magazine made bold claims about the function of the coloured plates it was publishing, but these contentions were somewhat disingenuous. The editors asserted that the use of colour made their plates more informative, but the reality is that accuracy was often compromised in the visual transposition of natural history. Coloured magazine illustrations were usually derived from publications by contemporaneous scientists, but considerable information could be lost when the information was translated visually and adapted to the magazine format. The real purpose of the coloured plates inserted in magazines was to present appealing visual spectacles for polite readers; low production costs and the novelty attraction of the illustrations were higher priorities than accurate representation of specimens. The plates offered brief glimpses into the world beyond Britain: they were images of wonder and exoticism (often, but not always, containing traces of colonialism), and they constituted a critical vehicle through which elite scientific curiosity was converted into an entertainment commodity in print culture.

By the mid-eighteenth century, the use of colour for natural history plates had already been established as a mode of illustration for scientific publications, and it had proven to be an endeavour at once worthwhile and challenging. Unsurprisingly, colour was integral to naturalists' observations. Eleazar Albin, whose *A Natural History of English Insects*

The Gentleman's Magazine 25 (1755): plate facing page 8.

2. *The Grand Magazine* 1 (1758): plates facing pages 18, 62, 172, 205, 317, 429, 541, 597. *The Grand Magazine* 2 (1759): plates facing pages 1, 57, 113, 226.

3. *The Royal Magazine* 1 (1759): plate facing page 7.

(1714–1720) was the first English zoology book with coloured plates, claimed that it was his work as a watercolour painter that led him to begin studying flowers and insects, which were endowed with “various Forms and beautiful Colours”⁴ that he found delightful.⁵ Colour sometimes played a critical role in showcasing specimens. Mark Catesby, author of *The Natural History of Carolina, Florida, and the Bahama Islands* (1729–1747), was inspired by the colours of the birds he saw in Carolina, and in his book he argued that coloured illustrations were essential because “a clearer Idea may be conceiv’d from the Figures of Animals and Plants in their proper Colours, than from the most exact Description.”⁶ Albin claimed that the illustrations included in his book were “Exactly Coloured,”⁷ while Catesby was careful to announce that his were “drawn by the Life” and “the Figures put in their Natural Colours from the Original Paintings.”⁸ In these statements, the use of colour functions as a marker of the authority the authors derived from first-hand experience. Authors of botanical books were also experimenting with colour: John Martyn’s *Historia Plantarum Rariorum* (1728) was colour printed using an experimental intaglio method based on mezzotint, while the plates in Robert Furber’s *Twelve Months of Flowers* (1730) were engraved and hand-coloured.⁹ There were still practical challenges, however, in using colours in scientific publications, for there were no standard names for them or recipes for their production, thus it was extremely difficult to reproduce precise tints—this difficulty was one reason that Carl Linnaeus concluded that colours could not be used to help identify species.¹⁰ Yet colour could

4. Eleazar Albin, “Preface” to *A Natural History of English Insects: Illustrated with a Hundred Copper Plates, Curiously Engraven from the Life, and (for Those Who Desire It) Exactly Coloured by the Author* (London: Printed for the Author, 1720), n.p.

5. For more details on the subject, see Christine E. Jackson, “The Painting of Hand-Coloured Zoological Illustrations,” *Archives of Natural History* 38, no. 1 (2011): 36–37.

6. Mark Catesby, *The Natural History of Carolina, Florida, and the Bahama Islands: Containing the Figures of Birds, Fishes, Serpents, Insects, and Plants* (London: Printed at the Expense of the Author, 1729–1747), xi–xii.

7. Albin, *A Natural History of English Insects*, title page.

8. Catesby, “Proposals, for Printing an Essay towards Natural History,” *The Natural History of Carolina, Florida, and the Bahama Islands*, [i].

9. Nancy Keeler, *Gardens in Perpetual Bloom: Botanical Illustration in Europe and America 1600–1850* (Boston: Museum of Fine Arts Publications, 2009), 13–14.

10. Karin Nickelsen, *Draughtsmen, Botanists and Nature: The Construction of Eighteenth-Century Botanical Illustrations* (Dordrecht, The Netherlands: Springer,

make a powerful impact on readers: Sarah Lowengard has argued that a coloured image of a specimen or object can offer viewers greater immediacy and intimacy than an uncoloured one.¹¹ The potential rewards for overcoming the challenges of colouring illustrations, then, were considerable. For *The Universal Magazine*, the opportunity to offer illustrations that were visually arresting, striking in their immediacy, and highly novel in the marketplace was worth the effort of surmounting the attendant production challenges: the use of colour could add an element of wonder to any issue.

A Series in “Natural Colours”: *The Universal Magazine*’s “Compendious System of Natural History”

The presence of coloured natural history plates in *The Universal Magazine* is significant because this publication was one of the most successful of its type in mid-eighteenth-century Britain.¹² As such, it was well placed to develop as much as benefit from the possibilities of colour. The magazine title’s emphasis on both knowledge and pleasure gave it broad appeal, with the intention of attracting the many readers who were bent on self-improvement or on leisure.¹³ Published by John Hinton, a London bookseller, *The Universal Magazine* appeared every month, and by the early 1750s it routinely included three or four illustrations in each issue, the subjects of which were considerably varied. Like many magazines of the period, it was available from booksellers throughout Great Britain and Ireland, selling at 6d. per issue.¹⁴ The

2006), 161. See also Beth Fowkes Tobin, “Butterflies, Spiders, and Shells: Coloring Natural History Illustrations in Late Eighteenth-Century Britain,” in *The Materiality of Color: The Production, Circulation, and Application of Dyes and Pigments, 1400–1800*, ed. Andrea Feeser, Maureen Daly Goggin, and Beth Fowkes Tobin (London and New York: Routledge, 2016 [Ashgate, 2012]), 265.

11. Sarah Lowengard, “Colour Printed Illustrations in Eighteenth-Century Periodicals,” in *Book Illustration in the Long Eighteenth Century: Reconfiguring the Visual Periphery of the Text*, ed. Christina Ionescu (Newcastle upon Tyne: Cambridge Scholars Publishing, 2011), 60.

12. David M. Greenhalgh, Entry “*The Universal Magazine*,” in *British Literary Magazines: The Augustan Age and the Age of Johnson, 1698–1788*, ed. Alvin Sullivan (Westport, CT: Greenwood Press, 1983), 337–40.

13. For a discussion of different approaches to reading during this period, see John Brewer, *The Pleasures of the Imagination: English Culture in the Eighteenth Century* (New York: Farrar, Straus, and Giroux, 1997), 192–97.

14. *General Advertiser*, 2 January 1752, issue 5398.

price made it accessible to a wide range of consumers, and its initial advertisement stated it was a magazine for the gentry, merchants, farmers, and tradesmen alike.¹⁵ Not only did the magazine have a substantial print run every month, consisting of hundreds, if not thousands, of copies, but individual copies would also routinely be read by many people, especially given that they could usually be found in circulating libraries or coffee houses.¹⁶ It thus reached an expansive and diverse audience, particularly in comparison to the readerships of many of the books from which it excerpted content. For example, Catesby's *The Natural History of Carolina, Florida, and the Bahama Islands* cost 22 guineas, an extremely high price at the time, and although the total size of the edition is unknown, the author-publisher's enterprise was supported by 155 subscribers, many of whom had extraordinary personal fortunes.¹⁷ The coloured natural history plates in *The Universal Magazine* were far more accessible than lavish print productions of natural history such as Catesby's magnum opus. They were thus the star feature of a special initiative designed to maintain subscribers' interest and attract new readers.

Series of illustrations were often designed to complement sequences of articles that a magazine would publish over several months or even years; the longevity of this practice encouraged consumers to become subscribers. Edward Pitcher has argued that series are indicative of how editors and publishers "attempted to give their magazines a signature

15. *General Evening Post*, 18–20 June 1747, issue 2136. For a discussion of audiences for magazines and serialized publications, see Jan Fergus, *Provincial Readers in Eighteenth-Century England* (Oxford: Oxford University Press, 2006), 197–233. By way of comparison, in the mid-eighteenth century many newspapers cost 2d. and chapbooks were available for 6d., but a multivolume novel might cost as much as 6s. (i.e. 72d.). See Jeremy Black, *The English Press in the Eighteenth Century* (London and Sydney: Croom Helm, 1987), 107; and Robert D. Hume, "The Value of Money in Eighteenth-Century England: Incomes, Prices, Buying Power—and Some Problems in Cultural Economics," *Huntington Library Quarterly* 77, no. 4 (Winter 2015): 381–82.

16. Morris Golden, "Introduction," in *British Literary Magazines*, cited above, xvii; Iona Italia, *The Rise of Literary Journalism in the Eighteenth Century: Anxious Employment* (New York: Routledge, 2005), 9.

17. David R. Brigham, "Mark Catesby and the Patronage of Natural History in the First Half of the Eighteenth Century," in *Empire's Nature: Mark Catesby's New World Vision*, ed. Amy R. W. Meyers and Margaret Beck Pritchard (Chapel Hill and London: University of North Carolina Press, 1998), 93–94.

which the public might recognize as distinctive.”¹⁸ In 1752, *The Universal Magazine* was five years old when it began publishing its series of coloured illustrations; it had already attracted a loyal readership, but retaining it was essential for long-term stability. The preface to the eleventh volume thanked the public and correspondents for their support, stating that:

as the best Method of shewing our Gratitude to the Public, is to render the Work worthy of their Acceptance, we propose, among a great Variety of other curious Articles, to give a compendious System of Natural History, illustrated with Copper-Plates of the most curious Animals, Vegetables, and Minerals, in their natural Colours. The prodigious Expence attending this Undertaking, will, we presume, abundantly convince the Public, that nothing shall deter us from rendering our Magazine as useful as possible.¹⁹

While the “compendious System of Natural History” referred to a series of articles, the real star feature was the coloured plates. These were framed as a generous gift to supportive readers—an expensive investment that was being made for their sole benefit. The announcement implies that the coloured illustrations are a contribution to polite culture; it reads as if the magazine was determined to develop greater social capital. There is no question, however, that the coloured plates were also intended to attract future readers; newspaper advertisements for new issues included prominent notices of the plates’ use of “natural Colours.”²⁰

The article that launched *The Universal Magazine*’s natural history series portrayed the subject as one that would enable readers to experience wonder. It confidently declared that: “the amazing variety of objects that continually surround us, cannot fail of exciting the curiosity, and raising the admiration of every beholder. It is by contemplating this infinity of objects, that the mind soars to some faint idea of the universality of the works of nature.... The minutest plant or animal, if

18. Edward W. R. Pitcher, *Discoveries in Periodicals, 1720–1820: Facts and Fictions* (Lewiston, NY: Edwin Mellen Press, 2000), 8.

19. “The Preface,” *The Universal Magazine of Knowledge and Pleasure* 11 (1752): 1.

20. *General Advertiser*, 1 September 1752, issue 5576. See also *London Evening Post*, 30 September–3 October 1752, issue 3889.

attentively examined, affords a thousand wonders.”²¹ In other words, nature was *wonder-full*. In one later issue we even encounter the following exclamation: “How wonderful is the bird, that wings its way through the air!”,²² and in another installment, we read that when one witnessed a flower bloom, “the mind should ... endeavour to explore those wonders.”²³ Wonder itself was a mental state, something experienced through contemplating the extraordinary. That invocation of the term is consistent with other contemporary uses: in his *Dictionary of the English Language*, Samuel Johnson defined “wonder” as “admiration; astonishment; amazement; surprise caused by something unusual or unexpected.”²⁴ In the magazine, coloured natural history illustrations acted as catalytic agents for wonder. The coloured plates were novelties that represented highly unusual subjects; for example, *The Universal Magazine* described the bird known as the Chinese teal as “curious and uncommon.... Its colours are as beautiful, as the form of its wings is rare.”²⁵ The corresponding plate, entitled “The Chinese Teel and Coral Tree” (Figure 1), enabled the reader to visualize this natural wonder. Wonder, then, became the rationale for the magazine’s colourful spectacle in print.

In subsequent volumes, the magazine celebrated the success of the series, which was in no small part attributed to its visual offering. In 1753, it claimed that the plates had received “universal Approbation” and that this response had inspired the editors to increase the number of coloured plates to two such items per issue. It then reiterated that “the great Expence ... will be the strongest Proof of our Desire of gratifying our Readers, and convincing them, that no pecuniary Consideration shall deter us from inserting whatever may tend to convey Knowledge and Instruction, when blended with Pleasure and Amusement.”²⁶ With this announcement, *The Universal Magazine*

21. “A Compendious System of Natural History,” *The Universal Magazine* 11 (1752): 59.

22. *Ibid.*, 165.

23. “A Description of the Moss Province Rose,” *The Universal Magazine* 12 (1753): 268.

24. Samuel Johnson, *A Dictionary of the English Language*, 2nd ed., 2 vols. (London: W. Strahan, 1755–1756), II.n.p.

25. “A Compendious System of Natural History,” *The Universal Magazine* 15 (1754): 208.

26. “The Preface,” *The Universal Magazine* 13 (1753): [1].



Figure 1. "The Chinese Teal and Coral Tree," hand-coloured etching/engraving, from *The Universal Magazine of Knowledge and Pleasure* 15 (1754), plate facing page 208, 12.6 × 20.6 cm; British Library, P.P.5439. © British Library Board.

raised its commitment to providing colour, making it more integral to its brand. The same rhetoric reappeared in 1755, when the magazine's preface repeated:

our Assurances, that nothing in our Power shall be wanting to render our Magazine worthy the Encouragement it has met with from the Public. The great Number of coloured and other Copper-Plates ... will, we are persuaded, sufficiently prove, that these Assurances are real, and that no Methods, however expensive, will be neglected, which seem to promise any Entertainment to our Readers.²⁷

The repetition of these announcements, which is unusual, is indicative of the magazine's ambitions for the project. Eventually, however, the relative novelty of the coloured illustrations seems to have diminished. The magazine reduced the frequency of its colour plates in the late 1750s, but it continued to publish them occasionally through the early 1760s. In order to appreciate what the series achieved, it is essential to examine how it was produced: coloured natural history plates could not simply be placed into the magazine. Their inclusion was dependent on the wider field of coloured natural history imagery and on the development of a suitable colouring process. Sound sources to adapt and a reliable reproduction method were essential in order to deliver the wondrous novelties the magazine was promising readers.

Adapting Curious Natural History: From Book Illustration to Magazine Plate

Like many early magazine illustrations, most coloured natural history plates in *The Universal Magazine* were adapted from plates that had been published elsewhere previously. Book illustrations that isolated specimens against a blank (or mostly blank) ground likely appealed to magazine editors because these compositions would have been comparatively more clear-cut to adapt and colour.²⁸ *The Compleat Florist*, published in 1747, was the source for several early botanical plates, including illustrations of the peony, the moss province rose, the French

27. "The Preface," *The Universal Magazine* 17 (1755): [1].

28. On the blank ground in botanical illustration, see Gill Saunders, *Picturing Plants: An Analytical History of Botanical Illustration*, 2nd ed. (London: Victoria and Albert Museum, 2009), 15–16.

marigold, and the auricula.²⁹ Elizabeth Blackwell's *A Curious Herbal*, published between 1737 and 1739, was a source for later illustrations, such as images depicting java cinnamon, the nutmeg, and the aloe.³⁰ For images of birds and other small animals, the most popular sources were George Edwards's books, especially *A Natural History of Birds* (1743–1751). Edwards was a well-known ornithologist, and he positioned his books as elite publications. As we will see in the discussion that follows, he was exasperated by the appropriation of his work in magazines, and his comments illustrate not only the importance of colour in the original illustrations that became sources for serial publications, but also the significance of making adaptations of these images more widely available.

A Natural History of Birds was a luxury object. Embedded in prestigious social and scientific networks, it was dedicated to the Royal College of Physicians, and in it, Edwards cited several prominent patrons who had supported him in preparing the book. The Royal Society even awarded Edwards a gold medal for his illustrations.³¹ For Edwards, the preparation of a coloured plate was a specific art, and the quality of the colouring was critical to the information presented. Edwards, who was taught how to etch by Catesby, made the following pertinent observation in this regard: "In etching Plates which are afterwards to be coloured, I have discovered, that they should be done in a manner different from such things that are to continue Black and White."³² His main concern was that the addition of colour would affect—and be affected by—the lights and shadows in the image; thus, the eventual addition of colour had to be planned in the initial stages. Furthermore, Edwards emphasized that he was concerned with the

29. *The Compleat Florist* (London: J. Duke, 1747), plates 18, 47, 44, and 50. *The Universal Magazine* 12 (1753): plates facing pages 209 and 268; *The Universal Magazine* 13 (1753): plate facing page 76; *The Universal Magazine* 14 (1754): plate facing page 213.

30. Elizabeth Blackwell, *A Curious Herbal*, 2 vols. (London: Samuel Harding, 1737–1739), vol. II, plates 391, 353, and 333. *The Universal Magazine* 14 (1754): plate facing page 257; *The Universal Magazine* 20 (1757): plate facing page 13; *The Universal Magazine* 17 (1755): plate facing page 301.

31. George Edwards, *A Natural History of Birds*, 4 vols. (London: Printed for the Author, 1743–1751), I.iii–iv; see pages xviii–xix of the first volume for Edwards's general comments about his patrons and page 7 for a specific example. For a more in-depth discussion, see Judith Magee, *Art and Nature: Three Centuries of Natural History Art from Around the World* (London: Natural History Museum, 2009), 19.

32. Edwards, *A Natural History of Birds*, I.xvii.

“Truth of the Colouring” and the “Authority of the Colouring,”³³ and he reported that many of the birds he depicted were alive when he drew them; a drawing of a living animal was especially authoritative, though drawings of preserved specimens could suffice if living animals were not available. In an attempt to protect the integrity of his project, Edwards not only carried out the initial colouring himself, he also closely supervised subsequent colouring and announced that he would not “part with any of the Prints uncolour’d while I live, lest they should be afterwards colour’d by unskilful People.”³⁴ It was a prescient concern, particularly in light of what magazine editors would do with his images.

When he published his illustrated volumes, Edwards could not have anticipated the extent to which his work would be copied. *The Universal Magazine* adapted over two dozen of his images, and it was by no means the only serial publication to copy his work; in addition to the copies found in various magazines, his illustrations of birds were also being replicated by Chelsea porcelain manufacturers, who produced at least seventeen figurines based on his plates.³⁵ In the preface to the second volume of *Gleanings of Natural History* (1760), Edwards complained about the adaptation of his images:

I have observed, that several of our manufacturers that imitate China ware, several print-sellers, and printers of linen and cotton cloths, have filled the shops in London with images, pictures and prints, modelled, copied; drawn, and coloured after the figures in my History of Birds, most of which are sadly represented both as to shape and colouring. Most of the monthly retailers of wit, knowledge, and public occurrences, have also in their Magazines, Mercuries, &c. made free both with my

33. Ibid., I.xviii.

34. Ibid. For an analysis of his colouring practice, see Christine E. Jackson, *Bird Etchings: The Illustrators and Their Books, 1655–1855* (Ithaca, NY and London: Cornell University Press, 1985), 92.

35. Edwards, *A Natural History of Birds*, II.68, II.77, III.109, I.14, II.66, II.67, IV.203, IV.204, IV.205, IV.202, IV.191, IV.183, I.32, II.81, I.7, II.55, I.39, I.18, IV.209, I.37, II.79, I.23, I.22, II.102, and III.134. Reproduced in: *The Universal Magazine* 11 (1752): plates facing pages 165 and 213; *The Universal Magazine* 12 (1753): plates facing pages 16, 68, 112, 154, 209, 202, and 249; *The Universal Magazine* 13 (1753): plates facing pages 10, 65, 108, 153, 253, and 301; *The Universal Magazine* 14 (1754): plates facing pages 9, 106, 156, 248, and 300; *The Universal Magazine* 15 (1754): plates facing pages 12, 57, 106, 208, and 300; and *The Grand Magazine* 1 (1758): plates facing pages 143, 172, and 205. See Jackson, *Bird Etchings*, 98.

figures and descriptions of animals to embellish their pamphlets; though the figures are generally so miserably lamed and distorted in the copying, that the judicious part of the world can form but a mean opinion of the work from which they are plundered, unless they examine the original itself.³⁶

It appears that his complaint did not have a significant impact on the magazine publishers, and in all likelihood Edwards did not expect it to have much impact; the copyright protections enshrined in the Engravers' Act of 1735 had limitations, and copying was unfortunately common.³⁷ According to A. Stuart Mason, Edwards "was not so naive as to expect a cash recompense from the imitators and, as he thought the imitations were poor, it is unlikely that he would have wished his name to be linked with the designs."³⁸ In *The Universal Magazine*, Edwards's name was occasionally mentioned in articles published alongside coloured natural history plates, and magazines continued to copy his work until at least the mid-1760s.³⁹

Ineffective though it may have been, Edwards's remonstrance is revealing because it contains his assessment of the widespread use of magazine adaptation. He implicitly acknowledges that magazines are presenting his images—"lamed and distorted" though they might be—to a highly diverse audience: immediately after discussing the magazine copying, he shifts his attention to the question of whether "a whole civil society ... should be learned."⁴⁰ He argues that "it is not at all necessary, convenient, or possible" for everyone to have an extensive education, and he identifies the types of instruction he deems most appropriate for particular groups: classics and advanced studies for politicians, clergy, lawyers, physicians, and scholars; contemporary languages for merchants; basic reading, writing, and arithmetic for farmers and any gentlemen who intend to devote their time to

36. George Edwards, *Gleanings of Natural History: Exhibiting Figures of Quadrupeds, Birds, Insects, Plants &c*, 3 vols. (London: Printed for the Author, 1758–1764), II.xxx–xxxi.

37. Timothy Clayton, *The English Print, 1688–1802* (New Haven, CT and London: Yale University Press, 1997), 86–90.

38. A. Stuart Mason, *George Edwards: The Bedell and His Birds* (London: Royal College of Physicians, 1992), 48.

39. "The Compendious System of Natural History," *The Universal Magazine* 29 (1761): 301.

40. Edwards, *Gleanings of Natural History*, II.xxxi.

hunting.⁴¹ In presenting these recommendations as the follow-up to his complaints regarding copying, Edwards demonstrates his awareness that his work was spreading far beyond the social circles for which he had intended it—and *The Universal Magazine*, being one of the most important agents in this process, was integral in the work reaching a new and much broader audience. The magazine was thus creating a natural history spectacle for a new demographic.

Creating Wondrous Images: Preparing and Colouring the Plates

Preparing plates for magazines demanded that images be forced into a publication's pre-existing format, a process that often involved significant adjustments. In the case of scientific illustrations, these adjustments could seriously undermine the accuracy of the images. The addition of colour to the plates entailed further compromises: with the imperative to produce thousands of impressions of an illustration every month, *The Universal Magazine* simply could not afford a process comparable to those used by botanical illustrators or natural scientists. As a result, the magazine's coloured plates, while having a dramatic impact within the magazine, were not as accurate.

There is limited surviving evidence to shed light on the production process for *The Universal Magazine's* coloured natural history plates. The prefaces informed readers about the overall costs of the images, but they did not actually explain the process; readers were simply meant to recognize that colouring plates was expensive. Newspaper advertisements described the illustrations as "copper plates," a term that suggested good quality.⁴² The plates were produced through etching and engraving, and, like many early magazine illustrations, most are unsigned; one important exception is a plate, signed by J. Basire, depicting the green-winged dove (Figure 2).⁴³ James Basire was still at the beginning of his career in 1753, and he is known to have worked

41. Ibid., II.xxxi, xxxii, and xxxiii.

42. See, for example: *London Evening Post*, 1–14 September 1752; issue 3881; *General Advertiser*, 2 September 1752; issue 5577.

43. *The Universal Magazine* 12 (1753): plate facing page 68. On the practice of signing engravings, see David Alexander, "Alone Worth Treble the Price: Illustrations in 18th-Century English Magazines," in *A Millennium of the Book: Production, Design and Illustration in Manuscript and Print, 900–1900*, ed. Robin Myers and Michael Harris (Winchester, U.K.: St Paul's Bibliographies, 1994), 112–13.



Figure 2. “The green Winged Dove from the East-Indies,” hand-coloured etching/engraving by J. Basire, from *The Universal Magazine of Knowledge and Pleasure* 12 (1753), plate facing page 68, 11.8 × 29.9 cm; Cambridge University Library, T900.d.75. Reproduced by kind permission of the Syndics of Cambridge University Library.

for Hinton during this period, alongside his father, Isaac Basire; he was presumably working for Hinton in order to earn a living while building his reputation as an etcher and engraver.⁴⁴ Basire's status as an early-career etcher and engraver is suggestive of the type of printmakers with whom Hinton contracted to produce illustrations: he needed artists who were highly competent, but he was not normally prepared to commission illustrations from those who had already acquired a reputation as a master and were deemed prestigious.

Artists working on the plates needed to be aware of the specific requirements of magazine illustration. The most important rule of form for magazines was the size: the majority of these publications were approximately 13 x 21 cm in size, and the illustrations needed to fit. Theoretically, this size should not have been a problem for artists, but it often meant that images being adapted needed to be compressed, and in scientific illustrations, errors in compression could have significant consequences. *The Universal Magazine* frequently copied sections of Edwards's descriptions, and these descriptive excerpts often explained the size of an animal depicted in relation to the size of the plate. In the magazine, the plates were smaller, but the editors often did not adjust the copied descriptions, which ended up introducing errors in the information provided to readers; for example, *The Universal Magazine*'s description of the African land tortoise claims that the animal is "of the size represented in the figure," but the plate (Figure 3) is smaller than Edwards's original, which also alleges to represent the tortoise in its natural size.⁴⁵ Similarly, both Edwards's book and *The Universal Magazine* declared that a plate representing the blue fly-catcher "shews the Bird of the bigness of Life," even though the book plate is twice as large as the magazine plate.⁴⁶ With both magazine editors and artists copying quickly, there was always a risk

44. Lucy Peltz, "Basire, Isaac (1704–1768), Printmaker and Draughtsman," *Oxford Dictionary of National Biography*, 2007; <http://www.oxforddnb.com> (access by subscription), accessed 15 July 2019. Richard Goddard, "Drawing on Copper": *The Basire Family of Copper-Plate Engravers and Their Works* (Maastricht, Netherlands: Maastricht University Press, 2016), 48–52. Goddard notes that Isaac Basire occasionally signed plates "J. Basire," so there is a possibility that this plate is his work (48).

45. "A Compendious System of Natural History," *The Universal Magazine* 12 (1753): 202; Edwards, *Gleanings of Natural History*, IV.204.

46. Edwards, *Gleanings of Natural History*, I.22; "A Compendious System of Natural History," *The Universal Magazine* 15 (1754): 106.



Figure 3. “The African Land Tortoise,” hand-coloured etching/engraving, from *The Universal Magazine of Knowledge and Pleasure* 12 (1753), plate facing page 202, 12.6 × 20.69 cm; Cambridge University Library, T900.d.75. Reproduced by kind permission of the Syndics of Cambridge University Library.

of mistake in adaptation and a danger that the magazine plates would not be as accurate as the originals.

While the use of colour in book illustrations, as well as in prints for fans and wall decorations, had become fairly commonplace, and many colourists worked for fan-sellers and printsellers, the economics of colouring magazine illustrations presented a new and significant challenge.⁴⁷ At print shops, coloured prints were typically sold at a higher cost: for instance, two shillings for a print with colour versus one shilling for a print without.⁴⁸ The colouring of plates inserted in books also came at a significant cost: in a discussion of hand-coloured natural history books, James N. Green noted that “[t]he expense of hand-coloring vastly increased the difficulty of producing an illustrated work” and argued that “the difficulty of marketing so expensive a work virtually forced the artist-naturalist to embark on an arduous campaign to recruit subscribers.”⁴⁹ Even in more modest book projects, colouring could still increase the cost of a book in a substantial way: when the third edition of Eleazar Albin’s *A Natural History of English Song-Birds* was published in 1759, it sold for 2s. 6d. uncoloured or 7s. 6d. coloured.⁵⁰ In magazine publishing, however, coloured illustrations did not drive up the price. This suggests that publishers felt that the value added by including coloured illustrations would have enough of an effect on their overall profits that they would be able to absorb the extra cost. For John Hinton, the coloured plates in *The Universal Magazine* initially were something of a gamble, but the publication’s success suggests that it paid off.

In order for the gamble to be successful, production expense was probably the most important factor in setting up the colouring process: if too much money was spent on the colouring, any potential profit from additional sales might be negated. It is likely that magazine colourists used pigments that were the least expensive yet effective and

47. Clayton, *The English Print*, 130.

48. Robert Sayer, *Two Hundred and Six Perspective Views Adapted to the Diagonal Mirror, or Optical Pillar Machine* (London: Robert Sayer, 1753), 3, 5, and 6.

49. James N. Green, “Hand-Coloring versus Color Printing: Early-Nineteenth-Century Natural History Color-Plate Books,” in *Knowing Nature: Art and Science in Philadelphia, 1740–1840*, ed. Amy R. W. Meyers (New Haven, CT and London: Yale University Press, 2011), 255.

50. Christine E. Jackson, “The Materials and Methods of Hand-Colouring Zoological Illustrations,” *Archives of Natural History* 38, no. 1 (2011): 53.

they may have made the colouring process more efficient by each specializing in the application of a specific colour, thus creating a pictorial assembly line.⁵¹ The aim was to emulate the style of elite natural history plates and to draw readers' attention to this emulation: for example, the illustration of the blue fly-catcher and scarlet locust featured in the 1754 issue of *The Universal Magazine* (Figure 4) was characterized as "coloured from Nature, and executed in such a Manner as to appear like a Painting in Water-colours," a type of image that would normally only have been accessible to collectors.⁵² Still, there is no question that the quality of the colouring in magazines was typically not as fine as it was in natural history books, and it varied considerably. There are plates that do show fine shading and multi-tonal detail: the illustration of Smith's Newington peach (Figure 5), for instance, uses two different shades of coral to depict the rounded volume of the fruit and several shades of green to capture the texture of its leaves. However, there are also plates where it is obvious that the colour has been rapidly and somewhat carelessly applied. In many plates, foliage has been coloured simply with quick washes of green that splash over the lines; for example, in the illustration of the African tortoise (Figure 3), the green wash has gone right over the tortoise's feet.

Despite the actual quality of the colouring, the magazine's texts repeatedly reminded readers that it was critical to the authority of and information communicated by the images, echoing the claims Edwards and other naturalists had made about colour. While the coloured illustrations were visually appealing, they were, according to *The Universal Magazine*, primarily meant to be useful: in the article describing the painted pheasant from China (Figure 6), the text claimed that "[i]t would be superfluous to describe the various colours of this beautiful bird" because the illustration offered "a far better idea of these than it is possible to convey by the most accurate description."⁵³ Although it occasionally asserted that the description of pictured subjects would be superfluous, the magazine still attempted it regularly, tacitly acknowledging that a full understanding of a species' colouring

51. *Ibid.*, 56 and 60.

52. "A Compendious System of Natural History," *The Universal Magazine* 15 (1754): 106.

53. "A Compendious System of Natural History," *The Universal Magazine* 11 (1752): 168.



Figure 4. "The blue Fly-catcher from Surinam," hand-coloured etching/engraving, from *The Universal Magazine of Knowledge and Pleasure* 15 (1754), plate facing page 106, 12.6 × 20.6 cm; British Library, P.P.5439. © British Library Board.

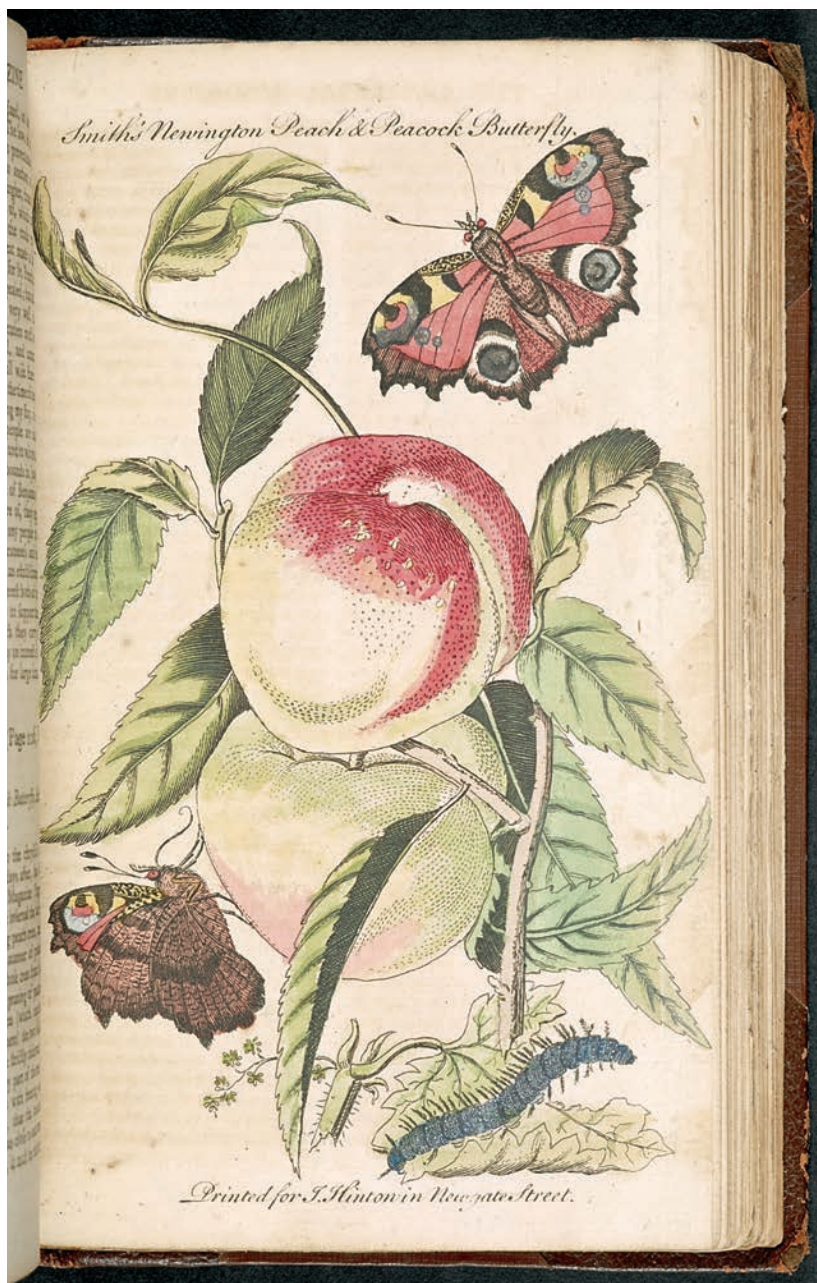


Figure 5. "Smith's Newington Peach & Peacock Butterfly," hand-coloured etching/ engraving, from *The Universal Magazine of Knowledge and Pleasure* 15 (1754), plate facing page 160, 12.1 × 20.5 cm; British Library, P.P.5439. © British Library Board.



Figure 6. "The Painted Pheasant from China," hand-coloured etching/engraving, from *The Universal Magazine of Knowledge and Pleasure* 11 (1752), plate facing 165, 12.2 × 20.6 cm; Cambridge University Library, T900.d.75. Reproduced by kind permission of the Syndics of Cambridge University Library.

might best be achieved by processing text and image side by side; for example, in describing the Chinese teal (Figure 1), it notes that

the crown of the head is of a fine green colour, mixed with yellow; from above the eyes backward, there passes, on each side, a bar of purple feathers; below these bars the feathers are green, on the hind part of the head.... The feathers on the hind part of the neck are of a pleasant red colour, and narrow, and pointed; those a little ways down the forepart being of the same shape, but of a bright orange variegated with red. The breast is of a red wine colour, or something more inclining to purple.⁵⁴

The description then turns to the colouring of the wings, explaining that the bird's wing feathers included unusual plumage colours that were orange and blue and that these appendages were so "curious" that the magazine was publishing a detail of them. The magazine continually reiterated that its colouring process had been based on studying specimens; for example, it asserted that its plate of the black poppy was "coloured from Nature"⁵⁵ (Figure 7). The original image on which this plate was based, an illustration from Blackwell's *A Curious Herbal*, most likely was the product of first-hand study—the author lived near the Chelsea Physic Garden specifically so that she would have access to specimens for her work.⁵⁶ Yet there is no evidence to suggest that the magazine's illustrators themselves had access to the original plants and animals.

Although some pigments have deteriorated over time, it is still possible to identify broad patterns in magazine colours. In some instances, the colours are reasonably faithful to the colouring of the originals. In the magazine's illustration of the green-winged dove (Figure 2), for instance, the colourist has attempted to capture the white around the bird's eye, the blending of green and copper on the wing, and the brownish colour of the belly—all details that also appear in Edwards's plate.⁵⁷ In other plates, however, the colours are significantly different, possibly because the colourists tried to reduce the number of colours

54. "A Compendious System of Natural History," *The Universal Magazine* 15 (1754): 209.

55. "A Description of the Black Poppy," *The Universal Magazine* 14 (1754): 308.

56. Ann B. Shteir, *Cultivating Women, Cultivating Science: Flora's Daughters and Botany in England, 1760 to 1860* (Baltimore, MD and London: The Johns Hopkins University Press, 1996), 40.

57. Edwards, *A Natural History of Birds*, I.14.



Figure 7. “Black Poppy,” hand-coloured etching/engraving, from *The Universal Magazine of Knowledge and Pleasure* 14 (1754), plate facing page 308, 12.2 × 20.3 cm; Cambridge University Library, T900.d.75. Reproduced by kind permission of the Syndics of Cambridge University Library.

they were using, which presumably made the colouring process much faster and cheaper. The magazine's colours are typically less intense and less subtly blended, and although some contrast might be explained by differences in deterioration of pigments (or quality of paper), there are too many significant variances for these to be the only factors; for instance, the Indian bee-eater's throat should be a vivid blue instead of an olive green (and it must be noted that the magazine colourists worked well with blue elsewhere) (Figure 8).⁵⁸ The extent of these differences, as well as Edwards's comments, suggests that the different qualities of colouring were originally present.

The vast majority of magazine readers would not have had any way of recognizing errors in the magazine's illustrations, but these discrepancies indicate that, although this publication might have claimed that the coloured illustrations were provided in order to better inform readers, it was not actually very invested in the accuracy of these representations. The lack of accuracy suggests that, ultimately, the primary purpose of the colouring was to create a more enticing product for readers, such that reading natural history articles would become a more pleasurable and entertaining experience.

Elite, Exotic, and Colonial Natural History

While the visual appeal of a coloured natural history plate presumably pleased consumers, their pleasure would have been enhanced by the articles accompanying the plates and the combined impact of the overall series. In general, magazines specialized in inviting readers to be curious consumers who embraced all kinds of information, and the natural history series in the *Universal Magazine* offered readers a rarefied and privileged view of nature.⁵⁹ Many specimens featured in the series were selected for their extraordinary colours. Several subjects were identified as natural curiosities—animals that had been collected by gentlemen or aristocrats for private menageries, or plants that were associated with elite gardens. Exotic origins were common: numerous plates depicted subjects from tropical locales, including many regions where the British had colonial interests. These specimens effectively

58. Ibid., IV.183; *The Universal Magazine* 12 (1753): plate facing page 16.

59. Barbara M. Benedict, *Curiosity: A Cultural History of Early Modern Inquiry* (Chicago: University of Chicago Press, 2001), 103.



Figure 8. "The Indian Bee-Eater," hand-coloured etching/engraving, from *The Universal Magazine of Knowledge and Pleasure* 13 (1753), plate facing page 108, 12.6 × 20.7 cm; Cambridge University Library, T900.d.75. Reproduced by kind permission of the Syndics of Cambridge University Library.

offered readers the opportunity to view nature through the eyes of an overseas gentleman naturalist—a position of imperial and class privilege. Through these selections, the magazine editors ensured that the coloured natural history plates would be enticing, wonderful spectacles, whether or not they were accurate.

Images of animals are not necessarily guaranteed to be colourful—Edwards's *A Natural History of Birds* includes many illustrations of birds that are primarily brown, beige, white, and black, including the white-tailed eagle, the spotted hawk, the black hawk, the black parrot, the black and white kingfisher, the Arabian bustard, the Chinese starling, the little brown and white creeper, the greatest martin, the cold finch, Chinese sparrows, and the spotted Greenland dove.⁶⁰ In contrast, almost all the birds illustrated in *The Universal Magazine* are brightly coloured, and the intensity, rarity, and range of colours became a theme in the serial publication's articles. For example, it is noted that the top of the crested hummingbird's head shifted from green to dark blue, and professed that "these colours shine in a lustre far exceeding the brightest polished metals; the green part especially, which is the lightest in some lights, changes from green to gold colour, so beautiful as not to be expressed by colours, or hardly conceived in the absence of the object."⁶¹

An article describing the Chinese peacock pheasant and the Chinese rose (Figure 9) includes similar exclamations, praising the colours of both animal and plant. It claims that the bird's plumage "may be compared to sable disseminated with brilliant jewels of various colours" and that the petals of the rose are "nobly bold.... The ruby, with her bleeding radiance, seems to shine in one; the sapphire, with his sky-tinctured blue, in another; in all, such an exquisite richness of dyes, as no other set of paintings in the universe can boast."⁶² These passages are highly lyrical, and in drawing readers' attentions to the richness of the tints and shades depicted, they invited them to view these specimens as almost otherworldly. These were glimpses of a natural world

60. Edwards, *A Natural History of Birds*, I, plates 1, 3, 4, 5, 9, 12, 19, 26, 27, 30, 43, and 50.

61. "A Compendious System of Natural History," *The Universal Magazine* 14 (1754): 300.

62. "A Compendious System of Natural History," *The Universal Magazine* 12 (1753): 154–55.



Figure 9. "The Peacock Pheasant from China," hand-coloured etching/engraving, from *The Universal Magazine of Knowledge and Pleasure* 12 (1753), plate facing page 154, 12.7 × 20.9 cm; Cambridge University Library, T900.d.75. Reproduced by kind permission of the Syndics of Cambridge University Library.

that was precious in its visual rarity. Ultimately, the intense colours on the plates would have been quick to draw readers' eyes, especially since it was almost unheard of at the time for a magazine to include any colouring. By making a striking impact and setting up a more intimate engagement, a coloured image could draw readers to other narratives about the specimen.

Magazines often emphasized that the animals they featured were curiosities, implying that through these publications readers had access to elite natural history collections. The articles that accompanied the illustrations of these curiosities, often copied from Edwards's text, were filled with references to his position as a privileged scientist with powerful patrons. Magazine readers were given direct connections to the exclusive colourful animals that had been the original subjects in Edwards's work, but because the majority of articles do not introduce his project as such, the magazine reads as if the articles were written specifically for the magazine. Exotic animals, living or dead, were highly collectible, and Edwards had access to extremely prestigious collectors, such as Sir Hans Sloane.⁶³ Sloane was the most famous collector in eighteenth-century Britain; his collections included thousands of objects and texts, and during his lifetime he made them accessible to visitors, particularly connoisseurs and scientists—for example, in 1748, the Prince and Princess of Wales visited his collections and they (and he) were celebrated in the press.⁶⁴ Edwards had worked for Sloane for many years, creating watercolours of his specimens, and references to the Irish collector appeared in several magazine features, including those describing the painted pheasant from China, the white and black Chinese cock-pheasant, and the cock padda, or rice bird.⁶⁵ Other collections were invoked as well: the article

63. Caroline Grigson, *Menagerie: The History of Exotic Animals in England, 1100–1837* (Oxford: Oxford University Press, 2016), 60; for a discussion of Sloane's and other aristocratic menageries of this period, see pages 61–74.

64. Arthur MacGregor, "The Life, Character and Career of Sir Hans Sloane," in *Sir Hans Sloane: Collector, Scientist, Antiquary, Founding Father of the British Museum*, ed. Arthur MacGregor (London: British Museum Press, 1994), 27–28; Barbara M. Benedict, "From Benefactor to Entrepreneur: Sloane's Literary Reputation, 1685–1800," in *From Books to Bezoars: Sir Hans Sloane and His Collections*, ed. Alison Walker, Arthur MacGregor, and Michael Hunter (London: The British Library, 2012), 39; and Benedict, *Curiosity*, 181.

65. Jackson, *Bird Etchings*, 98. For the plates and discussions thereof, see "A Compendious System of Natural History," *The Universal Magazine* 11 (1752): 168; "A

on the demoiselle of Numidia noted that “[t]hree of these birds were the property of his Grace the late Duke of Montagu,” and it was noted that the painted finches illustrated in the magazine had belonged to the Right Honourable Lady Anson.⁶⁶ Through these references, readers were invited vicariously into some of the most exclusive menageries in the country.

While many of the flowers and plants depicted in the magazine were not as curious or rare as the animals, they were linked to elite gardening. To own and maintain an ornamental garden was a privilege, and rare flowers or collections of unusual plants were prized.⁶⁷ Magazine articles often reminded readers of these associations: for example, a feature on the peony claimed that gardening “has always been a favourite amusement of the greatest persons in all ages” and described it as “a task becoming the wealthy, the polite, and the learned.”⁶⁸ Comments about specific plants were often presented as recommendations for the reader’s own ornamental garden: the magazine advised that the striped geranium depicted was native to Africa and represented a variety that needed to be kept in a greenhouse during the winter; in another article, the fruit-bearing almond was described as “worthy of a place in the best gardens” and making “a very fine appearance” in walks.⁶⁹ Like the references to private collections of animals, these comments hint at a special virtual access, in this case to plants that were clearly being positioned as horticultural luxuries.

In support of the theme of exoticism that ran across the entire series, many animals and plants depicted were from overseas regions—particularly from tropical locales where the British had colonial interests. When the illustration of the green-winged dove was published, the magazine specified that this type of bird “is common in the East-

Compendious System of Natural History,” *The Universal Magazine* 12 (1753): 112; and “A Compendious System of Natural History,” *The Universal Magazine* 23 (1758): 72.

66. “A Compendious System of Natural History,” *The Universal Magazine* 15 (1754): 300; and “A Compendious System of Natural History,” *The Universal Magazine* 18 (1756): 57.

67. Mark Laird, *The Flowering of the Landscape Garden: English Pleasure Grounds, 1720–1800* (Philadelphia: University of Pennsylvania Press, 1999), 17.

68. “A Description of the Pyony, or Pæony,” *The Universal Magazine* 12 (1753): 209.

69. “A Description of the Striped Geranium, and the Method of Cultivating It,” *The Universal Magazine* 13 (1753): 308–309; “An Account of the Almond-Tree,” *The Universal Magazine* 14 (1754): 15.

Indies; from whence several have been brought alive into England”; the Indian bee-eater and the black, white, and red Indian creeper were also noted to be from India.⁷⁰ Similar assertions were made about other birds and places: the grenadier bird was said to come from “Angola, a Portuguese settlement on the coast of Africa”; the pheasant of Pennsylvania was a bird “wholly unknown to the curious of our country”; and the turn-stone bird came from Hudson’s Bay.⁷¹ Although the magazine often included provisos that the plants pictured could be grown in Britain, several had foreign origins. It was noted in the magazine that the pineapples it featured were “brought from the factories in the East-Indies, and planted in the hottest islands in the West-Indies.”⁷² The amaranthus had been grown from seeds “sent from the Bahama Islands,” and the passion flower had been “discovered” in America.⁷³ Travel was often tied to the study of nature: the magazine thus reported in 1755 that recent voyages “into Asia, Africa, and America” had led to the identification of new varieties of the aloe plant.⁷⁴ Taken as a whole, the series effectively invited readers to travel around the world through natural history encounters.

Certain specimens were explicitly linked to colonial resource development, positioning the reader as a figure with an interest in global trade and imperialism. Commenting on a variety of the cotton tree, the magazine advised that “it is well worth the attention of the inhabitants of the British colonies, in America, to cultivate and improve this sort ... as the present use of this commodity is so great ... there are few things which will produce more profit to the planter.”⁷⁵ An

70. “A Compendious System of Natural History,” *The Universal Magazine* 12 (1753): 70; “A Compendious System of Natural History,” *The Universal Magazine* 13 (1753): 108.

71. “A Compendious System of Natural History,” *The Universal Magazine* 16 (1755): 317; “A Compendious System of Natural History,” *The Universal Magazine* 17 (1755): 57; and “A Compendious System of Natural History,” *The Universal Magazine* 19 (1756): 302.

72. “A Compendious System of Natural History,” *The Universal Magazine* 11 (1752): 60.

73. “A Compendious System of Natural History,” *The Universal Magazine* 17 (1755): 108; “A Description of the Passion Flower,” *The Universal Magazine* 13 (1753): 22.

74. “A Compendious System of Natural History,” *The Universal Magazine* 17 (1755): 302.

75. “A Description of the Cotton-Tree,” *The Universal Magazine* 15 (1754): 64.

article about the indigo plant not only noted that the plant was grown in the American colonies, but it also observed that indigo plantations had the potential to be more profitable than sugar plantations, since processing indigo required “fewer utensils.”⁷⁶ There were also articles that described how different cultures used plants, and the tone of these texts constructed ethnic and racial *Others*, inviting the (presumably British) readers to view themselves as superior. An article about the tea plant, for instance, reported that people in Britain had not experienced the same benefits of tea as people in Asia had, and it claimed that this phenomenon occurred because “the Chinese and Japonese, in the manner of the East in all other things, cry up what is of any value much higher than it deserves”; it also asserted that the Chinese drank so much tea that “it throws them into diabetes’s, and they die emaciated by it.”⁷⁷ In these strands of the narrative, the reader becomes a privileged individual on the global stage.

At its outset, the natural history series in *The Universal Magazine* promised its readers that the contemplation of nature would introduce them to “a thousand wonders,”⁷⁸ and its strength as a series was its subtle shifts in invitations to wonder inspired by the variations in colours and the engaging narrative. As material objects, the coloured plates were produced to command the readers’ attention and draw them into contemplation of the specimens depicted. Yet, while all of the specimens were extraordinary, they were not all extraordinary in the same way: every subject, from the pineapple to the goldfish, had its own unique point(s) of interest, and thus with each issue of the magazine, the visual, intellectual, and imaginative route to wonder was slightly different.⁷⁹ Shortly after its feature on tea, for instance, the magazine showcased the roller, a “curious”⁸⁰ bird with striking green plumage, said to be found in Germany, Sicily, Malta, and Africa; the articles on tea and the roller are quite different, but both concern

76. “The Compendious System of Natural History,” *The Universal Magazine* 23 (1758): 189.

77. “A Compendious System of Natural History,” *The Universal Magazine* 11 (1752): 301.

78. *Ibid.*, 59.

79. For the goldfish, see “A Compendious System of Natural History,” *The Universal Magazine* 14 (1754): 248–49.

80. “A Compendious System of Natural History,” *The Universal Magazine* 12 (1753): 16.



Figure 10. “The Quick-hatch, or Wolverine, from Hudsons Bay,” hand-coloured etching/ engraving, from *The Universal Magazine of Knowledge and Pleasure* 16 (1755), plate facing page 104, 12.8 × 20.6 cm; Cambridge University Library, T900.d.75. Reproduced by kind permission of the Syndics of Cambridge University Library.

natural history overseas. This type of variation between features was common, and thus the overall tone of the series was defined by the recurrence of and interconnections between themes related to wonder: curiosity, exclusivity, exoticism, and colonialism repeatedly entwine, intersect, and overlap.

The magazine's verbal and visual account of a wolverine is a powerful demonstration of how rarity, luxury, imperial interest, and wonder could come together in a single description and coloured plate (Figure 10). The combination of the printed image with the addition of golden washes captures the sheen of the animal's fur and invites us to imagine its tactile pleasure; the glint of colour in its eye creates the impression that it is alert to the viewer's presence—that it is a living and personable creature. The article struggles to describe such an unusual animal, claiming it has similarities to both foxes and bears. It notes that the animal depicted had been brought from Hudson's Bay and had "lived several years at Sir Hans Sloane's house in London, and seemed to be a harmless, gentle creature; it would follow like a dog"; and it reported that in their original habitat, these animals were trapped for their furs.⁸¹ In effect, the article offers the reader the chance to view the animal from the position of a scientist, an aristocrat, and a colonial merchant-adventurer all at once—an imaginative hybrid view, presumably ideal for pleasurable reveries. This prospect was what *The Universal Magazine* was really selling: a colourful spectacle on a plate and an exclusive, entertaining text, all in the guise of scientific knowledge. Each feature offered readers something unexpected, and taken together, the series provided dozens of routes, both pictorial and textual, to the thousands of wonders of nature.

81. "A Compendious System of Natural History," *The Universal Magazine*, 16 (1755): 104. Sloane's visitors admired and spoiled the wolverine; see Christine E. Jackson, *Menageries in Britain, 1100–2000* (London: The Ray Society, 2014), 181.