



Kent Academic Repository

Waters, Catherine (2008) 'Fairy palaces' and 'Wonderful Toys': Machine Dreams in Household Words. Dickens Quarterly, 25 (4). pp. 215-231. ISSN 0742-5473.

Downloaded from

<https://kar.kent.ac.uk/54906/> The University of Kent's Academic Repository KAR

The version of record is available from

This document version

Author's Accepted Manuscript

DOI for this version

Licence for this version

UNSPECIFIED

Additional information

Versions of research works

Versions of Record

If this version is the version of record, it is the same as the published version available on the publisher's web site. Cite as the published version.

Author Accepted Manuscripts

If this document is identified as the Author Accepted Manuscript it is the version after peer review but before type setting, copy editing or publisher branding. Cite as Surname, Initial. (Year) 'Title of article'. To be published in *Title of Journal*, Volume and issue numbers [peer-reviewed accepted version]. Available at: DOI or URL (Accessed: date).

Enquiries

If you have questions about this document contact ResearchSupport@kent.ac.uk. Please include the URL of the record in KAR. If you believe that your, or a third party's rights have been compromised through this document please see our [Take Down policy](https://www.kent.ac.uk/guides/kar-the-kent-academic-repository#policies) (available from <https://www.kent.ac.uk/guides/kar-the-kent-academic-repository#policies>).

“FAIRY PALACES” AND “WONDERFUL TOYS”: MACHINE DREAMS IN *HOUSEHOLD WORDS*

CATHERINE WATERS

(University of New England, Australia)

Technological production, at the beginning, was in the grip of dreams.
Walter Benjamin, *The Arcades Project*, 152.

In the second serial installment of *Hard Times*, published as the leader in *Household Words* on 8 April 1854, Dickens “strike[s] the keynote” with his memorable description of Coketown:

It was a town of red brick, or of brick that would have been red if the smoke and ashes had allowed it; but, as matters stood it was a town of unnatural red and black like the painted face of a savage. It was a town of machinery and tall chimneys, out of which interminable serpents of smoke trailed themselves for ever and ever, and never got uncoiled. It had a black canal in it, and a river that ran purple with an ill-smelling dye, and vast piles of building full of windows where there was a rattling and a trembling all day long, and where the piston of the steam-engine worked monotonously up and down, like the head of an elephant in a state of melancholy madness. It contained several large streets all very like one another, and many small streets still more like one another, inhabited by people equally like one another, who all went in and out at the same hours, with the same sound upon the same pavements, to do the same work, and to whom every day was the same as yesterday and to-morrow, and every year the counterpart of the last and the next. (167–8)

The passage has become a *locus classicus* amongst nineteenth-century accounts of the blighting effects of the factory system. Coketown’s dismal aspect is imaginatively evoked through its unexpected likeness to the spectacular shows of London: “savages,” snakes, elephants and other exotic creatures could all be seen on exhibition in the metropolis at mid-century.¹ While their similarity to an oriental menagerie appears to endow the factories and their incessant engines with animal life, the factory workers themselves resemble automata, manifesting the repetitive, uniform movements of the machinery they operate. The irony in Dickens’s fanciful description of such a monument to “fact” is reinforced in the tenth chapter, where the narrator remarks the lights

in the “great factories” looking “when they were illuminated, like Fairy palaces – or the travellers by express-train said so” (240). The visual magic of this light-show, conjured by the perspective from the express-train window, is starkly juxtaposed with the unsettling somatic effects felt by Stephen Blackpool after work, “standing in the street, with the odd sensation upon him which the stoppage of the machinery always produced – the sensation of its having worked and stopped in his own head” (240). While Dickens’s description of Coketown blends industrialism and spectacle in the instructive and entertaining manner of the mid-Victorian exhibition, Stephen’s experience confuses the boundaries between body and machine in a way which is emblematic of a wider contemporary concern with the relations between the organic and the mechanical in Victorian technological culture.

Dickens’s account of Coketown is excerpted in the latest *Norton Anthology of English Literature* (eighth edition) published in 2006, as an exemplary text in the literature of industrialism. Situated alongside extracts from Engels’s *The Condition of the Working Class*, Kingsley’s *Alton Locke*, Mayhew’s *London Labour and the London Poor* and the First Report of the Children’s Employment Commission of 1842–3, it may provide the latest instance of what Herbert Sussman identifies, in an article published in 2000 – “Machine Dreams: The Culture of Technology” – as a prevailing “technophobic” impulse in Victorian Studies: “In the journals and in the classroom, industrialization is engaged by reading anti-industrial writing – the Luddite views of Ruskin, industrial novels by visitors from London or from the clerical world” (Sussman 197). Indeed, the *Norton Anthology* includes only one proponent of the factory system in an extract from a damning review of Robert Southey’s exposé regarding the evils of industrialism by Thomas Babington Macaulay.² In response to this technophobia, Sussman calls for a re-engagement with the Victorian mechanists, a recuperation of the Victorian “technological imagination, the ‘technological feeling’ of the age” (198). What he has in mind is a return to the writings of such early philosophers of manufacture as Charles Babbage and Andrew Ure, armed with the analytical methods of cultural studies. But the “technological feeling” of the Victorian age can also be usefully gauged from that most ubiquitous product of modern industrial capitalism, the periodical press. For notwithstanding his creation of Coketown in its pages, Dickens’s *Household Words*, like other cheap miscellanies published at mid-century, was fascinated by machinery and the new industrial processes which were turning out a vast array of affordable mass-produced goods.

As Dickens argues in the “Preliminary Word” that opens the journal’s first issue:

The traveller whom we accompany on his railroad or his steamboat journey, may gain, we hope, some compensation for incidents which these later generations have outlived, in new associations with the Power that bears him onward; with the habitations and the ways of life of crowds of his fellow creatures among whom he passes like the wind; even with the towering chimneys he may see, spiriting [sic] out fire and smoke upon the prospect. (1)

Amongst the new genres which the literature of industrialization inaugurated, Dickens evolved the “process” article, a form of industrial tourist tale which, while marveling at the technological imagination vested in factory machinery, also held the promise of demystifying the mass-produced commodity and restoring awareness of the labor involved in its production.³ While some contributors in this genre, like Harriet Martineau, extol the virtues of industrialism and political economy, others like Henry Morley and Dickens himself, also register unease about the damaging impact of factory production and its material confusions of worker and machine.⁴ This essay examines several articles from *Household Words* to show how the journal’s representation of industrialism reveals an ambivalence in the technological feeling of the age, as distinctions between human and machine, subject and object, were called into question by the conditions of industrial modernity.

As several scholars have remarked, Dickens was not the first to develop the journalistic form of industrial tourist tale he referred to as the “process” article. The *Penny Magazine*, for example, had been publishing narratives about factory visits throughout the 1840s (Maidment 93). As Iwan Rhys Morus argues of the emergence of this genre, it “was through such tours of factories and of machine exhibitions, and the expanding number of accounts of such tours, that the middle class constructed and made sense to themselves of the factory system. A link was being forged between display and the progress of industry” (422). It was a link that would culminate in the Great Exhibition of 1851 and that finds expression in the emphasis upon factory spectacle in *Household Words*, the weekly journal Dickens edited throughout that decade. While direct discussion of the Great Exhibition was kept to a minimum in the journal,⁵ a jointly-authored article by Dickens and R.H. Horne,⁶ published on 5 July 1851, contrasts the evidence of British industrial progress on display in the Crystal Palace with the backwardness of the “Little” exhibition housed in the Chinese Gallery in Hyde Park Place. Dickens and Horne praise “the machinery of our manufactures, with all their complex powers, their wonderful strength, velocity, and minutely precise manipulations” (“Great Exhibition” 358) on show in the Great Exhibition; while the Chinese display suggests to them only a culture of repetition:

the idea of the same Emperor having sat upon the same enamelled porcelain throne during the whole time, with the same thin-arched pair of elevated eyebrows, admiring and wondering, with the same inanity, at the same inanimate perfection of himself and all around him. (360)

The Chinese Emperor is held to manifest the same kind of behavior that was exhibited by those marvels of mechanical ingenuity on show in London since the eighteenth century – automata.

Morus illustrates the close relationship between the invention of new technologies and the growth of exhibition culture in the early nineteenth century, noting the importance of the National Gallery of Practical Science (or the Adelaide Gallery as it was popularly known) and the Royal Polytechnic Institution on Regent Street as sites which “put invention in the context of the marvellous and the spectacular. Science on show was part of a repertoire of exhibitionism” (420): “The Adelaide Gallery’s displays included the same engines that might be found in a cotton mill or weaver’s shop, side by side with electrical shows and telegraphs” (433–34). While perhaps surprising to us, such juxtapositions capture what Jay Clayton has called the “undisciplined culture” that distinguished the early nineteenth-century mixture of science and showmanship (82). A noteworthy example of this mixture is Babbage’s purchase and restoration of one of the most famous automata of the early nineteenth-century, a so-called “Silver Dancer,” brought to London originally by the Swiss horologist Jaquet-Droz, which Babbage set up on a glass pedestal in his Marylebone salon in a room adjacent to his unfinished Difference Engine (Schaffer 58). As Simon Schaffer explains, just as the Silver Dancer and the Difference Engine stood next door to one another in Babbage’s reception rooms, “so at the Adelaide Gallery the Jacquard loom ‘in daily operation’ stood in the next room to a splendidly automatic Chinese Juggler”: “It was exactly in such places that the distinction between entertaining automata and rational engines was all too easily effaced” (77). As well as sharing an exhibition space, however, the new engines and technological inventions that drove Victorian factories were also set side by side with popular entertainments in the pages of cheap miscellanies, like *Household Words*.

In “Rainbow Making,” published on 14 February 1852, Harriet Martineau describes a visit to the ribbon manufactory of Messrs. Leavesley and Hands at Coventry. It was her seventh factory tourist tale for *Household Words*, and it is distinguished by the same eye-witness reporting techniques that characterize her other process articles. She begins by marveling at the vast quantities of raw materials and finished goods involved in mass production, remarking that

[i]f bundles, and regiments of bundles [of silk], like these, come into one dye-house every few days, to be prepared for the weaving of ribbons alone, and for the ribbon-weaving of a single town, it is overwhelming to think of the amount of production required for the broad silk-weaving of England, Europe, of the world. (486)

The processes of dyeing the silk are described in detail, and by shifting into free direct speech, Martineau endows with dramatic immediacy what might otherwise be a dry account of the chemistry involved:

– That is a good red brown. It is from Brazil wood, with alum for its mordant. – This is a brilliant blue; – indigo, of course? Yes, sulphate of indigo, with tartaric acid. – Here are two yellows; how is that? One is much better than the other; moreover, it makes a better green; moreover, it wears immeasurably better. – But what is it? The inferior one is the old-fashioned turmeric, with tartaric acid. And the improved yellow? – O! we perceive. It is a secret of the establishment, and we are not to ask questions about it. (487)

Following the silk bundles across to the factory to observe the weaving, Martineau is struck by the juxtaposition according to which “so thoroughly modern an establishment” is set amidst such “reminders of antiquity” as she has to pass, and she draws an implicit parallel between the “beauty and loftiness” of the tower of St. Michael’s Church, its “spire tapering off at a height of three hundred and twenty feet,” and the factory chimney, “straight, tall, and handsome, in its way, with its inlaying of coloured bricks, towering before us to about the height of a hundred and thirty feet” (488).

This comparison of ancient and modern buildings, of past and present, provides Martineau with the occasion for recalling the local resistance by workers earlier in the century to the introduction of steam power – a resistance which has since been overcome: “There are now thirty steam power-loom factories in Coventry, producing about seven thousand pieces of ribbons in the week, and employing about three thousand persons” (488). But the comparison also helps to assimilate the factory, to make it seem a well-established part of the built environment of modern-day Coventry. No dark satanic mill, it has a lofty architectural appeal, just as the old church does. Martineau’s appreciation of factory aesthetics continues as she describes the “magical work” undertaken by a young man who is engaged in ““reading in from the draught”” or pattern of the intended ribbon and arranging the cords for the Jacquard loom accordingly. “Before him hangs the mass of cords he is to tie into pattern, close before his face, like the curtain of a cabinet piano,” she writes. At first, the “skill and speed with which he

feels out his cords, while his eyes are fixed on his pattern, appear very remarkable:"

but when we come to consider, it is not so complicated a process as playing at sight on the piano. The reader has to deal thus with one chapter, or series, or movement, of his pattern. *A da capo* ensues: in other words, the Jacquard cards are tied together, to begin again; and there is a revolution of the cards, and a repetition of the pattern, till the piece of ribbon is finished. (489)

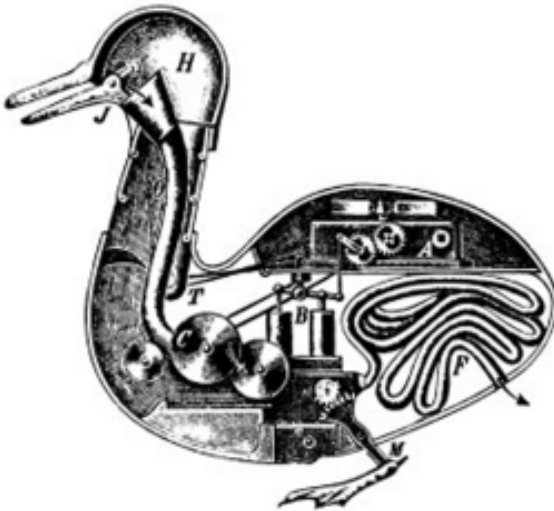
The analogy with piano playing is a curiously backhanded compliment: while it aestheticizes the worker's activity, transforming his repetitive labors into an artistic performance, like sight-reading music, at the same time it devalues the "not so complicated" skill involved. (Of course, it bespeaks a particular readership for *Household Words* too – a new class of purchasers able to afford such non-essential goods as a cabinet piano.) Aesthetic appreciation is also evident in her admiration for the "actual weaving." "We certainly had no idea how fine a spectacle it might be," she writes:

It may seem an odd thing to say; but there is a kind of architectural grandeur in these long lofty rooms, where the transverse cords of the looms and their shafts and beams are so uniform, as to produce the impression that symmetry, on a large scale, always gives. Looking down upon the details, there is plenty of beauty. The light glances upon the glossy coloured silks, depending, like a veil, from the backs of the looms, where women and girls are busy piercing the imperfect threads with nimble fingers. (489)

This is a scene of the industrial sublime, the factory as monumental work of art, born of the Victorian technological imagination, and Martineau marvels at its beauty. Returning later in the day once the gas has been lit specifically to "see the effect," she observes that it "is really very fine": "The flare of the separate jets is lost behind the screens of silken threads, which veil the backs of the looms, while the yellow light touches the beams, and gushes up to the high ceiling in a thousand caprices" (490). Such technological artistry reaches a climax in the self-acting machine, as Martineau describes the loom at work: the "shuttles, with their gay little spools, fly to and fro, and the pattern grows, as of its own will. Below is a barrel, on which the woven ribbon is wound. Slowly revolving, it winds off the fabric as it is finished, leaving the shuttles above room to ply their own work" (489). These happy looms are endowed with an intelligence and agency that appear to render human aid superfluous.

Martineau's account of the ribbon manufactory conveys her sense of machine beauty. But such aesthetic appreciation is at the same time a form of selective vision, showing no awareness that the repetitive labor of the young man "reading in from the draught" may be eye-straining and fatiguing.⁷

Her machine-dreaming is thrown into relief by another article that appears in the same issue of *Household Words* and that also touches on the industrialization of silk manufacture in its account of the mechanical ingenuity of automata. In "Wonderful Toys," Dickens's sub-editor, W. H. Wills, contributes "a sketch of those mechanical figures, which have excited the wonder and admiration of all ages and nations" (502). Offered as a companion piece to his essay on puppets published a fortnight earlier (31 January 1852), his article provides a history of automata from the days of Horace to the present, and devotes particular attention to the inventions of Jacques de Vaucanson (1709–82), the "prince of automaton contrivers," whose mechanical "duck became the wonder of the world" (503).⁸ Appearing adjacent to Martineau's process article, Wills's essay makes visible the connection between the shows of London and the progress of industry. He emphasizes the ingenuity of Vaucanson's duck, which "simulated nature in the minutest point": "Every bone, every fibre, every organ, were so accurately constructed and fitted, that the mechanism waddled about in search of grain; and, when it found some, picked it up with its bill and swallowed it" (503). As Andrew Zimmerman argues in his account of the Victorian mechanists, Babbage and Ure, "the defecating duck is as important to



Ure's account [of *The Philosophy of Manufactures*] as the self-acting mule" (13), because Ure describes industrial machinery arising from the application of the principles of automata.⁹ Of the term "factory," Ure declares:

I conceive that this title, in its strictest sense, involves the idea of a vast automaton, composed of various mechanical and intellectual organs, acting in uninterrupted concert for the production of a common object, all of them being subordinated to a self-regulated moving force. (Ure 13)

Wills suggests this connection between the automaton and the self-acting machine in recounting Vaucanson's appointment as Inspector of Silk Manufactories in 1741, a role in which he introduced some new "labour-saving improvements" (504). Forced to flee Lyon when the silk workers rioted, he returned to Paris and in 1747 developed an automatic loom for silk weaving – a contribution to the industrialization of silk-manufacture in France that is acknowledged by Wills, who concludes that in "point of abstract ingenuity, [Vaucanson's] useless contrivances equal, if they do not exceed in inventive power and mechanical skill, the important achievements of Arkwright and Watt" (504).

Will's description of automata as "useless contrivances" or "ingenious trifling" distinguishes them from productive machinery while at the same time remarking the technological imagination that unites them. He follows Babbage and Ure in recognizing the importance of automatic mechanism in new industrial processes, and reflects the age more generally in responding to its fascination with automata.¹⁰ Wills's emphasis upon the automaton's power of simulation, its "accuracy" in providing the "closest imitation of nature" in its movements (503), recalls the anthropomorphic features of the looms described by Martineau, inviting the reader of these two articles in *Household Words* to contemplate the connection between what Jessica Riskin calls "mimetic" and "pragmatic" simulations. Discussing Vaucanson's automatic loom, Riskin argues that its functional simulation of the silk weaver's skill raised the same kinds of questions about relations between the human and the mechanical, the animate and the inanimate, that his automata did:

in the early days of artificial life the mere fact that a machine could carry out a complex human activity had the same salience as a mimetic automaton; it could serve as evidence for a materialist-mechanist understanding of life, and, at the same time, it could provoke a rethinking of the boundary dividing humanity from machinery. The automatic loom constituted just such a provocation. (627)

Read side by side, the articles by Martineau and Wills raise questions about changing conceptions of human agency and selfhood in the context of this new technology, as understandings of men and machines are shown to shape one another. They also raise questions about the nature of industrial work and its visibility, for the pragmatic and mimetic machines they respectively discuss depend upon a similar process of mystification. It is precisely the hidden mechanism within the automaton, providing its motive power, which is the source of its fascination for the viewer. The concealment of its workings is what enables the device to appear intelligent, and, as Schaffer argues, this mystification has a significant bearing upon the politics of manufacture in the period. Just as the automata described by Wills are rendered “wonderful” by the secret “springs of their artful design” (Schaffer 65), so too the so-called “self-acting” looms observed by Martineau are endowed with life through the occlusion of the workers who operate them. As Schaffer puts it, the “intelligence attributed to machines hinges on the cultural invisibility of the human skills which accompany them” (80).

The problem of work and its visibility in the factory becomes apparent in the emphasis given to the machine’s capacity for “self-regulation.” Like the mechanists, Babbage and Ure, many contributors to the mid-Victorian periodical press marveled at what an 1858 writer in *Chambers’s Journal* called “mechanical self-control”: “There is scarcely a spectacle on this round mechanical world more interesting than a huge steam-engine bending its pivot-joints, and plying its iron limbs with a giant’s power” (214). Earlier in the decade, *Eliza Cook’s Journal* had remarked that “[t]here are machines now in existence, and almost daily invented, into which man seems to have put his own powers of thinking” (177), so that “[i]t would seem as if mere manual labour were ultimately to be displaced by machine labour, and that man’s function in course of time would come to be that of a contriver, maker and watcher of machines” (178). Similarly, a number of the factory tourist tales in *Household Words* also depict machines as the new locus of production, marginalizing if not completely displacing the workers. In “What There is in a Button,” Harriet Martineau describes the “long rows of machines” in a Birmingham button manufactory, “at work, cutting, piercing, stamping, counter-sinking,” as if they were entirely independent of a human operator, while in “Wallotty Trot,” George Dodd marvels at what a “grand machine” a Lancashire cotton-mill is “in its organism”:

the mind, the fingers, and the iron and steel, all work together for one common end. A bale of cotton goes in at one door, and the cotton comes out at another, in the form of woven calico or fustian; and a thousand human beings may be marshalled in the path from

the one door to the other. (501)

Like the inner workings of the automaton, the individual labor of the “thousand human beings” “marshalled” within is hidden by Dodd’s appreciation of the factory as an automatic system. His description anticipates the modern methods of “flow production,” where large quantities of finished goods are turned out in a continuous flow from a carefully coordinated sequence of mechanized operations (Cooper 212–13):

The cotton is conveyed in its bag, perhaps to one of the upper floors, and it travels downwards from floor to floor, as the order of processes advances; a “devil” tears the locks of wool asunder; a “scutcher” blows away all the dirt; a “carding-machine” lays all the fibres parallel; a “drawing machine” groups them into slender ribbons; a “roving machine” slightly twists them into a soft spongy cord; a “mule” or a “throstle” spins the roving into yarn; and men and women, boys and girls, tend on the machines while all this is being done. (Dodd 501)

Similarly, in “The Wonders of Nails and Screws,” Martineau describes the work of the women engaged in “worming” the shank of a screw, as machine-tending: “Their business still is to feed the machinery – to present the heads of the screws to a vice which seizes them, and carries them forward – then back again, and again forward – as often as is necessary to have the worming made deep enough” (141).

What most impresses Martineau about these workers though is the orderly appearance they present: “these six score of women are neatly dressed; hair smooth, or cap clean – handkerchief or little shawl nicely crossed over, and fastened behind; faces healthy, and countenances cheerful” (141). Emerging in her account as a corollary of the coupling of workers with self-regulating engines, such trimness of form reveals the importance of the machine in disciplining human labor. Babbage and Ure had made a similar point. Babbage had noted the “great advantage” to be derived from machinery as a “check” “against the inattention, the idleness, or the dishonesty of human agents” (qtd. Zimmerman 9) while Ure remarked the importance of “training human beings to renounce their desultory habits of work and to identify themselves with the unvarying regularity of the complex automaton” (15). That industrial technology was designed to produce a new kind of human subject, a disciplined factory worker, is made evident in Martineau’s concluding expression of hope for the women engaged in making nails and screws, “that the machinery of their daily life might work as truly and effectually as that dead mechanism which is revolving under their care, for so many hours of every day” (141). As Morus puts

it, the regulatory power of self-acting machines “had moral force as well” (408).

But the more damaging disciplinary effects of placing human labor under mechanical control are also ironically exposed and attacked in the campaign against preventable factory accidents in *Household Words*. In “Ground in the Mill,” Henry Morley describes the harsh discipline meted out when “a factory girl, who has not the whole spirit of play spun out of her for want of meadows, gambols upon bags of wool, a little too near the exposed machinery that is to work it up, and is immediately seized, and punished by the merciless machine” or the boy who “was fully punished” for looking out the window “when the machine he served caught him by one arm and whirled him round and round till he was thrown down dead” (224). “There is no lack of such warnings to idle boys and girls,” writes Morley (224). Similarly, a year later, in “Fencing with Humanity,” he scorns the claims made by factory owners of unfenced machinery that accidents to workers are caused by “carelessness on the part of the sufferer,” remarking, apropos of the safety requirements of the 1844 Factory Act, that it is indeed “to a ‘wanton disobedience of orders,’ that the accidents in factories are commonly to be ascribed. But who is guilty of disobedience,” he asks, “– the masters or the men?” (242)

Household Words’s campaign against factory accidents eventually led to a falling out between Dickens and Martineau (see Fielding and Smith). Before then, however, she provided more than twenty pro-industrial accounts of visits to manufactories, and her sense of machine beauty is often conveyed through description of the disciplining of labor by the rationalized production methods of the factory. As she writes of the Messrs. Whitwell’s mill at Kendal, “[w]e had no idea that we should find anything picturesque in a carpet factory,” but the close arrangement of looms all along the sides of a long room elicits her admiration:

The tricks of light, falling from the high windows upon the posts and beams or the looms, are striking; and so are the gay colours of the webs, shining out here and there – and so are the characteristic outlines of the men themselves; but, much more so, are the figures of the children, one of whom sits lowly at the end of each loom, winding the spools for the shuttle. Each child has its little reel, and works beside its father, or other employer. (188–9)

The weavers share in the orderliness and harmony of the machines they operate, contributing to the painterly effect of the scene for the observer, who makes no mention of what must have been the tremendous noise generated by the looms (perhaps, as Fielding and Smith remark, because of her deafness (36)). But other features of factory

machinery also make it a source of fascination to industrial visitors in *Household Words*, anticipating Walter Benjamin's identification of the factory as a "dream house of the collective" (405). In "The Wonders of Nails and Screws," the velocity with which iron strips are cut from a plate – "too rapid for the eye to follow" – is described by Martineau as "a marvellous thing to see" (139), while in "Shawls," the precision of the machine for twisting fringes, she writes, is beyond words, "for there is no giving an idea, by description, of the nicety with which the brass tongues rise to lift up the threads and twist them; then throw them together and rub them against the leather-covered shafts; which, instead of human palms, twist them in the opposite direction" (553). In "Wallotty Trot," George Dodd emphasizes the monumental scale of the industrial operations associated with the development of Titus Salt's alpaca-mill at Bradford. The "chief structure" of this "gigantic establishment, "technically called the 'mill,' will be a stone building five hundred and fifty feet in length, six stories in height, and having its crowning cornice and its many hundreds of windows so finished with dressed stone, as to give an architectural grandeur to the whole" (502). The steam-engines for working "this stupendous concern" will occupy "two handsome engine-houses on either side of the principal entrance; and will send off their smoke into an Italian-looking campanile sort of building, two hundred and fifty feet high" (502). A scheme of "unparalleled boldness," argues Dodd, the factory will "in many respects, be the finest in the world" (502). Such hyperbole is characteristic of an important strain in the technological feeling of the age: as Susan Buck-Morss notes, "under conditions of competitive capitalism, pure numbers, abundance, excess, monumental size, and expansion" all took on a mythic identity with progress (91).

While Dodd and Martineau celebrate the industrial sublime, the awesome scale of factory production is regarded with more ambivalence in an earlier, jointly-authored article by Dickens and R. H. Horne on the work of the Chatham dockyard. Dickens's "process" articles were typically composite writings, involving a companionable excursion that combined work with pleasure (Stone 47).¹¹ As Harry Stone explains, the piece arose from an adaptation of an "old idea" Dickens had outlined in a letter to Wills for a proposed "Series of Places, *well* chosen, and described *well*, with their peculiarities and popularities thoroughly seized" (qtd. in Stone 47). The dockyard location of his composite essay with Horne is significant as an example of *Household Words's* response to large-scale industrial production because, as Clayton notes, it was another dockyard – the Portsmouth naval facility – that saw the introduction of the so-called "Portsmouth system of manufacture": under the direction of Samuel Bentham (brother of Jeremy Bentham), and in collaboration with Marc Brunel (father of I. K. Brunel) and Henry

Maudsley, a system was developed – designed to increase efficiency and save labor – in which machines and workers were arranged along a production line, anticipating the widespread use of assembly lines in British manufacturing from the 1850s (Clayton 62). According to Carolyn C. Cooper, the Portsmouth reorganization of dockyard labor and the way in which the skill required for most operations was “‘built into’ the machines” – “It was broken down into small steps and objectified in the clamps that held the workpiece and cutting tool in the only correct position relative to each other” (207), for example – “set a benchmark in the history of mass production” (183).

Published as the leader on 6 September 1851, “One Man in a Dockyard” explores the attenuation of the observer in the face of the vast scale of industrial production. The narrator’s sense of powerlessness, diminution, and loss of individuality in “gazing at large edifices” like a ship-builder’s yard is vividly evoked. Dickens spent the happiest years of his childhood in the Chatham–Rochester region, and Stone remarks that “the note of ‘juvenility’ and dwindling stature, appropriate to the strategy of the essay, is even more appropriate to the remembrances he is calling up” (1: 60). But the reverse is also true: Dickens’s recollections of childhood diminutiveness dovetail with the attenuation of identity described in a way that helps to convey the overwhelming power of industrial production. The sense of human insignificance that the narrator feels when he enters Chatham is generated by the homogenizing effects of military order and the evidence of mass production:

Coming into Chatham, it appeared to me as if the feeble absurdity of an individual were made more and more manifest at every step I took. Men were only noticeable here by scores, by hundreds, by thousands, rank and file, companies, regiments, detachments, vessels full for exportation, they walked about the streets in rows or bodies, carrying their heads in exactly the same way, and doing exactly the same thing with their limbs. Nothing in the shape of clothing was made for an individual; everything was contracted for, by the million. (553–54)

The accumulation of collective nouns for the multitudes of men – “companies, regiments, detachments” – imitates the process of aggregation described. The regimentation and uniformity of the militia shade into the mass production of people and goods, anticipating in their homogeneity the keynote of Coketown that will be struck in *Household Words* three years later. Proceeding to the dockyard, the magnitude of the operations there also induces feelings of individual insignificance in the narrator, as he approaches one of the stacks of seasoned timber in the yard and is embarrassed by his inability to move it: “How ridiculous I feel at the total absence of any sort of effect

produced, beyond a dull, blank, and I may say irresponsive sound, as it certainly makes no sort of response commensurate with the digs I give it" (555). His impotence contrasts with the "power that sets in motion all these rolling-mills, and upright-dancing saws, and circular spinning saws, and runs away with tall tree-trunks at the end of a rope, and bores holes in thick masses of cold iron, and cuts brass like cheese, or shaves a surface of it with far more ease and softness than most razors shave a beard": namely, "the black and oily Majesty of Steam-power" (556). Standing inside the "vast skeleton" of the "Hood," "to whom eighty guns are promised" (557), the immense size of the vessel creates a feeling of minuteness – "A man is as a fly upon it"; but it is the "work in accord and harmony, the well-devised combinations of men that produce this majestic result," leading the narrator finally to aver:

I may be reconciled here, to feeling so minute an object before so mighty a structure; and to the consciousness that my share of work would be so very small a fraction in the aggregate of its completion. I know that I can agree and combine with others for a reasoned object, and I am content to do such modicum of the world's work as falls to my allotted share. (557)

The lesson offered here, however, seems inadequate as a resolution of the fears about loss of individuality and absorption into the mass voiced earlier in the essay. Its syntax asserts, rather than demonstrates, conviction – "I may," "I know that I can," "I am" – and its perfunctory moralism contrasts with the disturbing particularity of the earlier descriptions of human insignificance and loss of identity. "One Man in a Dockyard" speaks to the anxieties evoked by the factory system, where human behavior, like industrial goods, is mass-produced through the division of labor and each worker becomes an isolated component in the production process.

Thus while Dickens's attack on industrialism in *Hard Times* has become well known, the factory tourist tales he published alongside it in *Household Words* reveal a more mixed response to the industrial developments of his day. The process articles contributed to the journal by Harriet Martineau show a form of "machine-dreaming" in their aesthetic appreciation of the factory, as she attempts to convey the wonders of automatic machinery and the increased scale of production it permits. Like the Crystal Palace, itself built by means of the new technologies it was designed to house and showcase, many of the manufactories described in *Household Words* allure the visitor with their monumental architecture, spectacular "self-acting" machinery, regulated labor and enormous output. While celebrated as evidence of the Victorian technological imagination, however, such palaces of industry

also provoke feelings of unease, whether through the sense of diminution they may induce in an observer, or through the damaging impact of mechanization upon the workers. John Ruskin notoriously dubbed Dickens “a leader of the steam-whistle party *par excellence* ... His hero is essentially the ironmaster” (qtd. in Collins 443–44). But such enthusiasm for the new world of industrial production is mingled with other currents of technological feeling in the pages of *Household Words* to provide machine dreams that were not altogether sweet.

NOTES

¹ As Richard Altick notes, Londoners saw “successive exhibitions of African and other ‘savages’ in the years around the middle of the century” (279). George Catlin had exhibited a group of Ojibbewa Indians in London in 1843–44; a group of Bushmen followed at the Egyptian Hall in 1847 and a party of Zulu Kaffirs at St. George’s Gallery, Hyde Park Corner in 1853. Dickens satirized them in “The Noble Savage.” Snakes and elephants featured at the Royal Menagerie in Exeter Change (Altick 308–9).

² From “A Review of Southey’s *Colloquies*,” first published in the *Edinburgh Review*, 1830 (Christ and Robson 1557–62).

³ On the development of this genre see Stone (1: 53). I have examined the role of the “process” articles in the journal’s engagement with commodity culture in *Commodity Culture in Household Words: The Social Life of Goods*.

⁴ For an excellent analysis of this body/machine problematic, see Ketabgian.

⁵ On Dickens’s “circuitous approach, which mentioned everything but what was actually happening inside the Crystal Palace,” see Wynne (228).

⁶ Contributions to *Household Words* were usually anonymous. But the invaluable work of Anne Lohrli on the journal’s office book has enabled the identification of most of them.

⁷ K.J. Fielding and Anne Smith make a similar point about Martineau’s obliviousness to the aging effects of industrial labor in their seminal account of her contributions to *Household Words* and the factory accident debate (39).

⁸ Vaucanson built the mechanical duck in an attempt to reproduce the “moving anatomy” of a real duck, which ate, digested and excreted in a “natural way.” Its mechanism was driven by a weight and over 1,000 concealed parts.

⁹ David Brewster made a similar point in his *Letters on Natural Magic*, arguing, “[t]hose mechanical wonders which in one century enriched only the conjuror who used them contributed in another to augment the wealth of the nation. Those automatic toys which once amused the vulgar, are now employed in extending the power and promoting the civilisation of our species” (qtd. in Schaffer 76).

¹⁰ On this fascination, see Altick, Bailly, Riskin, Schaffer and Wood.

¹¹ Other examples include “Plate Glass,” “A Paper-Mill,” “H.W.,” and “A Plated Article” (see Stone).

WORKS CITED

- Altick, Richard D. *The Shows of London*. Cambridge, MA.: Harvard UP, 1978.
- Bailly, Christian. *Automata: The Golden Age 1848–1914*. London: Robert Hale, 2003.
- Benjamin, Walter. *The Arcades Project*. Ed. Rolf Tiedemann. Trans. Howard Eiland and Kevin McLaughlin. Cambridge, MA.: Belknap Press of Harvard UP, 1999.
- Buck-Morss, Susan. *The Dialectics of Seeing: Walter Benjamin and the Arcades Project*. Studies in Contemporary German Social Thought. Cambridge, MA.: MIT P, 1989.
- Christ, Carol T., and Catherine Robson. Eds. *The Norton Anthology of English Literature: The Victorian Age*. 8 ed. Vol. E. New York: W.W. Norton, 2006.
- Clayton, Jay. *Charles Dickens in Cyberspace: The Afterlife of the Nineteenth Century in Postmodern Culture*. New York: Oxford UP, 2003.
- Collins, Philip. Ed. *Dickens: The Critical Heritage*. London: Routledge, 1971.
- Cooper, Carolyn C. "The Portsmouth System of Manufacture." *Technology and Culture* 25 (1984): 182–225.
- Dickens, Charles. "Hard Times." *Household Words* 8 April 1854. 9: 165–70.
- . "Hard Times." *Household Words* 29 April 1854. 9: 237–42.
- [Dickens, Charles, and Richard H. Home]. "The Great Exhibition and the Little One." *Household Words* 5 July 1851. 3: 356–60.
- . "One Man in a Dockyard." *Household Words* 6 September 1851. 3: 553–57.
- [Dickens, Charles]. "The Noble Savage." *Household Words* 11 June 1853. 7: 337–39.
- . "A Preliminary Word." *Household Words* 30 March 1850. 1: 1–2.
- [Dodd, George]. "Wallotty Trot." *Household Words* 5 February 1853. 6: 499–503.
- Fielding, K.J., and Anne Smith. "Hard Times and the Factory Controversy." *Dickens Centennial Essays*. Eds. Ada Nisbet and Blake Nevius. Berkeley: U of California P, 1971. 22–45.
- Ketabgian, Tamara. "The Human Prosthesis: Workers and Machines in the Victorian Industrial Scene." *Critical Matrix* 11 (1997): 4–32.
- Lohrli, Anne. *Household Words: A Weekly Journal 1850–1859, Conducted by Charles Dickens*. Toronto: U of Toronto P, 1973.
- "Machines and Men." *Eliza Cook's Journal* 17 January 1852. 6: 177–78.
- Maidment, Brian. "Entrepreneurship and the Artisans: John Cassell, the Great Exhibition and the Periodical Idea." *The Great Exhibition of 1851: New Interdisciplinary Essays*. Ed. Louise Purbrick. Texts in Culture. Manchester: Manchester UP, 2001. 79–113.
- [Martineau, Harriet]. "The Wonders of Nails and Screws." *Household Words* 1 November 1851. 4: 138–42.
- . "Kendal Weavers and Weaving." *Household Words* 15 November 1851. 4: 183–89.
- . "Rainbow Making." *Household Words* 14 February 1852. 4: 485–90.
- . "What There Is in a Button." *Household Words* 17 April 1852. 5: 106–12.
- . "Shawls." *Household Words* 28 August 1852. 5: 552–56.
- "Mechanical Self-Control." *Chamber's Journal of Popular Literature, Science and Arts* 17 April 1858. 9: 244–45.

- [Morley, Henry]. "Ground in the Mill." *Household Words* 22 April 1854. 9: 224–27.
- . "Fencing with Humanity." *Household Words* 14 April 1855. 11: 241–44.
- Morus, Iwan Rhys. "Manufacturing Nature: Science, Technology and Victorian Consumer Culture." *British Journal for the History of Science* 29 (1996): 403–34.
- Riskin, Jessica. "The Defecating Duck, or, the Ambiguous Origins of Artificial Life." *Cultural Inquiry* 29 (2003): 599–633.
- Schaffer, Simon. "Babbage's Dancer and the Impresarios of Mechanism." *Cultural Babbage: Technology, Time and Invention*. Eds. Francis Spufford and Jenny Uglow. London: Faber, 1996. 53–80.
- Stone, Harry. Ed. *Charles Dickens' Uncollected Writings from Household Words 1850–1859*. 2 vols. Bloomington: Indiana UP, 1968.
- Sussman, Herbert. "Machine Dreams: The Culture of Technology." *Victorian Literature and Culture* 28 (2000): 197–204.
- Ure, Andrew. *The Philosophy of Manufacture; or an Exposition of the Scientific, Moral and Commercial Economy of the Factory System of Great Britain*. London: Charles Knight, 1835.
- Waters, Catherine. *Commodity Culture in Dickens's Household Words: The Social Life of Goods*. The Nineteenth Century. Aldershot: Ashgate, 2008.
- [Wills, W.H.]. "Wonderful Toys." *Household Words* 14 February 1852:4: 502–04.
- Wood, Gaby. *Edison's Eve: A Magical History of the Quest for Mechanical Life*. New York: Alfred A. Knopf, 2002.
- Wynne, Deborah. "Responses to the 1851 Exhibition in *Household Words*." *The Dickensian* 97 (2001): 228–34.
- Zimmerman, Andrew. "The Ideology of the Machine and the Spirit of the Factory: Remarks on Babbage and Ure." *Cultural Critique* 37 (1997): 5–29.

