What did Didactic Literature Teach? Change-Ringing Manuals, Printed Miscellanies and Forms of Active Reading[*]

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The authors and compilers of early modern printed how-to books insist that their writing opens up locked worlds of practice to their readers. In paratexts, they promise that the contents that follow will augment or even supplant in-person instruction. The book becomes a device to live with, and writing a tool with which to face the world. Any book can be learned from, but I am concerned here with texts that claim teaching a skill to be their primary purpose: early modern didactic literature, or how-to books or manuals that taught anything from husbandry to French, firework-making to penmanship, pastry to arithmetic.[1] These texts present an opportunity to test out what writing, and particularly print, can *do* in the world – which might not always be what we expect. In this essay I examine how instructional literature was excerpted and rearranged in printed didactic miscellanies. I use the techniques of literary study – close reading, formal analysis, and bibliography – to suggest that what might be most at stake in these texts is the creation not of expert, individual, practitioners but rather an educated audience for them.

[1] Didactic literature in English has received considerable (and increasing) attention. A foundational text is Natasha Glaisyer and Sara Pennell (eds.), *Didactic Literature in England, 1500–1800: Expertise Constructed* (Aldershot: Ashgate, 2003); others include Carrie Griffin, 'Instruction and Information from Manuscript to Print: Some English Literature, 1400–1650', *Literature Compass*, 10:9 (2013), 667–76 and *Instructional Writing in English, 1350–1650: Materiality and Meaning* (Abingdon: Routledge, 2019); Elaine Leong, *Recipes and Everyday Knowledge: Medicine, Science, and the Household in Early Modern England* (Chicago: University of Chicago Press, 2018); Pennell, 'Perfecting Practice? Women, Manuscript recipes and knowledge in early Modern England', in Victoria Burke and Jonathan Gibson (eds.), *Early Modern Women's Manuscript Writing* (Aldershot: Ashgate, 2004), 237–58; Pennell and Michelle DiMeo (eds.), *Reading and writing recipe books, 1550–1800* (Manchester: Manchester University Press, 2013); Juanita Feros Ruys (ed.), *What Nature Does Not Teach: Didactic Literature in the Medieval and Early-Modern Periods* (Turnhout: Brepols, 2008); Wendy Wall, *Recipes for Thought: Knowledge and Taste in the Early Modern English Kitchen* (Philadelphia: University of Pennsylvania Press, 2016).

I focus on texts that aimed to teach a single practice: change-ringing. This was a new, demanding way of ringing existing church bells according to complicated series of mathematical permutation; it was invented around 1600, and by 1700 had become extremely popular across much of the country, an unavoidable part of the English soundscape. Change-ringing's origins are difficult to determine but there are mentions of it in the first decades of the century, and societies were formed to further its practice; by the Restoration it was a popular recreational activity, done by men and boys from across the social spectrum. It continues today. Change-ringing is the sound you still hear English church bells making: a pleasing peal, musical but not straightforwardly so. The bells must be carefully rung in specific pre-determined orders but, unlike a carillon, they do not play tunes. Change-ringing was mostly taught and learned in person, in the belfry. But, in printed books designed to introduce and teach the practice, writers created a notation for it and explained how it should be done.

Change-ringing is a particularly good site from which to examine the relationship between didactic text and embodied practice: firstly, because its texts did not just capture the performance of the practice, but were also a driving force behind its development and dissemination; secondly, because its novelty allows us to delineate the contours of didactic literature as well as suggest what this literature might additionally have been able to teach. I discuss the relationship between text and practice in change-ringing literature here, but principally focus on how change-ringing manuals were abridged in printed miscellanies in the late seventeenth century. In didactic miscellanies, as in their poetic counterparts, we must attend to the formal category of disposition, and the editorial processes of erasure: to the particular arrangements of gathered texts; and to what has been changed or left out of these fragments. Doing so, I argue, shows how these instructional texts were read and used in ways not anticipated by their authors.

DIDACTIC LITERATURE

Early modern how-to books were positioned at varying removes from practice itself, on a spectrum from showing to telling how to do an activity. I propose a taxonomy of these texts, which worked in three main, though overlapping, modes: informative, instructive, and procedural.[2] An informative text might explain a practice to an interested (but rather removed) reader, who was not expected to learn the practice by the book alone and perhaps was never likely actually to do the activity, but nevertheless wanted to know how it was done. An instructional text describes the general ways of

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[2] Carrie Griffin uses the terms 'instructional' and 'informational' to discuss and classify didactic literature. I use the additional word 'procedural' to define very detailed, step-by-step, instruction; my thanks to Vanessa Harding for suggesting this term. See Griffin, 'Instruction and Information', *passim*.

doing a practice: the rules of a game, for example, but not how to play a specific game of it. Finally, a procedural text directs the action of its reader minutely, explaining exactly, in steps, how to assemble a particular firework or make a particular tincture. Not all modes are applicable to all practices and the three types were not mutually exclusive: most texts fit into more than one category, and some were all three at once. Paying attention to the modes of didactic writing is important, because it tells us about its intended audience and use (although not whether these intentions were actually carried out).

These didactic texts were written in order to be activated in the mind, and often also the body, of the reader, and they seem to promise not just a glimpse of but a leap into pre-modern learning and practice. From the paratext to the body of the book, in imperatives, deictics, and the second-person singular, we readers are directly addressed: called alongside the books' earlier readers, all willing students assembled together in the classroom of the expert author.[3] Several current interdisciplinary practice-as-research projects are taking didactic texts (in both manuscript and print) at face value: following written instructions in order to get as close as possible to early modern *technē* and better understand historical practice; fully to 'reconstruct', as one such project has it.[4] These projects – covering artisanal knowledge, recipes, art practices, and more – are important not only for illuminating historical practice, but also by making visible the labour and epistemologies of women and artisans whose work has tended to be lost in the historical record.[5] Such projects are faithful to the texts they mine because these researchers understand the limitations of learning by the book, and the importance in didactic literature of the relay between writing and practice. Indeed, some take as their main focus texts and what they include, or leave out; the limits of what a text can teach is in many projects the first thing these researchers find that they have learned.[6] Like parallel practice-as-research projects in drama and music, experience (or performance or practice) always exceeds text, and written instructions must always be supplemented by in-person action – so part of what these projects are

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[3] Wendy Wall notes that recipes in languages other than English do not always use the second person in this way. *Recipes for Thought*, 14.

[4] The quote is from the Making and Knowing Project led by Pamela H. Smith (Columbia University), www.makingandknowing.org. Other projects include ARTECHNE: Technique in the Arts, 1500–1950 (University of Utrecht); and The Recipes Project, https://recipes.hypotheses.org/.

[5] Leong, *Recipes and Everyday Knowledge*, 9.

[6] Case studies by Pamela Smith and Thijs Hagendijk, in collaboration with the conservator Tonny Beentjes, illuminate the painstaking work of reconstructing historical techniques (Hagendijk prefers 'historical re-enactment'), and the profound understandings of texts these activities produce. Hagendijk, 'Learning a Craft from Books: Historical Re-enactment of Functional Reading in Gold- and Silversmithing', *Nuncius* 33 (2018), 198–235, which includes a bibliography of work in this burgeoning field; Smith, 'In the Workshop of History: Making, Writing, and Meaning', *West 86th* 19:1 (2012), 4–31. Smith and Hagendijk recognise that reconstruction forms a longstanding part of the work of museum curators, conservators, and anthropologists.

discovering are the restrictions, the edges, of the written instructions they follow.[7]

For all their shortcomings, however, how-to books can also exceed practice, and teach more than they promise. For what is being taught in these texts is not only the recipe for posset or the best way to graft a plant, but also how to enter into a community of people who have the same aspirations, imperfect understanding, and varieties of curiosity as you. Further, because these are written texts, what is also being taught – if obliquely – is an understanding of reading and of writing, and their limits. Early modern readers read actively, or 'for action', as Anthony Grafton and Lisa Jardine put it: they 'envisioned some other outcome of reading beyond accumulation of information'.[8] Because manuals seem so directly didactic, it is easy to ignore the 'other outcomes' that they contain. Wendy Wall explores these possibilities for early modern recipe collections, arguing that recipes were sites of 'embodied action and textual engagement'.[9] They were not limited to the concoctions they describe, but represent an important nexus of reading, writing, and editing: skills which were, in turn, crucial to processes of early-modern world-making. Like Wall, I am concerned with how manuals reflect and construct varieties of textual practice, and how their users' interactions with words related to the skills these books claimed to teach: in this case, the new and noisy way of ringing bells. I turn now to change-ringing, and the texts that described and taught it.

<div align="center">CHANGE-RINGING AND ITS TEXTS</div>

Change-ringing was new, but it built on centuries of bell-ringing: of bodily activity and heard sound that did not have written instructions, or leave much of a written archive – at least, not one that directly records the sounds that were made. We know that by 1600, and probably long before that, English bells were rung for fun. Paul Hentzner, a visitor to England around 1600, reported that 'it is common for a number of them [ringers], that have got a glass in their heads [that is, are drunk], to go up into the belfry, and ring the bells for hours together for the sake of exercise'.[10] He gives the impression of a noisy, communal, habitual experience. Bands of ringers were employed to ring multiple bells at once, usually paid in cash or food

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[7] See Stephen Purcell, 'Practice-as-research and original practices', *Shakespeare Bulletin* 35:3 (2017), 425–43 for an overview. The relationship between practice-as-research projects in drama and making deserves attention. See Julian Yates, 'Shakespeare's Kitchen Archives', in The Petropunk Collective (ed.), *Speculative Medievalisms* (Brooklyn: Punctum Books, 2013), 179–200, and Marissa Nicosia, 'To Make bisket, a recipe from the Baumfylde manuscript', 31 January 2018, https://rarecooking.com/2018/01/.

[8] Anthony Grafton and Lisa Jardine, '"Studied for Action": How Gabriel Harvey Read His Livy', *Past and Present* 129 (1990), 30–78, at 31.

[9] Wall, *Recipes for Thought*, 2.

[10] Paul Hentzner, *Travels in England during the Reign of Queen Elizabeth*, trans. by Richard Bentley (1797), 64.

and beer, but they also rang spontaneously, and for pleasure – this is, perhaps, what Hentzner heard. This ringing sometimes got out of hand; David Cressy and Christopher Marsh have uncovered frequent mentions of it in records of the church courts, a nuisance that occasioned a dispute.[11] This recreational ringing only survives in the archive because it met with opposition, or because it was remarked upon by foreign visitors who were unused to hearing such a sound. Change-ringing, on the other hand, has a precise textual archive: it is so minutely directed that in its written notation we have something like a score for the sound that was made. While other ringing practices continued, change-ringing imposed upon, or alongside them, a strict order – one that was rooted in texts.

Change-ringing developed from recreational ringing and really blossomed in the Restoration, when the first books on the practice were published. These were, first, *Tintinnalogia* (1668), by Richard Duckworth, senior bursar at Brasenose and later rector of Steeple Acton in Oxfordshire; then *Campanalogia* (1677), by the bookseller Fabian Stedman, who had also been involved in the publication of *Tintinnalogia*.[12] Both books contain all three types of didactic literature. In *Campanalogia*, Stedman gives some (informational) history of the practice; he discusses practical, instructional tips about hanging bells and how to ring them; and he gives procedural notation showing how to ring bells according to particular compositions (known to ringers as 'methods'). Duckworth's book, similarly, contains practical instructions as well as specific methods to be rung; he even includes some old-fashioned methods 'for antiquity sake': here the method is included just for interest and curiosity, redefined as information for the knowledgeable scholar of the practice, rather than as procedural notation to be followed.[13] The presence of the three modes of didactic literature underscores the function of these books as primers in the new practice of change-ringing; the texts seem designed to contain everything the novice may need.

The form of change-ringing is complex. It uses all the bells in a church tower; one ringer is assigned to each bell, and the bells are rung in rounds (which ringers call 'rows'). Every bell must be rung in each row, but the order in which they are rung must not be repeated, and there are strict rules about which bells swap places and how. Say there are five bells in the tower. Each bell is assigned a number, and each line of numbers represents a row, or round: five

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[11] Christopher Marsh, *Music and Society in Early Modern England* (Cambridge: Cambridge University Press, 2010), 476–8; 484–90; see also David Cressy, *Travesties and Transgressions in Tudor and Stuart England: Tales of Discord and Dissension* (Oxford: Oxford University Press, 2000). On a later period, see William Tullett, 'Political Engines: The Emotional Politics of Bells in Eighteenth-Century England', *Journal of British Studies* 59:3 (2020), 555–81.

[12] Duckworth has been identified as the author of this anonymously-published work. See John Eisel, "Duckworth, Richard," Oxford Dictionary of National Biography, Oxford University Press, 2004; online edn, May 2014 [http://ezproxy-prd.bodleian.ox.ac.uk:2167/view/article/8138, accessed 26 Feb 2017].

[13] [Duckworth], *Tintinnalogia* (1668), 15.

bells are numbered 12345. In the first row the bells might be rung in that order, 12345, but in the next row the order might be changed to, say, 21345; the next to 23145, and so on. The system relies on constant variation, in that no row may be repeated, but it is change of a very orderly kind. Its goal is to exhaust all possible variations, neatly completing the circuit: the permutations start and end at the same point, 12345. Ringing methods are different ways of working through all these orders without repetition: they are something like scores for pieces of music. *Tintinnalogia* and *Campanalogia* give examples of these methods – 'Grandsire Bob', 'London Pleasure', 'The Paradox', 'The Primrose' – named variously for their form, place of origin, or just for pleasure's sake.

Each method, then, provides a different way of working through the changes on a given number of bells. The number of possible rows, or changes, is determined by the factorial of the number of bells there are in a tower. The factorial, represented in modern mathematical notation by an exclamation mark ($n!$), is the product of an integer (n) and all the integers below it: so for five bells, the number we saw in the notation in *Tintinnalogia*, there are 5! possible changes, that is, $5 \times 4 \times 3 \times 2 \times 1 = 120$. These numbers escalate so that for 12 bells there are $(12 \times 11 \times 10 \times 9 \times 8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1) = 479,001,600$ possible orders. In fact this gigantic number of changes would not ever have been rung, partly because to do so would take, according to Stedman, 'seventy five years, twelve Lunar Months, one week, and three days, notwithstanding the [ringers] ring without intermission'.[14] Nonetheless, composers of methods were fascinated by finding paths through the rows of bells without repetition, and wrote out these methods in copious lines of numbers. Manuscript sources survive which show the effort (and the long sheets of paper) required to write out all 720 changes on six bells; we also have examples of shorter sequences of numbers being written up on the wall of the belfry as an aide-memoire for ringers.[15] These texts, printed and in manuscript, on paper and on walls, demonstrate a familiarity with Hindu-Arabic numerals as written characters, even though change-ringing notation does not make arithmetical use of the numbers themselves. Numbers are used simply as distinguishable characters; it is a form of numeracy that is rudimentary, but visually arresting. The printer of both *Tintinnalogia* and *Campanalogia*, William Godbid, was widely known

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[14] Fabian Stedman, *Campanalogia* (1677), 4. Change-ringing is linked, through the factorial, to other systems of combination and permutation that structured some mathematical, philosophical, musical, and linguistic theories in the seventeenth century. Unlike many combinatorial systems, however, change-ringing had no epistemological function outside its own self-regarding form. See Katherine Hunt, 'The art of changes: bell-ringing, anagrams, and the culture of combination in seventeenth-century England', *The Journal of Medieval and Early Modern Studies*, 48:2 (2018), 387–412.

[15] Peter Mundy wrote out all 720 changes in his travel journal, 'Itinerarium Mundi' (Bodleian Rawlinson MS A.315), insert between f. 215v-216r. Cyril Wratten discusses belfry graffiti in 'Changing Concepts', in Jean Sanderson (ed.), *Change-Ringing: The History of an English Art*, vol. 1 (Cheltenham: The Central Council of Church Bell Ringers, 1987), 8.

for his work on mathematical and musical books.[16] The form of change-ringing seems poised between these two disciplines.

<div align="center">LEARNING RINGING FROM BOOKS</div>

Both *Tintinnalogia* and *Campanalogia* assert the importance of texts to the practice. '[T]he methods of changes being somewhat intricate', Stedman writes, 'I have therefore penn'd the following Treatise as a Clue to guide the Practitioner through the Labirinth of them': his book will orient and lead its reader.[17] Duckworth begins *Tintinnalogia* by describing some didactic literature that has inspired him: 'I have seen a Treatise', he writes, and 'several Books on several Instruments of Musick, and Tunes prick't for the same'; the authors, he continues, 'took great pains to make plain the use of them'. Duckworth therefore

> thought it worth a Dayes labour, to write something on this Art or Science, that the Rules thereof might not be lost and obscured to some, as the *Chronicles* before *William* the Conqueror, being given only by Tradition from Father to Son.[18]

Duckworth makes clear the importance of writing in the dissemination and the development of this new practice, and opposes it to traditional, oral transmission. His 'small Treatise' is 'a foundation whereon may be raised a famous Structure': he describes change-ringing as a practice which was solidified (if not created) in writing, its rules shored up, in his book, against the potential losses of in-person instruction.[19]

Change-ringing undoubtedly drew on ringers' bodily memory of older kinds of habitual ringing – perhaps 'for the sake of exercise', as Hentzner described – putting this knowledge to work in a new system. But because change-ringing is so engrossing, and so complicated, in *Campanalogia* Stedman urges the ringer to have the theoretical part of the ringing firmly impressed on his mind beforehand – that is, he should have internalized those lines of printed notation that act as something like 'scores' for the methods. This does not mean reading while ringing. A common fault among inexperienced ringers is that their thoughts are 'commonly upon the figures that are prickt, either upon paper, or else upon the Steeple-wall, while it should be wholly intent upon the notes [that is, the sounds of the bells].'[20] The profuse notation for six bells or more was too unwieldy actually to be

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[16] On Godbid as printer see Katherine Hunt, 'Convenient Characters: Numerical Tables in William Godbid's Printed Books', *The Journal of the Northern Renaissance* (2014) https://jnr2.hcommons.org/2015/3759/.

[17] Stedman, *Campanalogia*, 21.

[18] [Duckworth], *Tintinnalogia*, A2r-v; italics reversed; the 'treatise' Duckworth mentions is Girolamo Maggi (c.1523–1572), *De tintinnabulis liber postumus* (Hanau, 1608).

[19] [Duckworth], *Tintinnalogia*, A2v.

[20] Stedman, *Campanalogia*, 36.

written out, on the page or the belfry wall. Instead these numbers operate as an absent score, establishing a set of patterns (unique to each method) to be embodied by the ringers. While this notation is essential to direct the practice, then, it must be put aside in the moment of bodily activity – of ringing.

Although Stedman wants the ringer to put aside the book, he returns to its technologies when describing how to ring. He suggests that the ringer uses his imagination to abstract the bells from their real (though unseen) places in the bell tower, and instead to think of them as being directly represented by the numbers on the page. The learner should 'form in his mind a fit representation of the places of the notes; which I think cannot better be done, than by imagining each note to be a figure, as the Treble-note to be the figure 1, the second note the figure 2', and so on. Stedman advocates a willed identification of the sound of the small bell with the figure 1 on the page, a direct correspondence between signified and signifier. So far, so obvious, perhaps. What happens next is rather stranger:

> whensoever he hears a peal of bells ring, let him by strength of imagination conceit, that each note bears the shape of a figure; that is, at the same instant of time that the note strikes, he may imagine that it *leaves the impression of the figure behind it*, and that with the eye of his imagination he perfectly sees it: and likewise as the notes of the bells do all strike after one another […] so he may imagine that they *lie in a row in the shape of figures* […].[21] (my emphasis)

Stedman seems here to be proposing a kind of mental printing: cultivating an imaginative practice in which the sounds of bells striking impresses into the mind a row of numbers, identical to those written out in the notation that lies invisible within the now-closed book. Reading is not the key activity here, but rather *writing* – indeed, printing.

Metaphors of impression were readily to hand for Stedman, the bookseller, who had been apprenticed as a printer. They circulated widely in early modern culture more generally, too: think of Geoffrey Whitney's exhortation about using books to 'printe in minde, what wee in printe do reade'; or Shakespeare's 'vacant leaves thy mind's imprint will bear,' (Sonnet 77.3).[22] These examples extend the much older metaphor of memory operating like an impression on wax.[23] What Stedman proposes is an amplification of this trope: an exacting, character-by-character impression of precise, procedural notation which was too unwieldy to be read or

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[21] Stedman, *Campanalogia*, 34.

[22] Geoffrey Whitney, *A Choice of Emblemes* (Leiden, 1586), sig. Y2r.

[23] Mary Carruthers, *The Book of Memory*, 2nd edn (Cambridge: Cambridge University Press, 2008), 18. On metaphors of impression in early modern writing see Bradin Cormack and Carla Mazzio, *Book Use Book Theory: 1500–1700* (Chicago: Chicago University Library, 2005), 1–3, and Harry Newman, *Impressive Shakespeare: Identity, Authority and the Imprint in Shakespearean Drama* (Abingdon: Routledge, 2019).

written out anywhere other than in the mind of the ringer. He emphasizes the force with which these sounds should make their impressions on the mind, proposing five muskets, each charged with a bullet on which is written a number from 1–5. The muskets are fired at a wall, one after another, and the bullets impress the numbers on the wall; the figures appear in Stedman's book as a woodcut image within the typeset page, five black circles each containing a digit from 1–5, in white. When the ringer hears a peal, 'he may imagine that at the very instant of their striking their notes appear to his apprehension in the shape of the five figures, and that they strike in a row, thus, 1 2 3 4 5, as if each Bell were a Gun, and had shot out its note in the shape of a figure.'[24] This musket graffiti creates in the mind something very like the 'figures upon the Steeple-wall' that Stedman warned against reading, but here he wants to harness not the textual product but the moment of printing itself.[25] He knows that practice bests notation, and that the notation is 'meerly imaginary'; he knows that those numbers could not and should not be read while doing; his knowledge of change-ringing is profound and practical. But, in trying to teach the activity from a written text, Stedman nevertheless falls back on the technologies of the book to describe how embodied activity might be encoded.

Despite their reliance on print, *Tintinnalogia* and *Campanalogia* nevertheless point outside their own pages towards experience, embodied practice, and learning in the company of others. Both were dedicated to the Ancient Society of College Youths, a ringing society founded in London in 1637 (and still going strong today). Its members, including Duckworth and Stedman, had been responsible for composing many ringing methods, and for the quick development of change-ringing.[26] That the bulk of both *Tintinnalogia* and *Campanalogia* is taken up with procedural elements (new and existing methods to ring), suggests that this was more important than informational or instructional aspects, which were already known to their readers from their own experience. They were designed to strengthen a community of experienced ringers as well as to increase it by encouraging those unfamiliar with the practice.

Even from their publication, then, these early works may not have been designed to be a comprehensive beginner's guide to change-ringing; in any case, careful reading had to be perfected in practice. These manuals may not have

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[24] Stedman, *Campanalogia*, 35.

[25] I am grateful to Emily Rowe for pointing out the early-modern association of type and shot, print and bullets, to which Stedman may be referring here. See Rowe's PhD thesis, '"To distill golde out of inke": Metals, metaphor, and the materiality of language in early modern England' (Newcastle University, 2021).

[26] The ASCY is the longest-running such society, but many others sprung up in the Restoration, suggesting a rich culture of bell-ringing. The ASCY included members of the gentry and the upper classes; a London ringing society called the Esquire Youths, though short-lived, indicates that change-ringing was done by people of a high class. On these social aspects, see Marsh, *Music and Society*, 454–504; William T. Cook, *The Society of College Youths, 1637–1987: A New History of the Society* (London: The Ancient Society of College Youths, 1987), and Sanderson (ed.), *Change-Ringing: The History of an English Art*, vols 1–3. The rule book of the Esquire Youths (1662–3) is British Library Add. MS 28504.

sold well: John Eisel has concluded that their reissues suggest sluggish sales.[27] The spread of change-ringing relied on in-person instruction more than on printed books, but the significance of these texts extended beyond their interface with practice. In what follows I trace another life for them, apart from or as well as their stated intention to teach the new activity of change-ringing.

<div align="center">CHANGE-RINGING IN DIDACTIC MISCELLANIES</div>

The afterlives of *Tintinnalogia* and *Campanalogia* suggest that they had additional functions that were less to do with creating a skilled ringer, and more with the development of an educated audience for change-ringing.[28] We find excerpted versions of both manuals in late-seventeenth-century miscellanies of didactic literature where they appear curtailed and digested, usually rewritten a little and with varying amounts of new material, but still recognizably based on the source texts. In what follows I focus on three such miscellanies. The formal differences between these three, and the other contents with which change-ringing was made to nestle, suggest divergent definitions of what kind of a practice change-ringing was understood to be as well as what its didactic texts were able to teach. Taken together, these texts suggest some routes by which this new kind of ringing was incorporated into English culture.

Edited parts of *Tintinnalogia* appeared in a miscellany first known as *The Rich Cabinet*, ascribed to one John White. Originally published in 1651, this went through at least ten editions, three significant changes of title, three publishers, and many adjustments of contents, until its last iteration in 1715. Ringing was included in the miscellany in the editions of 1677 and 1687; in the latter, and just for a single edition, the book itself was titled *The Art of Ringing* before returning once more to *A Rich Cabinet*.[29] Aside from ringing, the miscellany at various points also included sections on magic tricks, fireworks, gardening, husbandry, mathematical recreations, painting, tips for reading, and recipes for medicines and healing teas, all illustrated with a changing selection of woodcuts. What endured throughout all these changes was the book's proclaimed commitment to the 'pleasure or

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[27] *Tintinnalogia* (1668) was reissued in 1671 with a new imprint; *Campanalogia* (1677) was reissued in 1680, published by Godbid's widow Anne, and again in 1698. Eisel argues persuasively that these were reissues rather than new editions. See Eisel, 'Fabian Stedman, or Little by Little', *Ringing World*, 14 May 2010, 489–91 and 493.

[28] The early modern period cultivated positions for the non-professional, or non-specialist, known variously as a virtuoso, connoisseur, amateur, or (literally translating 'amateur') a lover of arts and sciences. See the special issue of *Nuncius* 31 (2016), particularly Paul Taylor, 'The Birth of the Amateur', which gives a philological history of the term (499–522).

[29] [J. White], *A rich cabinet, with variety of inventions* (pub. William Whitwood, 1677) (Wing 1792); *The Art of Ringing* (pub. George Conyers, 1687) (Wing 1786, Wing 1787). The date of 1687 is speculative (see ESTC), but I use it here for simplicity. The texts of the ringing sections are identical between the 1677 and 1687 editions, with the exception of an addition in 1687, discussed below. There was also an in-between edition, published by Whitwood in 1684 (Wing 1793), which did not contain the section on ringing.

profit' of the reader.[30] It is with this introduction, and amongst this company, that we find excerpts from *Tintinnalogia*.

The ringing sections of the editions of 1677 and 1687, which are almost identical, make references to the cuts that have been made from *Tintinnalogia*: 'To avoid all Circumlocutions', the section begins, excising Duckworth's introduction to the practice before lifting his words exactly, 'he that intends to enter himself into a Company, must in the first be able to set a Bell fore-stroak, and back-stroak'.[31] The 136 pages of *Tintinnalogia* are here (in the 1687 edition) reduced to just 34, surely hindering the practical application of the text as a way to learn. The excerpts include instructional and informational sections from the book, describing how to ring the bells and discussing the theory behind the methods, but the miscellany contains no actual methods to ring. 'I should proceed to cross Peals, […] Grandsire Bob, and several other Peals', the editor admits, listing several of the methods included *Tintinnalogia*, but this 'will take me up too much Time, wherefore I shall refer the Reader to his own and others Practice, for his further Information'.[32] This text points outside the book, to people and practice, as the way to learn the activity. The 1687 edition differs from the 1677 only in that it includes an extra two pages, not taken from *Tintinnalogia* or *Campanalogia*. These pages claim to be about '*the better observing the Ringing of Changes*', and contain some practical suggestions for physically ringing the bells.[33] They do, therefore, suggest a familiarity with the mechanics of controlling a bell, although not much about the intricacies of change-ringing's form. Even in this unexpected extra, then, the book contains no procedural elements; it explains aspects of the practice without giving the reader any ringing method to follow.

In this miscellany, change-ringing appears as one of several distinct topics – a fact mirrored in its form in the 1687 edition, published by George Conyers (active 1686–1740), the bibliographic features of which makes clear that it is an assemblage of several separate texts. Here, the abridged *Tintinnalogia* appears as one part among many: the sections on ringing, fireworks, and gardening are (unlike in other miscellanies I discuss) paginated separately, each given its own titlepage within the volume. Conyers, who published several editions of this miscellany, was known for his stock of didactic literature which included miscellanies, chapbooks, Greek and Latin vocabularies, manuals of arithmetic and husbandry, and conduct books – many of which were advertised within editions

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[30] [White], *A rich cabinet* (1677), A4r.
[31] [White], *The art of ringing* (1687), 1.
[32] [White], *The art of ringing*, 31.
[33] [White], *The art of ringing*, 33.

of *The Rich Cabinet.*[34] Its miscellaneous contents seem separate and separable and, by suggesting these alternative topics in the advertisements it includes, this miscellany draws attention to its own interchangeability and instability.[35]

Another miscellany, *Profit and pleasure united, or, The husbandman's magazine* (1684), by an author (or compiler) signed J.S. (the ESTC suggests a John Smith), includes an altered and much curtailed *Campanalogia*. This changed publisher between its first edition in 1684 and second in 1704; a further edition was published in Boston, New England, in 1718, with the revised title of *The Husbandman's Magazine*. Stedman's 231-page book is reduced to just eight pages; it contains none of the original's ringing methods and instead provides an informational text so reduced to be almost gnomic. In the years before the statute of 1710 which, for the first time, granted copyright to authors rather than publishers, careless and unauthorized reprinting was not uncommon.[36] In this miscellany *Campanalogia* has been subjected to something like the treatment that Defoe criticized in his *Essay on the Regulation of the Press* (1704): it has been

> *abridg'd* by some mercenary Book-seller, employing a Hackney-writer, who shall give such a contrary Turn to the Sense, such a false Idea of the Design, and so huddle Matters of the greatest Consequence together in abrupt Generals, that no greater Wrong can be done to the Subject; thus the sale of a Volume of twenty Shillings is spoil'd, by perswading People that the Substance of the Book is contain'd in the Summary of 4 *s.* price, the Undertaker is ruin'd, the Reader impos'd upon, and the Author's perhaps 20 Years Labour lost and undervalued […][37]

Defoe's main target here is the unscrupulous printers and abridgers of learned works (by Richard Baxter, or editions of Josephus – both authors that George Conyers published, roughly abridged), but the treatment of *Campanalogia* here is a similarly violent edit.

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[34] The catalogue of Conyers's stock taken after his death reveals the number of such miscellanies and other didactic texts, which included 1500 copies of *The Art of Ringing*. *The Rich Cabinet* and its aliases is not the only text represented here that Conyers published under multiple names and with varying contents: John Smith's *The Compleat Fisher and Troler* was a version of *The Art of Angling*, for example. For an annotated transcription of *A Catalogue of the Copies, and Remaining Part of the Quire-Stock of Mr. George Conyers, Deceas'd* (1740), which also gives information about the proportion of these texts's copyright held by Conyers, see James Raven, *Bookscape: Geographies of Printing and Publishing in London before 1800* (London: The British Library, 2014), appendix 5, 163–4.

[35] This miscellany makes explicit the contingent, collected, assembled nature of early modern books more generally; see Jeffrey Todd Knight, *Bound to Read: Compilations, Collections, and the Making of Renaissance Literature* (Philadelphia: University of Pennsylvania Press, 2013). In *Miscellaneous Order: Manuscript Culture and the Early Modern Organization of Knowledge* (Oxford: Oxford University Press, 2019) Angus Vine explores how forms of order within early modern manuscript miscellanies might reflect and create new forms of knowledge. This is a more deliberate and productive kind of assemblage than in *The Rich Cabinet*, but also one which admits instability and contingency.

[36] Now known as the Copyright Act; see Adrian Johns, *Piracy* (Chicago: University of Chicago Press, 2009), 45 and James Raven, *The Business of Books: Booksellers and the English Book Trade 1450–1850* (New Haven: Yale University Press, 2007), 128.

[37] Daniel Defoe, *An Essay on the Regulation of the Press* (1704), 20. On Defoe and authorship see Adrian Johns, *The Nature of the Book* (Chicago: Chicago University Press, 1998), 454–5.

Stedman's voice glimmers through here and there (change-ringing's 'Invention being Methematicall [*sic*], producing incredible effects',[38] for instance, in the opening sentence) but the text is framed by a new author who stands at a distance from the practice. The changes on bells are not something to be explained and uncovered but rather to remain 'alltogither Misticall' (a phrase which Stedman did not write). Successful ringing, the text continues, 'requires steady hands, and musicall ears', but it gives little indication of how the skill is to be acquired.[39] The miscellany incorporates some longer sections from *Campanalogia* describing the structure of ringing methods, but it lacks both procedural and even instructional elements, and its brevity means that any practical value in teaching ringing is necessarily limited. Ringing appears here in a section that includes hunting, hawking, angling, and making fireworks: a recreational appendix to the principal focus of *Profit and pleasure united*, the bulk of which (144 pages of 201) is comprised of a detailed manual on husbandry. If husbandry is the profit of the miscellany's title, ringing is part of the pleasure, and it is not given the same attention as is the central concern of the volume.

The titlepage of *Profit and pleasure united* asserts ringing to be a 'Noble Recreation', and its inclusion among other pastimes in this miscellany is a sign of its growing social status. *The school of recreation, or, The gentlemans tutor* (1684), ascribed to Robert Howlett, goes one step further by including in its collection of gentlemen's recreations not just a brief but a substantial section on change-ringing. Of the seventeenth-century books on noble recreations Howlett's is the only one to include ringing, so its inclusion among these activities wasn't a given (although there is plenty of evidence for upper-class ringing in the period).[40] In his introduction, Howlett distinguishes from paid labour the recreations he discusses: '*I would not have them made a* Trade*, instead of a* Divertisement', he writes: though the bodily exertions of these activities might seem like those done by workers, he directs his treatise towards those who have the leisure to do them just for fun. Ringing is a particularly good recreation, he argues, for the 'excellent *Harmony of Musick* it affords the *Ear*, for its *Mathematical Invention* delighting the *Mind*, and for the *Violence of its Exercise* bringing Health to the *Body*'.[41]

Unlike the J.S. of *Profit and pleasure united*, Howlett (or whoever wrote this section) shows his understanding of change-ringing. The 45 pages devoted to it are taken largely from *Campanalogia*, and include informational, instructional, and procedural elements: descriptions of change-ringing, directions on how to do it, and ringing methods themselves, taken directly from Stedman's book. Howlett carefully modifies *Campanalogia*, condensing it by removing long sections but

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[38]　[John Smith], *Profit and pleasure united, or, The husbandman's magazine* (1684), 182.

[39]　[Smith], *Profit and pleasure united*, 183, 184.

[40]　See Marsh, *Music and Society*, 498, and note 26, above.

[41]　Robert Howlett, *The school of recreation, or, The gentlemans tutor* (1684), 138.

expanding upon individual passages, rewriting them in a more conversational style appropriate to the more intimate, yet respectful, role of the 'gentlemans tutor' of his book's subtitle. When describing the kind of ringing known as cross changes, for instance, Stedman explains how one note is appointed

> to be as it were a Helm or Rudder by which the course of the peal is steered, which note is term'd a *Hunt*, and hath one constant uniform motion throughout the peal, differing from that of the other notes.[42]

Howlett reworks the lines, commanding the reader to

> Observe the *prime Movement*, which sets the whole Frame a going, and that is called the *Hunt*, which hath *One constant Uniform Motion throughout the Peal*, and different from that of the other Notes; and indeed by this the whole Course of the Peal is Steered.'[43]

The phrases taken directly from *Campanalogia* ('*One constant Uniform Motion throughout the Peal*'; the 'Course of the Peal is Steered') make Howlett's source material clear. But he adapts and dilates Stedman's description, making it at once more specific and more expansive. He adds to the nautical metaphor a more campanalogically specific one: his phrase, 'sets the whole Frame a going', alludes at once to the bell frame – the wooden structures to which the bells were attached – but also to the frame of the method, the structure shown by those written numbers which showed the motion of one bell 'hunting' through its position in the sequence. The imperative – that 'Observe' – inculcates the reader. Stedman coolly described these methods, which he helped to invent and propagate. Howlett, on the other hand, stands alongside his reader: an interpreter of these peals rather than their creator. Whereas for Defoe the act of abridgement was one of violence towards the original text, Howlett's textual editing is generous and expansive.

Though sometimes verbose, Howlett's enthusiastic rewriting of Stedman suggests a fondness for the practice. A notable addition in the 1684 edition of Howlett's book implies that he had some investment, if not direct involvement, in change-ringing. He writes on the moral duties of the ringer and the ties the practice has (or ought to have) to the church, a topic absent from *Campanalogia* or *Tintinnalogia*. Howlett warns against treating ringing solely as a secular recreation, advising his readers to

> not let thy frequent coming thither [to the belfry] on *Week-days* for thy Diversion, make thee absent thy self on *Sundays* from thy Devotion […] Do not let the *Sunday* Mornings Peal engage thy presence then, and the *Ale-House* have thy

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[42] Stedman, *Campanalogia*, 81–2.
[43] Howlett, *The school of recreation*, 149; italics in original.

company afterwards. Be as quick in hearing the *Chyming* for *Prayers*, as thou art in the *Notes* for *Pleasure*.[44]

Howlett's series of paired phrases develops the contrast between the two sets of terms: devotion on the Sabbath versus recreation on weekdays; ringing the morning peal on Sunday versus going to the pub (instead of the church) immediately afterwards; the sound of the bells summoning hearers to church versus the sound of ringing for its own sake. Howlett makes clear how potentially troublesome was the recreational nature of change-ringing, given that it used objects of the church – a matter sidestepped by the authors of the early books on the practice. This section does not appear in any of the six later editions of *The School of Recreation* (second edition 1696; final 1732) but here, in the first edition, Howlett's addition to *Campanalogia* gives recreational ringing a pointed new gloss.

Howlett comments knowingly on his own editing of Stedman's text. Unlike the *Rich Cabinet*'s brusque avoidance of 'circumlocutions', however, his asides invite the reader into a shared assumption of the knowledge that has been omitted: 'In short, as to Plain-Changes, I shall not dilate on them here, it being so *plainly* understood by every one that lately have rung a *Bell* in peal', for instance; or the exhortation about a method called 'A Cure for Melancholy' when he announces: 'enough; a word is enough to the Wise. See it here Deciphered'.[45] Howlett makes his authorial and editorial presence not just felt but appreciated, alluding to what has been left out as though his reader would be familiar enough with *Campanalogia* to notice the excisions. On his collection of ringing methods, he declares that he

> shall next collect what *London Peals* I think most Harmonious, and agreeable, without troubling my self to go to *Oxford*, or *Nottingham*, or *Redding*, to enquire after their different Methods of *Peals*.[46]

Campanalogia includes peals from all three places that Howlett chooses not to visit: by deliberately discarding these ringing methods he acknowledges his source text even as he discloses his own deletions from it. He presents his abridgement as a kind of reading, and himself as a reader good enough to reliably to revise the original text. Howlett's knowing excisions imply a reader who already knows not just the practice of change-ringing, but also its texts.

Although the other miscellanies operate at a further distance from the practice, and were more informational than instructional, the presence of change-ringing in all three didactic miscellanies shows not just the dissemination of

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[44] Howlett, *The school of recreation*, 181.
[45] Howlett, *The school of recreation*, 147–8; 157.
[46] Howlett, *The school of recreation*, 154.

the activity but the spread of knowledge *about* it. A reader, then, could be active without doing the bodily exertions that Howlett advised. We might think instead of an active reader being one who uses the book as an agent of transformation, of the individual or the social body.

GATHERINGS OF TEXTS, COMMUNITIES OF READERS

These texts address an active reader: one who knows that reading, like writing, is a matter of selection and discernment. Howlett's editorial persona particularly illuminates the actions of cutting, collecting, and arranging that are present, to varying degrees, in each of these miscellanies – actions which were central to early modern writing more generally.[47] By using titles like *The Rich Cabinet*, didactic miscellanies draw attention to their own assorted contents, deliberately comparing themselves to other collections of commonplaced texts and particularly poetic miscellanies, which also used the metaphor of the storehouse or cabinet in their titles.[48] Howlett is, perhaps unsurprisingly given his gentlemanly audience, the most obviously keen to situate his commonplacing activity within humanist (and specifically Senecan) traditions: in the epistle to *The school of recreation* he explains that, '*like the industrious* Bee', he has '*gathered* Honey *from various* Flowers'; the reader should '*according to your Palate taste and Eat*'.[49] For Howlett recreations and their literature are, like humanist writing, to be sampled and selected; quoting Persius, Howlett explains that 'Velle suum cuique, *every Mans Nature claimes a Special Prerogative, in the electing a Recreation* Suitable *to it self*', and he encourages his readers to test out and choose from them.[50] Bodily activity and humanist practice, which are equated in Senecan metaphors of digestion, are here connected anew through the work of the exercising body. '*Recreation*', Howlett writes, '*keeps up the strength and Alacrity of the bodily Forces, without which the Soul cannot work*'.[51] He asks his readers not just to 'taste and Eat' the miscellaneous honey he has collected, but actually to transform one's body by doing the activities that his gatherings describe. For Howlett the body, and through it man himself, can be read as a gathered text, a condensed miscellany: man is, he writes, '*the Abridgement of the Creation, or the* Compendium *of all Gods Works*'.[52] Employing the common

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[47] On cutting as writing see Adam Smyth, '"Shreds of holinesse": George Herbert, Little Gidding, and Cutting Up Texts in Early Modern England', *English Literary Renaissance* 42.3 (2012): 452–81, and the special issue ed. Juliet Fleming, Bill Sherman, and Adam Smyth on 'The Renaissance Collage' of *The Journal of Medieval and Early Modern Studies* 45.3 (2015).

[48] Knight, *Bound to Read*, 93.

[49] Howlett, *The school of recreation*, sig. A6v; [White]. The epistle that prefaces *The Rich Cabinet* (1677) uses the apian metaphor too, sig. A4r-v.

[50] Howlett, *The school of recreation*, sig. A6r.

[51] Howlett, *The school of recreation*, sig. A4r-v; italics in original.

[52] Howlett, *The school of recreation*, sig. A3r.

metaphor of man as a digested text of the world, Howlett brings together the body and the book.[53]

Comparing these didactic miscellanies with their source texts highlights the editorial techniques of abridgment, emendation, and disposition which we know to be significant in poetic miscellanies, too. Poetry and didactic literature could not just overlap, but be identical: manuscript miscellanies, like later printed ones, often contained both; medieval didactic texts were sometimes themselves written *as* poetry.[54] Both types of miscellany are committed to the twin Horatian dictums of profit and pleasure. Michelle O'Callaghan explains that early modern poetry miscellanies could themselves be re-created, as recreation, in new 'extra-textual forms', among household communities in particular.[55] And Adam Smyth has shown that seventeenth-century printed poetic miscellanies were intended to be useful as well as beautiful: to help their readers make their way in the world by familiarizing them with good poetry, and by equipping them with verse appropriate for various situations.[56]

In miscellanies, then, authorship is sidelined in favour of utility: they project into the future new uses for these texts, ones perhaps unimagined by their earlier authors and publishers.[57] Miscellanies, and the disposition of their contents, brought to these texts a new life, and the power to create or transform new constituencies of readers. Of course, instructive literature did this anyway – *Tintinnalogia* and *Campanalogia* explicitly addressed and welcomed a growing community of change-ringers – but what miscellanies make clear is that this community might not always be what, or who, the manuals themselves suggest. What printed miscellanies, poetic or didactic or both, were able to teach was not only the subjects they contain, or the specific poem anthologized within, but also a way of being in the world: one which was created in the moment of active reading, not writing, and which might be new and unexpected.

Readers could read against the grain of even the most direct instructional texts. Natasha Glaisyer and Sara Pennell suggest how how-to books might be read: 'the book read constructively, the book read for interest within an active

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[53] This was a common trope in early modern writing; see Rebecca Bushnell, *A Culture of Teaching* (Ithaca: Cornell University Press, 1996), 138.

[54] Griffin, 'Instruction and Information', 668. Howlett's miscellany becomes a poetic one too when he includes lines from poems that mention bells in Francis Quarles's *Emblemes* (1634) to illustrate and underline his points about change-ringing's moral purpose, *The school of recreation*, 182–3.

[55] Michelle O'Callaghan, *Crafting Poetry Anthologies in Renaissance England: Early Modern Cultures of Recreation* (Oxford: Oxford University Press, 2020), 19.

[56] Adam Smyth, *Profit and Delight: Printed Miscellanies in England, 1640–1682* (Detroit: Wayne State University Press, 2004).

[57] Other studies of poetic anthologies emphasise, as does Smyth, the forward-facing temporal orientation of these works. See Mary Thomas Crane *Framing Authority: Sayings, Self, and Society in Sixteenth-Century England* (Princeton: Princeton University Press, 1993); Michelle O'Callaghan, 'Textual gatherings: print, community and verse miscellanies in early modern England', *Early Modern Culture* 8 (2010), online. Megan Heffernan shows how acts of textual assembly were themselves acts of creation in *Making the English Miscellany* (Philadelphia: University of Pennsylvania Press, 2021), 4–7.

life, the book read contemplatively – all reflect the possibilities inherent in didactic texts for readers, possibilities that were sometimes unimagined by authors and publishers.'[58] These texts make their readers move not necessarily in the direction that their instructions seem to command but also in circles, concentric and overlapping, gathering and scattering groups of readers and doers as they go.

The unpredictability of these textual futures has a particular resonance for change-ringing, a new practice with an unusual, noisy, inescapable sound which had to be incorporated into English people's understanding of their soundscape.[59] The miscellanies reveal a life for change-ringing texts, and for the practice itself, that reading *Tintinnalogia* and *Campanalogia* alone cannot provide. In miscellanies, change-ringing becomes a part of English life: it sits alongside comparable activities, in arrangements which suggest what kind of practice this new, strange activity might be. A change made to the text of *Tintinnalogia* that appears in White's compendium indicates something of the audience created by these miscellanies. In the original, Duckworth explains that some six-bell peals make 'very good Musick'.[60] He writes as an authority and practitioner, someone capable of making aesthetic judgements about the ringing; his advice seems intended to encourage people to try some of these peals for themselves. White's abridgement copies Duckworth's passage word for word until this moment. Peals on six bells, White writes, 'ravisheth the Ears of all Lovers of the Art of Ringing'.[61] In the miscellany, the effect of this new sound is not on its creator but its audience; not on the exercising body, but the listening ear. The community anticipated here is not necessarily composed of active change-ringers; instead, the miscellany addresses – and creates – a knowledgeable audience for the sound of change-ringing itself.

Change-ringing was invented in the age of print, and was profoundly bound up with it. Its complicated aural form was best expressed visually in printed books, which disseminated instructions for how to do it. Print also helped the incorporation of this activity into English culture and society, and these miscellanies provide a glimpse into this process. Change-ringing was anchored in texts, then, but it continually exceeded and multiplied them, too. The lines of numbers of its notation extend into marvellous expanses just as the factorial itself wondrously seeps and jumps into not-quite-unthinkable number, so that even the most writable aspect of change-ringing escapes the page. In its translation into miscellanies of didactic literature, the practice exceeded its texts in a different way: here, change-ringing was no longer an activity to be

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[58] Glaisyer and Pennell, *Didactic Literature*, 15.

[59] My focus here is on these texts; for the social history of this phenomenon, see Marsh, *Music and Society*, 499–504.

[60] [Duckworth], *Tintinnalogia*, 37.

[61] [White], *The Art of Ringing*, 19.

learned, but rather to be understood; when widely comprehended, it could be absorbed into the culture from which it had sprung. Like instructive writing more generally, these texts could profitably be read aslant, demonstrating the circulation and reception of didactic writing, and what unexpected things it might teach.

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Abstract
This paper takes the practice of change-ringing as a case study to examine the forms, transmission, and effects of early modern didactic literature. The novelty of change-ringing, which was invented and very quickly spread in the seventeenth century, offers an opportunity to test out the contours of learning from printed books. Tracing the dissemination of its instructions in printed miscellanies of instructional literature, and comparing didactic miscellanies to poetic ones, I suggest that what might be most at stake in change-ringing's written texts is the creation of an educated audience for, rather than practitioners of, the practice. I situate my argument among recent work on instructional literature to propose a renewed role for the literary techniques of textual analysis and bibliography in the study of early modern manuals.