

BODIES OF TYPE: THE WORK OF TEXTUAL PRODUCTION IN ENGLISH PRINTERS' MANUALS

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Book, is either numerous sheets of white paper that have been stitched together in such a way that they can be filled with writing; or, a highly useful and convenient instrument constructed of printed sheets variously bound in cardboard, paper, vellum, leather, etc. for presenting the truth to another in such a way that it can be conveniently read and recognized. Many people work on this ware before it is complete and becomes an actual book in this sense. The scholar and the writer, the papermaker, the type founder, the typesetter and the printer, the proofreader, the publisher, the book binder, sometimes even the gilder and the brassworker, etc. Thus many mouths are fed by this branch of manufacture . . .

Allgemeines Oeconomisches Lexicon (1753)

[T]here has always appeared to me, something monstrous in the existing relation between Author & Bookseller or Publisher, as regards remuneration . . . a positive reversing of the natural order of things, as we find it obtains in all matters else—a subservience (*pro tanto*) of the spiritual to the material.

William Wordsworth, manuscript fragment (1838)

On the first page of *Mechanick Exercises on the Whole Art of Printing* (1683), Joseph Moxon dedicates what he calls his “Piece of Typographie” to several partners in the University of Oxford Press. Of course, Moxon’s text is a

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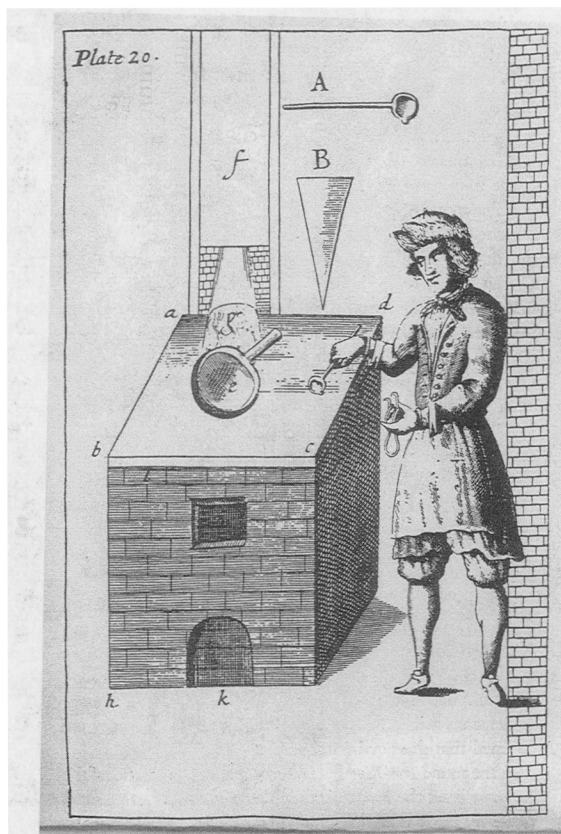


FIGURE 1. Joseph Moxon, *Mechanick Exercises on the Whole Art of Printing*. Plate 20. The Furnace



FIGURE 2. Joseph Moxon, *Mechanick Exercises on the Whole Art of Printing*. Plate 29. Wetting Paper

piece *on* typography in that typography is one of the many topics he covers in his expansive treatise. But his volume is also, inevitably, a literal piece *of* typography, as are all printed books. While Moxon, who was a part-time printer, typefounder and writer, in addition to his regular work as hydrographer and mathematical instrument maker, had personal and financial reasons to point to the material nature of his text, it is also evident throughout his text that he regarded the mechanical aspects of book-making as just as important as, if not superior to, the intellectual (figs. 1 and 2).¹ In the last twenty-five years or so scholarship in the "History of the Book" has rediscovered the significance of the physical aspects of texts such as paper- and ink-making, letter founding, composing methods, work organization, distribution, circulation, etc. John Feather, in an essay defining this field of inquiry, tells us what Moxon might have: "our understanding of a text is ultimately influenced by the physical form of its presentation."²

In this essay, however, I would like to press Moxon's implications a bit further. *Mechanick Exercises* makes it clear that the text is not only *influenced* by its physical form, it *is* that physical form. I say this wary of the essentialism such a statement can give rise to.³ Michael Warner points to the pitfalls inherent in relying on this "Whig-McLuhanite model of print history," claiming that most historians of the book "at some level . . . suppose printing to be a nonsymbolic form of material reality. Printing, in this view, is naturally distinct both from rhetoric . . . and from forms of subjectivity . . . It is mere technology, a medium itself unmediated."⁴ This technology is seen as an implacable force, whether for good or evil. Once set in motion, its inexorable drive—the very motor, perhaps, of human progress—cannot be resisted. It remains to historians only to chart the detritus (be it comprised of constitutions, novels, bills of sale, or ideologies of individualism) it leaves in its wake. It is clear that from within such a narrative, "politics and human agency disappear . . . whether the agency be individual or collective, and culture receives an impact generated outside itself."⁵ This understanding of print has let us easily give the printing press credit or blame for such vast and complex cultural conditions as literacy, democracy, and capitalism, for reading and writing regimes such as authorship and intellectual property, and even for more local institutional practices such as literary hermeneutics and scholarly editing.⁶

Such determinism can be counteracted, I believe, by looking more closely at the multiple possible and actual uses of a machine in the hands of variously ideologically situated owners and workers. This is not to take these up as essentialized bodies as opposed to machines, but to examine them as agents of print, if they are also at the same time subjects of print. Therefore, when examining the physical form of print, I do not oppose it to or divorce it from the metaphysical text, but assert that this supposedly solid essence is in fact always ultimately textual.⁷ A useful place to examine the representations of print technology is in printers' manuals, the self-reflective texts by printers about printing. These books about books attempt to describe, analyze, standardize, and regulate their craft and trade; from these we can begin to glean the local and historical meanings of print and see it not as a fixed essence, but an active and ever-changing ideological tool.

I am using Joseph Moxon's 1683 *Mechanick Exercises* and John Smith's 1755 *The Printer's Grammar* as representative examples of these printers' manu-

als. Certainly, they were considered such throughout the eighteenth century: Moxon's text, "the first comprehensive [printers'] manual in any language," stood as the primary source of information on printing for the first half of the century, and Smith's was the most widely copied for the next hundred years.⁸ These two texts are also representative in that they each appeared after periods of dramatic upheaval within the trade. Moxon's text came after a period of great flux within the printing businesses spurred by the political upheavals of Restoration England and the debates over the relative freedom of the press. Smith's text, too, responds to a half-century of legal and economic changes that solidified the market for print products. I will argue that both printers' manuals not only reflect these changes in their trade, but react to them in ways that produce specific ideological regimes.

As part of my examination of these ideologies of print, this essay attempts to recover the role of print workers as it was once understood by contemporaries in the print trades, and perhaps even by readers and writers. In Moxon's manual, I will argue, the body of print emerges as a working body, a laborer whose physical construction of print is every bit as, if not more, important than the writer who supplies text. Indeed, the print worker is understood as a *collaborator* in the construction of the meaning of the print text. By the time Smith wrote his manual, however, the working body had dissolved into the subject writing, the transcendent Author, whose disembodied intellect is privileged over the physical book. Typography was thus conceived of as a transparent manifestation of the Author's will. One of my goals, then, is to chart the history of the erasure of the printer from the scene of textual creation, to reclaim a discourse lost in the naturalization of print.

Printing, however, is but one human activity among many, and it must be viewed in its larger cultural context. In both Smith's and Moxon's manuals, the representation of orderly print (held up as an exemplar against unauthorized forms and potential typographical chaos) and the proper role of printer and writer within that order are buttressed by other technologies of management: in both texts, as I will show, the arguments for typographical regulation rely on discourses of sexuality and gender. Each writer, however, writing in historical situations seventy years apart and promoting his own particular agenda, constructs a different interpretation of what it means to be a man (and by inference a woman) in and of print. The changing notions of authorship and print work in this period both reflect and reproduce changing notions of sexed bodies and gendered behavior. *Mechanical Exercises* and *The Printer's Grammar*, then, usefully frame an important transitional period in the history of publishing, a period which reconstructed the meaning of that "piece of typography" we call "book."

"THE LANGUAGE OF ARTIZANS": PRINTING MANUALS FOR THE MECHANICK ARTS

A brief history of manuals such as these may be useful for understanding their strategic location within changing notions of intellectual work and the economies that support it. While Moxon's and Smith's texts were, as I have indicated, prototypes within the print trade, they would have seemed familiar to an audience acquainted with the larger "how-to" genre of manuals. Printers' manuals were part of the early modern European "proliferation of books on the business

arts," that is, the larger and longer historical trend in publishing descriptions and categorizations of the trades in general.⁹ In England specifically, the publication of the first printers' manual can be seen in the context of two more specific related trends: the relative loss of guild power and the popularization of science. Manuals such as Moxon's may have contributed to the former: Eisenstein relates that individual trades were not always pleased to have their secrets revealed, and writers of these manuals risked the wrath of their colleagues, who preferred to share such knowledge only with those who followed the traditional paths of apprenticeship.¹⁰ The London-based guilds were further threatened by political movements against monopolies that accompanied the slow but steady growth of industry outside city walls and in the provinces. At the same time, the development of an increasingly retail-based economy required tradesmen to start their businesses with more capital, which limited the number of those who, as masters of their trade, could set up their own shops. The necessity of taking advantage of economies of scale led to the creation of proto-factories requiring specialization and a division of labor that did not always overlay well onto existing guild structures. Thus while livery companies still existed throughout the eighteenth century, these changes disrupted the once clear path from apprentice to journeyman to master, and guild power was radically diminished.¹¹

In the case of the print trades, these factors were exacerbated by the loosening of restrictions on printing throughout the last thirty years or so of the seventeenth century.¹² In the early seventeenth century, the Stationers' Company had been able, with the cooperation of the Crown, to control not only who printed, but also what was deemed printable, that is, what was not considered blasphemous or seditious. The political upheaval of the 1640s and 1650s, however, was accompanied by, indeed, arguably constituted by, an outpouring of unauthorized printed texts. When Charles II was restored to the throne in 1660, the Stationers' Company looked to the government to help it re-establish the authority it had lost during the Civil War and prevent the many unofficial printers who had flourished during those years from continuing to take business away from Company members. The nervous Crown, who had learned all too well the potential power of the press, was happy to oblige, but the Company was not completely pleased with the results. The Licensing Act of 1662 reinstated most of the Company's prerogatives, except one important one: although printers, in order to publish legally, had to be one of the Stationers, the Stationers would no longer be trusted to enforce their own pre-publication censoring. Instead, a Licenser was appointed, who reported directly to the Secretary of State. The first Licenser, the notorious Roger L'Estrange, was much despised by the Stationers, but even he could not keep the press under control in times of political duress, as the Exclusion Crisis of 1679–81 revealed. The Crown gave up its most stringent efforts to censor, though, as they realized the press was better channeled than suppressed: by 1695, the government had polarized into two parties, Whig and Tory, both of which relied on printed material to garner support and besmirch the opposition. Thus, when the Licensing Act was up for renewal, it was rejected by Parliament. The Stationers' Company from this point on would seek other means, both legal and discursive, to control its trade, but despite its efforts, it had ceased, like many other guilds, to be a dominant force in an increasingly entrepreneurial and commercial trade.¹³

Joseph Moxon was one such entrepreneur, the prototypical printer of this new era. He was not one of the twenty authorized printers in London.¹⁴ Outside the still closed ranks of the Stationers' Company, he could freely give away "secrets." It is not necessary to believe he wrote deliberately in defiance of the Company, however; after all, his work on printing was part of a larger set of *Mechanick Exercises; or the Doctrine of Handy-Works*, the first volume of which described the work of smiths, joiners, carpenters and turners. His goals were perhaps more narrowly financial: by publishing these volumes he declared himself an expert on the "mechanick arts" and so advertised himself not only as a knowledgeable printer, but also a reliable hydrographer and map-, globe-, and mathematical instrument-maker.¹⁵ More broadly, though, these texts announced that he was part of the "new scientific ethos" that linked trade and technology.¹⁶

It was perhaps his interest in this linkage that gained Moxon a membership in the nascent Royal Society, which proposed as one of its first projects a collectively written catalog and history of the trades.¹⁷ The implicit purpose of this was to disseminate the technology behind the trades so that superior minds might, upon studying this technology, improve it, leading to more efficient—and thus more profitable—systems of manufacture. This contradicts the view, long implied by bibliographic scholars, that printers' manuals were written for printers, a view that has justified treating Moxon's manual and those of his followers as transparent windows onto the world of professional printing.¹⁸ Instead, Moxon's participation in the Royal Society suggests that his was not a manual for printers, but one specifically for outsiders.¹⁹ Indeed, he asserts in his preface to the first volume of the *Exercises* that, "Mechanicks be, by some, accounted ignoble and scandalous . . . yet it is very well known, that many Gentlemen in this Nation, of good Rank and high Quality, are conversant in Handy-Works." He explains this by explicitly contrasting the worker with the scholar:

I See no more Reason, why the Sordidness of some Workmen, should be the cause of contempt upon Manual Operations, than that the excellent Invention of a Mill should be dispis'd, because a blind Horse draws in it . . .

The Lord Bacon, in his Natural History, reckons that Philosophy would be improv'd by having the secrets of all Trades lye open; . . . that *the Trades themselves might, by a Philosopher, be improv'd.* (my emphasis)²⁰

The blunt comparison of the "sordid" workman with a blind horse is less explicit in the writings of others in the Royal Society, but it is clear that their goals are the same.²¹ The Royal Society's celebrated call for the use of "the language of Artizans, Countrymen, and merchants,"²² then, was not so much a recognition of the expertise of these groups, as a concern that without help from the higher classes, trade would founder. Here, Philosophy's opposition to manufactures, a form of mind-body dualism, marks a class difference, a privileging of brain-power over brawn.²³

Books were meant to improve an apprenticeship system that construed learning as inseparable from physical labor. While these guilds had carried on for hundreds of years, using oral transmission to pass on trade secrets to apprentices

and journeymen, the transformation of these somatic ways of knowing into print information made guild techniques the business (in both senses) of the literate and educated classes, allowing them to buttress their power—and personal finances—by increasing their knowledge of once mysterious techniques.²⁴ This alteration in the technologies of learning, from orality and other embodied forms to print and pages, is significant enough that Moxon is compelled to comment upon it in the preface of his first volume:

I thought to have given these Exercises, the Title of The Doctrine of Handy-Crafts, but when I better considered the true meaning of the Word Handy-Crafts, I found the Doctrine would not bear it; because Handy-Craft signifies Cunning, or Sleight, or Craft of the Hand, which cannot be taught by Words, but is only gain'd by Practice and Exercise; therefore I shall not undertake, that with the bare reading of these Exercises, any shall be able to perform these Handy-Works; but I may safely tell you, that these are the Rules that every one that will endeavor to perform them must follow; and that by true observing them, he may, according to his stock of Ingenuity and Diligence, sooner or later inure his hand to the Cunning or Craft of working like a Handy-Craft, and consequently be able to perform them in time.²⁵

As we see, this conversion is not necessarily a smooth one. Moxon is usually a writer of direct prose, so his convoluted syntax here is evidence of his struggle to fulfill the demands of competing ideologies: the hand versus the eye, practice versus reading, embodied muscle memory versus print information. He comes to an uneasy compromise, for while he cannot guarantee that reading alone will teach these crafts, as a producer of books he cannot concede either to the domain of pure “handy-craft,” in which the body learns only through “Practice and Exercise.” He does make print primary, refusing to use “handy-craft” in his title, but has to admit the body is necessary. Here he differs from his Royal Society companions who emphasized Philosophy alone. He sees the intellect and the body working together, a belief that becomes more obvious in the main text of his printers’ manual. Despite this caveat—an important one, as I will detail—Moxon is, at least momentarily, strategically placing his text within the ideological camp of the (relatively) new technology, with its associated social affiliations. The silent book has replaced the physical intricacies of the guild training system: anyone who can read becomes a virtual apprentice.²⁶

THE BODY OF KNOWLEDGE: JOSEPH MOXON’S SEXUALIZED TRADE

If, in his preface, Moxon marks the worker as “sordid” and sleights “handy-crafts,” while at the same time contradictorily insisting on the importance of the body and its labor, his volume on printing is much less ambiguous. His preface had to sell his multivolume work, and he may have wanted to attract an audience like his friends in the Royal Society and other men of “good Rank and high Quality” by “classing” his text in opposition to workers. Moxon, however, was also a worker himself, or at least worked closely supervising them in the printing of books and building of mathematical tools. His multiple roles placed him on the boundary between the laboring and the thinking classes, and his pref-

ace reflects this uneasy ideological positioning. Despite his use of the Royal Society's rhetoric, however, his volume on printing suggests that the true force behind the popularization of science and the promulgation of technological expertise is not "philosophers," but working men and their tools, men carving letters, boiling pulp, building presses, laying out pages. In short, it indicates that knowledge was disseminated only through sweat and labor and letter—three terms which, I will show, cannot be separated. While the Royal Society worked to place technical information into the hands of an educated elite that sought to control the trade-knowledge nexus, Moxon, perhaps inadvertently, demystifies this realm by showing it to be intrinsically grounded in the physical: knowledge is ink on paper, and as such, belongs to the artisans and laborers who constructed it.

In the printing terminology of the period, a "body of type" meant a complete run of letters of all one font and size, such as French Canon, Greatprimer, Pica, etc. Dismembered body parts of a more familiar sort, however, litter Moxon's text: heads, cheeks, faces, mouths, tongues, feet and toes, among others. These are, of course, not literal human remains, but the terms given to various mechanical parts and tools related to the work of printing; nonetheless, their overwhelming presence seems more than an accident of etymology. The ghostly bodies formed by these parts evidently have a sex, and indeed, are made to have sex, for, Moxon tells us in a passage on the casting of letters for type, "[t]he *Female Block* is such another *Block* as the *Male Block*, only, instead of a *Tongue* running through the length of it a *Groove* is made to receive the *Tongue* of the *Male-Block*" (ME, 181). While the male-female terminology used to describe insertable objects, such as water pipes, lingers even today, the OED traces one of its earliest usages to Moxon. His prosaic manner in deploying such terms, however, suggests that this description was not uncommon, at least within the trade. Such usage may originate in the views on sexuality that dominated England prior to the late eighteenth century (and were indeed commonplace in Europe for thousands of years), views which held that women's sexual organs were the same as men's, only inside-out. Men and women, like the male and female blocks, were essentially biologically the same, with penis and testicles revealing themselves as vagina and ovaries in half the population. Thomas Laqueur suggests that men and women construed in these theories were not understood as radically dimorphic, but as part of a biological continuum.²⁷ In Moxon, these relatively undifferentiated bodies do the cultural work of print: their mechanistic heterosexual coupling is an essential part of the creation of words. In a passage on the work of the letter caster, for example, he describes this process in intense, almost lascivious detail:

When his *Stick of Letters* is thus transfer'd to the *Male-Block*, He claps the middle of the *Male-Block* into his left-Hand, tilting the *Feet* of the *Letter* a little upwards, that the *Face* may rest upon the *Tongue*, and then takes about the middle of the *Female-Block* in his right-Hand, and lays it so upon the *Male-Block*, that the *Tongue* of the *Male-Block* may fall into the *Tongue* of the *Female-Block* . . . So that when the *Knot* of the *Male-Block* is lightly drawn towards the *Knot* of the *Female-Block*, or the *Knot* of the *Female-Block* lightly thrust toward the *Knot* of the *Male-Block*, both *Knots* shall squeeze the *Letter* close between them. (ME, 186–7)

So, apparently, from the sex of machinery, a unit of language is born.

Another body also intrudes in the love scene above, however: the "he" whose left and right hands are moving things along. In Moxon, human bodies intrude into the scene of print-making as much as mechanical ones. These bodies are mostly, as in the passage above, working bodies, for in Moxon labor is never abstract or disembodied; the printed product does not appear magically out of machinery. Moxon's working bodies—almost without exception male bodies—are resolutely physical: they sweat, smell (both actively and passively), eat, drink, grow weary, punish and are punished, and even, in one alarming passage, "Piss Blood, and shortly after dye" (*ME*, 324). Some even marry and have children, and while their couplings are not literally depicted, they underlie Moxon's construction of the printing process: mechanical reproduction cannot exist without its earthy counterpart. Despite the material and sensual nature of these bodies, however, they are not independent of the trade and cannot be separated from the printing process. The possibility of workers marrying, for example, is listed in a section describing customs of the "Chappel," or printing house. It is not that workers' bodies belong to the Chapel; rather, together they make up the larger laboring body that *is* the Chapel. Early in his treatise, Moxon explains briefly the way this entity works: the Master Printer is the Soul of *Printing*; and all the Workmen [are] members of the Body governed by that Soul subservient to him" (*ME*, 12).²⁸

Because the workers' bodies are in fact merely parts of this larger body, they cannot be separated from the other body parts occupying the printing house, the mechanical ones. It is the intermingling of the human and mechanical which forms the body of type, as seen in this passage on letter casting:

Now he comes to *Casting*. Wherefore placing the under-half of the *Mold* in his left hand, . . . he clutches the ends of its *Wood* between the lower part of the *Ball* of his Thumb and his three hind-Fingers. Then he lays the upper half of the *Mold* upon the under half, so as the *Male-Gages* may fall into the *Female-Gages*, and at the same time the *Foot* of the *Matrice* place it self upon the *Stool*. And clasping his left-hand Thumb strong over the upper half of the *Mold*, he nimbly catches hold of the *Bow* or *Spring* with his right-hand Fingers at the top of it, and his Thumb under it, and places the point of it against the middle of the *Notch* in the backside of the *Matrice*, pressing it as well forwards towards the *Mold*, as downwards by the *Shoulder* of the *Notch* close upon the *Stool*, while at the same time with his hinder-Fingers as aforesaid, he draws the under-half of the *Mold* towards the *Ball* of his Thumb, and thrusts by the *Ball* of his Thumb the upper part towards his Fingers . . .

Then [he] takes up the *Ladle* full of *Mettal*, and having his *Mold* as aforesaid in his left hand, he a little twists the left-side of his *Body* from the *Furnance*, and brings the *Geat* of his *Ladle* (full of *Mettal*) to the *Mouth* of the *Mold*, and twists the upper part of his right-hand towards him to turn the *Mettal* into it, while . . . he Jilts the *Mold* in his left hand forwards to receive the *Mettal* with a strong *Shake* . . . into the *Bodies* of the *Mold*. (*ME*, 169)

For the most part, Moxon's italicization of printing terminology in this passage and throughout his text clarifies for the reader whether body parts belong to sentient beings or inanimate objects—the “*shoulder*” of the notch versus the “Fingers” of the caster, for example. However, a few typographical slippages reveal that this dichotomy may not be completely stable. Throughout, the “ball” of the caster's thumb is italicized, as if this too were a piece of machinery, located precisely at the place where the two domains, human and machine, most often intersect. Later, the caster's entire body becomes italicized and therefore, in typographic terms at least, a unit of print technology, congruent to the body of the mold, or even the body of type being made. Though patterns of italicization, spelling, punctuating and such are today usually called “accidentals,” this does not mean that, in the period before widespread standardization, they were used carelessly. We may read “accidentals” as makers of meaning, whether purposefully or unconsciously employed.²⁹ Thus, it appears that Moxon's real-life compositor setting type for this book momentarily saw no difference between the body of type and the human body.³⁰

Even the construction of the sentences in this passage reflects this confusion. Although, through most of this description, the caster instigates the work through his body's actions—he clutches, lays, clasps, presses, etc.—as he brings the male and female gages together, the “*Foot of the Matrice* place[s] it self upon the *Stool*,” acting, so it seems, independently, hopping up on this piece of human furniture with its nimble human appendage. This blurring of the line between object and body suggests that Moxon's workers are ultimately cyborgs, a “hybrid of machine and organism.”³¹ It does not mean, however, that they have been reduced to mere cogs in a lifeless engine of print. The “Mechanical Exercises” that make up the “whole art of printing” are always human exercises as well. It is the *coupling* of man and machine that produces the body of type. The printed page, then, always bears traces of both bodies' labor. Despite Moxon's prefatory comments on the “sordidness” and “ignoble” nature of “mechanick” toil, then, his book is not a product alienated from the sweat of the worker, but one in which the hand of labor is always apparent.³²

A DISEMBODED PRODUCT: SMITH'S TRANSPARENT AUTHORSHIP

While Moxon's own text may have undermined his intentions to replace bodily knowledge with a regime of reading, the discourses supporting those intentions did eventually become dominant. Almost seventy years later, in John Smith's *The Printer's Grammar*, the human bodies have disappeared from the scene of printing. No major changes in the printing process itself can account for their elision: workers proceeded for the most part, just as they had in Moxon's time, still sweating in workshops with the same tools and machines. Printing, however, had become a large, vital, even indispensable, business, and knowledge an essential commodity. As literacy spread and became an important vehicle for both entertainment and information, the demand for printed material increased. Booksellers became the privileged members of the trade, often managing all aspects of the book-making process from hiring writers, to contracting printers and supervising networks of distributors. As those at the top of this capital-intensive trade became wealthier, they often adopted the bourgeois value system of their

readers, looking down on the physical labors of “rude mechanicals.” In this thriving market, the question of who owned what words became a crucial issue and debates arose over the implications of terms such as “authorship” and “piracy,” as well as over the ramifications of the 1710 Act of Anne.³³ While little is known about Smith’s own life and social positioning, his text must be understood in this context: print was now the institutionalized means of communication for a reading market.

The effects of this market-driven understanding of print can be seen in both the content and style of Smith’s manual. His text does not describe the sweaty, human scene of print making, but prescribes a system of typographical classification and workplace regulation that will result in a proper, that is, uniform and standardized, page. Indeed, he rarely discusses workers themselves, only opaque objects and timeless methods. His opening sentence sets the tone:

Conformable to the General method which is observed in Grammars, we begin *this* also with the Principles thereof, viz. LETTERS; with this difference, that instead of applying their signification, as in others, to the art of speaking and writing some particular language, we shall consider them as the chief Printing-Materials; and in the course of this Chapter treat of their Contexture, Superficial shape, and such Properties as come under the cognizance of Printers, Booksellers, and others who have a judgement of Printing.³⁴

Here Smith makes it clear that letters—by themselves, without even the supporting context of language to help them make sense—are to be the subject and object of his text, while those who create, place, and distribute those letters are relegated to a relatively distant position. Unlike Moxon, who often uses the name of the type of workman (Caster, Dresser, Compositor, Pressman, etc.) as the subject of the sentence, pairing it with an active verb, Smith’s sentences are, frequently, fittingly impersonal: “That Italic letter was not designed to distinguish proper names in, nor for several other uses which it now serves, might be readily proved” (*PG*, 13). As in this example, the verbs throughout the manual are often passive or state-of-being, and the subjects of sentences often abstractions, or at best generic “we”-constructions that evacuate specific human agency from the scene of print. This abstract and ungrounded nature of his view of the printed text is highlighted in the several charts and tables that are interspersed in his treatise, privileging formula over actual procedure, and numeric symbol over the work of hands.³⁵ The difference in the underlying ideology here is especially striking when we compare the tables to Moxon’s many illustrations of the interaction between people and mechanical tools.³⁶

The only bodies that seem to count for Smith, then, are the bodies of type—but these bodies trouble him. His chief complaint, reiterated frequently, is that the bodies of type in England were not standardized, that is, that the font of one body, Greatprimer or Pica, for example, often varied in height, width, and depth from founder to founder or house to house. In Smith’s view, this not only wastes money, but can wreak havoc in the orderly workplace. He also worries incessantly about the variations in usage of italics, capitals, spelling, and punctuation. His text is thus full of prohibitions and regulations, “should not” and “ought to,” in addition to his instructions, tables, charts, and mathematical calculations. Clearly, his ultimate goal is the regulation of these unruly bodies of type.

In the process of ordering typography, however, he endows it with the human characteristics otherwise missing from his agent-less text. Although I have shown how the print worker is replaced in this manual by the printed letter itself, in a striking “return of the repressed,” the body reemerges to provide order to potential chaos: typography is understood here through mid-eighteenth-century notions of the sexed and sexual body. Just as the structure of detached Enlightenment objectivity supports Smith’s distanced and impersonal prose, Enlightenment sciences of the body inform his understanding of the proper use of letters. Unlike Moxon’s copulating machinery, however, Smith’s type does not directly reveal its physicality, but signifies a binary gender—a subtle yet important difference that reproduces a view of sex and gender new to this period. Male and female bodies, instead of being perceived as points on a hierarchical but unitary continuum, were now seen as rigidly distinctive.³⁷ Gendered behavior was thought to be rooted in these differences, rather than arising merely from a correct adherence to cultural precepts. This “empowerment of the natural,” as Michael McKeon has termed it, lent authority to sociocultural norms, which became the locus of attention in eighteenth-century discourse.³⁸ Gender difference was treated “as a strictly dyadic, experientially articulated and socially mediated expression of sexual difference rather than as ontologically distinct from it.”³⁹ In other words, the biological basis of gender, considered a “given,” simultaneously lent credence and allowed attention to be diverted to descriptions/prescriptions of behaviors in the separate spheres of male and female activities.⁴⁰ The connection between body and behavior was so obvious it could be ignored.

Smith’s text relies on this kind of naturalization. Producing a predictably structured hierarchy of binary gender roles, he personifies type into implicitly masculine and feminine forms, whose outward behavior and appearance reveal the inner virtues appropriate to their roles. For example, Smith lobbies for the increased use of his favorite letter form, the “good Roman” (PG, 4). This letter, when made well, “is generally cast of good metal, and to stand true, and exact in line, besides well dressed; no wonder that it has recommended itself into the most considerable Printing-houses in this city” (PG, 7). In other words, this venerable Latin patriarch (the Roman’s ancient connections are always stressed) has been transformed into the modern, upright bourgeois citizen of England—by connotation male—whose contained, dignified demeanor makes him welcome in the best houses, and marks him as worthy of widely disseminating information in a standard, measured, and rational manner. Print has been transformed from the unruly partner in sedition so reviled in post-Restoration diatribes into something suitable for reasoned discourse in the public sphere. Of course, Smith cautions, he does not “pronounce all Letter good which is new; but only such as has the necessary accomplishments as well in its appearance, as substance” (PG, 4), but outside appearance is often connected to the solid weight and heft of a virtuous soul. The link to the economic values of the rising middle class—who represented the largest body of readers—is also clear: the Roman’s virtue is also his profit, Smith explains, for a letter that is cast of good metal will last “so long as till it has paid for itself, besides good interest for its long credit; thereby to ease the charges of such sorts of Letter as never make a return neither of the principal nor interest” (PG, 9). The accomplished and profitable Roman, then, keeps the printing house

solvent, just as middle-class behavioral norms were believed to simultaneously stave off financial hardship and the moral decay of poverty. Indeed, Smith's description of this letter form might have come from an eighteenth-century conduct manual, such as *The Art of Governing a Wife, with Rules for Batchelors* (1747), which dictated that a good husband "be sober in speaking, easy in discourse, faithful where he is entrusted, discreet in giving counsel, careful of providing his house, diligent in looking after his estate, . . . vigilant in what relates to his honour, and very stayed in all his behavior."⁴¹

Not surprisingly, Smith contrasts the characteristics of masculine fonts with those he seems to consider feminine. The italic, he argues, if used properly and within specified confinements, can serve as a useful and decorative feminine companion to the Roman. It is specifically an object of display whose feminine graces are a point of national esteem: it has a "soft and tender face," Smith proudly states, which "is now in England of such a beautiful cut and shape as it never was before" (PG, 13). In order to present this type to its best advantage, the letter-cutter, much like a good dressmaker, need take care "to keep the slopings of that tender-faced Letter within such degrees as required for each Body" (PG, 16). Just as proper attire both molds the woman's shape to a required feminine aesthetic and marks her social position, the letter dresser regulates the form of the individual letter to suit its textual classification.⁴² Smith is interested as well in keeping the italic within proper cultural boundaries, deploying it only in the places where it can do its rigidly defined "women's work." It should never be used for the main part of the text, he asserts, only "for varying the different Parts and Fragments" (PG, 14), such as prefaces and dedications. Though these items are, of course, extraneous to the main (masculine) text, they do still serve an important function. Introductory writing moves the reader from the public realm of buying a book to the private realm of the writer's innermost thoughts and feelings. According to conduct literature of the time, women were especially suited for this sort of sociability: as John Gregory put it, "the temper and dispositions of the heart in [women] make [them] enter more readily and warmly into friendships than men."⁴³ Thus a feminine font prepares the reader for the intimacies of the reading experience, culturally coded as private.⁴⁴

This ideology has a material history as well. As the form of English typography most closely linked to handwriting, existing on the border between pen and print, italic facilitated the transition from personal manuscript to market commodity. The italic hand was traditionally (from the Renaissance) a woman's hand, though it became in the seventeenth century the hand of the signature, the mark guaranteeing authenticity.⁴⁵ Italic prefatory material, though printed, can thus be seen as working to authenticate the mass-produced, impersonal contents inside the book by erasing the print shop as mediator between author and reader. (The ramifications of this erasure are discussed below.) Structurally, then, the italic is the feminine object of exchange between the implicitly masculinized reader and writer. As such, it is analogous to the eighteenth-century woman on the marriage market, set up as an aesthetically and sexually desirable lure, bounded by taste and propriety, in order to trade intimacy for her father's or husband's social position and mobility. Just as the "authentic" feelings stirred by the romance plot and contained within the companionate marriage masked women's

position as a marketable commodity, the italic softened and made personal a cold market exchange: money for print text.⁴⁶

Smith does make clear that the italic is a fragile vessel of feeling: like the mid-century women of sensibility, it possesses "a particular delicacy" (*PG*, 16). The virtue of the italic's sensibility, however, is also the quality which can lead to its downfall, for it lacks the rationality necessary for true self-control.⁴⁷ In his diatribe against the overuse of the italic, Smith echoes the texts used in the prostitution reform movement, texts which told the story of women led by passion to the nadir of feminine humiliation. Smith, like reformers in other spheres, longs for the days of the italic's "former purity," but states that it "yet may it be hoped that their parading so *very* promiscuously may be prevented" (*PG*, 14). His sentence construction here too is telling: he does not complain about printers misusing the italic; instead, the out-of-control italic parades itself around, like a brazen hussy on display in Covent Gardens. The view of the italic as promiscuous may also be linked to its etymological origins as the Italian hand, for Italians, especially Italian women, were thought to be amorous and intemperate.⁴⁸ It seems that only an accident of geography links the fallen "Italian" to the noble "Roman," who signifies the stability of Augustan classicism; the English man is the true descendent of the Roman citizen, and the Roman font his appropriate medium. Thus the italic is the dark other of the Roman, the projection of its excess, in terms that rely on discourses of gender and nationalism.

These visions of the italic running amok trouble Smith because they upset the natural order and balance of his typographical universe. An indiscriminate mixing of the fonts leads to an unclear hierarchy and a devaluation of both types: "What a pity," Smith laments, "that two such significant Bodies as Roman and Italic are . . . should sometimes be maimed in such a manner as not to be known which of the two has the advantage of the other. It is therefore to be wished, that the intermixing Roman and Italic may be brought to straighter limits, and the latter be used for such purposes as it was design'd for" (*PG*, 13–14). Indeed, the Roman letter "suffers by being interlarded with Italic" (*PG*, 13) in that its usual bold appearance is diminished. Feminine type outside its sphere is a castration threat even to that most phallic of letters, the capital. "Large capitals," Smith asserts, "make a fine appearance in Inscriptions, Titles, or other matter, where their beauty is not invaded by Italic, but where they present themselves in their erect position, by themselves. But their bold and distinguishing aspect is greatly obstructed by . . . Italic" (*PG*, 50). Erect and by itself, free of the polluting Italic, Smith's ideal Roman letter represents a solitary, self-contained masculinity.

Smith's gendered bodies of type have important ramifications for the understanding of the role of print technology and print workers in the mid-eighteenth century. Despite—or perhaps because of—his almost obsessive attention to the proper appearance and spheres of type, and his discussion of letters as the sexed subjects of typography, Smith's regulatory discourse serves, paradoxically, to make print *invisible*. Black letters on white pages no longer needed to be thought of as material products constructed through the labor of man and machine according to arbitrary or contingent conventions: embodying gender itself, they were as natural. Thus, the ideal print product is to Smith an inhuman, yet decidedly masculine, consciousness, not reliant on the labor of workers. Indeed, ac-

knowledgment of the work of print would threaten the stability of its normative categorization. That this is a markedly different view from that expressed in an earlier period is best emphasized by comparing the conclusions of the two manuals. *The Mechanick Exercises* ends with an image of human celebration, as Moxon describes the trade's May Day feast: "This Ceremony being over, such as will go their ways; but others that stay, are Diverted with Musick, Songs, Dancing, Farcing, etc. till at last they all find it time to depart" (ME, 331). Such warm festivity is nowhere to be found in *The Printer's Grammar*, which concludes with a list "Of Physical Signs and Abbreviations," emphasizing the rupture between language and the physical world, in which signs refer only to other signs in an endless deferral. The headpiece for the first chapter of Smith's text is the most telling, however. The book—or, rather, The Book—is held aloft by angels, trumpeting as if proclaiming the word of God. The text, evidently located in heaven, is ethereal and other-worldly, but never inconsequential. Instead, it claims divine authority, a supreme logocentrism. No humans, much less sweaty laborers, were necessary in its creation; it results from the proper and complementary organization of interiorized gendered behavior, not from messy sexual machines. Its conception is truly immaculate.⁴⁹

RISING AUTHORS, RECEDING PRINT

Historically, Smith's view of the book became dominant, while Moxon's was "disappeared." Even as Smith wrote, courtroom battles and aesthetic proclamations were consolidating a view of authorship that was common sense by the end of the century.⁵⁰ The god-like source of Smith's text morphed into a secular version: it became the solitary, original, and implicitly male genius, who creates because he is compelled by an almost spiritual calling—not because he is one among a number of workers in the print trades. The finished work of genius is pure transcendent mind, unsullied by bodily concerns or effects. Over a decade of critical work in the field of authorship studies has done much to demystify such claims, of course, yet there is still a sense in much writing that the emergence of the author was inevitable, given the discourse of possessive individualism and the rise of capitalist market economy. In fact, print itself is seen to have caused proprietary authorship, constructing a stable, marketable persona, the Author, in contrast to the more fluid identities allowed in networks of manuscript exchange. As Margaret Ezell notes, "print publication takes on the role of the revolutionary force, usually represented by male writers eager to seize new opportunities."⁵¹

The printers' manuals under study here, however, help us understand that this heroic author is an ideological, rather than a technological, outcome. We have seen how Moxon casts workers (with tools and machines) as crucial to the art of book making. That they are much more than mere instruments of a higher power is also apparent the few times he does address the role of writers. To Moxon, as well as many others in his period, a text producer was only one contributor to the making of meaning. Indeed, he describes the job of the compositor as not only aiding the author in articulating his points, but sometimes even supplanting him: "it is Necessary," Moxon tells us, that "the *Compositors* Judgement should know where the Author has been deficient, that so his care may not suffer such Work to go out of his Hands as may bring Scandal upon himself, and Scandal and

prejudice upon the *Master Printer*" (ME, 219). In the hierarchy of Moxon's printing house, then, the compositor's first duty is to his Master, not the writer, who cannot always be trusted to provide a coherent text. It is only by working together with a fruitful and productive synergy that a worthy text is completed.

This dynamic is not unique to Moxon. Adrian Johns calls our attention to the important and creative role played by those who made books in this period: "when written materials were reproduced in print the process was by no means one of slavish reproduction . . . The written sheets represented a fallible, and perhaps incomplete, record" and alterations were easily made "because they held in their hands no sacrosanct text at risk of desecration." He continues, "In managing publications, Stationers . . . controlled events. The practices and representations of their domains affected every character and every leaf of their products. Isolating a consistent, identifiable, and immutable element attributable to the individual author would be virtually impossible in these circumstances . . . A priori, virtually any element in a work might or might not be the Stationers' responsibility, in virtually any field of writing."⁵² A contemporary of Moxon, Andrew Marvell, also comments, though satirically, on the ways in which typography helps readers in the case of authorial incompetence. Describing a writer's use of ambiguous flower conceits, he exclaims,

And to this succeeds another Flower, I am sure, though I can scarce smell out the sence of it. But it is printed in a distinct Character, & that is always a certain sign of a flower. For our Booksellers have many Arts to make us yield to their importunity: and among the rest, they promise us . . . that wheresoever there is a pretty Conceit, it shall be marked out in another Character.⁵³

Marvell's judgments of such writing aside, it is clear that it is the booksellers' recourse to his "arts" that provides the text with its legibility; he hints (if scornfully) at the powers to which readers must "yield." More serious accounts, written from within the trade, of the involvement of print workers in "creative" or intellectual aspects of text making, such as writing, translating, as well as conceptualizing and managing print projects, can also be seen in the autobiographies of the booksellers Francis Kirkman and John Dunton.⁵⁴

In Smith's manual, on the other hand, we see a gap between printer and writer, and a concomitant change in knowledge production. Smith, representative of the ethos of the second half of the century, insists that writers actively participate in the composing process, even in the selection of accidentals, in order to make their minds more transparently evident in the text: choosing a mode of emphasis, he insists, helps to "inform the Compositor of an Author's intention" (PG, 51). The former's duty is obviously to encapsulate the latter. Unlike Moxon, Smith does not trust his compositors even with the task of punctuating properly, for to him the smallest mark on a page is fraught with authorial importance and part of the Author's near theological immanence. The compositor is merely an amanuensis; he should leave no mark of his own personality, no unique quirks in spelling or punctuation. Thus he stresses that "it is impossible for a Compositor to guess at an Author's manner of expressing himself . . . and if [the Author] would have the Reader imitate him in his emphatical delivery, how can a writer

intimate it better than by *Pointing his Copy himself?*" (PG, 86). In this model of the delegation of production duties, print workers acquiesce to the Author's will, anticipating the reader's later subordination. The resulting division of labor places genuinely creative work in the Author's garret and constructs the print shop as merely a factory in which lifeless pieces, meaningless in and of themselves, are assembled to hold the Author's mind. Typography only exists to be written and read *through*, invisibly to convey the soul of writing.

That this discourse produced (and reflected) real-life practices is evident in the correspondence of Robert Dodsley, a mid-century bookseller. Despite his importance as progenitor and publisher of Johnson's *Dictionary*, creator of literary history through his anthologies, and a popular playwright himself, he was always deferential when writing to the authors whose work he published. He allowed them copious amounts of time to edit and even revise their previously published work (work for which he owned the copyrights), even when it hurt him financially to do so. Indeed, the extent to which he accepted this subordinate role is apparent in the pride he took in his well-known moniker, the "Muse's Midwife."⁵⁵

As the century waned, such attitudes persisted, bolstered perhaps by the growing popularity of ideas promoting natural genius and authorial originality. Even into the nineteenth century, printers' manuals were not only acknowledging, but virtually copying Smith's text. Caleb Stower, who calls Smith's *Grammar* the "groundwork" of his own 1808 *Printer's Grammar*, and who appropriates much of Smith wholesale into his own text, is even more explicit in advising authors to mark texts as carefully and precisely as possible.⁵⁶ His chief advice to compositors is to adopt a "system" that allows for expediency, accuracy and uniformity. He does address the bodies of workers in chapter 13, but they are relegated to mechanical processes, seemingly isolated from text-making, and semantically removed from words on pages—except when their sloppiness causes smudges to the proofs. In fact, it is clear that the workplace itself is now subject to textualized rationalism: Stower strongly suggests posting in the office detailed "rules and regulations" in order to "preserve order and regularity."⁵⁷

The movement from Moxon's embodied print to Smith's metaphysical text thus allows us to glimpse some of the ways in which the ideology of authorship began to reconstruct the printing house and reconstitute the ways in which print work was understood. Moxon describes a time before the Romantic Author and the industrialization of print, when the physical labor of print workers was valued, and the final book bore traces of their presence. Thus Moxon's text represents what Francis Barker has described as "a discursive situation before production has quite 'disappeared' into . . . the closed factory, or at the level of representation, into the conventions of the bourgeois naturalism which has nothing to do with nature, and everything to do with naturalizing the suppression of the signs of the artefact's production."⁵⁸ Smith's idealized text, however, erases work by positing a natural, scientifically categorized body of type. The print product becomes a dimorphically gendered entity: standardized, consistent, and therefore transparent. Smith's typography, then, bypasses the workers who cast, dress, set, and press the type, and instead signifies directly to the disembodied mind of the writer.

One must be wary, however, of idealizing Moxon's print shop. Earlier in this essay I purposely used Donna Haraway's term "cyborg" to describe his mechanistic coupling of man and machine, for her term, while celebrating the "pleasure in the confusion of boundaries," sees the cyborg as neither essentially subversive nor essentially repressive.⁵⁹ Moxon's appreciation of the human worker was not necessarily liberating, just as actual print shop practices under the regime of Master Printers like Moxon's were not without their own hazards. The rules of the Chapel were strict and punishment was corporal. Apprentices were tracked into their field at a young age and forced to withstand physically demanding work, long hours, and a curtailment of their personal freedom. More subtle forms of repression are also evident: the sexualized machinery relies on and supports a rigid model of heterosexual penetrative sexuality, and despite Moxon's use, throughout his text, of masculine pronouns for workers, many women were involved in the late seventeenth-century business of print, women whom Moxon effectively erases from the scene.⁶⁰

The shift from Moxon to Smith, however, marks a move from explicit violence to repressive discourse, from the worker who might, as a result of being punished, "piss Blood, and shortly after dye," to the Cartesian subject who denies corporeality. In the mind-body split, the body is the secondary and feminine term. Before this move, in the seventeenth and early eighteenth centuries, women flourished as print-trade workers.⁶¹ Smith's masculinization of the print product, however, submits them to a double erasure, both as women and workers. They are relegated instead to the ghetto of sociability and feeling, meant at best, as the italic, to dress up a text or, as readers, to consume it passively. Ideologies such as Smith's had material results: the number of women involved in the print trade dwindled in the second half of the eighteenth century.⁶²

In examining these printers' manuals, I have tried to show that the medium of print has never been—and was not always thought to be—a pure or neutral form of communication, but one which always conveys and supports a specific ideological regime. I have traced a narrative about the provenance of knowledge, a struggle between intellectuals and professional writers on one side, and artisans and workers on the other. I have shown print transform from the work of the body to the carrier of the mind. And despite the Romantic Author's rejection of all things commercial, the moral of this story illustrates that the rise of authorship went hand in hand with the creation of the print text as commodity. This idea turns our standard teleology on its head, as it poses the Author as the creator of print, rather than vice-versa. The ideology of authorship deployed for its own benefit an enduring vision of print as fixed, standardized, and invisible. To adopt these notions as an "essential" aspect of the print medium is to accede to this regime.

NOTES

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1. At the time of publication, Moxon was attempting to become the letter founder for the Oxford University Press, which was engaged in a dispute with the Stationers' Company over printing privileges. This, most likely, is why he argues in his preface that printing came to England through Frederick Corseles in Oxford, not through Caxton in London, as was commonly believed. See Joseph Moxon, *Mechanick Exercises on the Whole Art of Printing*, eds. Herbert Davis and Harry Carter (New York: Dover Publications, 1958), xlix–li, hereafter *ME*. Further citations will be parenthetical.

2. John Feather, "The Book in History and the History of the Book," *Journal of Library History* (1986): 13. Feather's essay is a defining text for this field, as is Robert Darnton, "What is the History of the Book?" in *Books and Society in History*, ed. Kenneth Carpenter (New York: R.R. Bowker, 1983), 32–6. Much of early bibliographic research, characterized by painstaking reconstructions of archival material, is useful to contemporary scholars, despite its underlying logic of empiricism and its reliance on a narrative of natural progress, whether aesthetic or technological. More recent research, however, combines historical evidence and an attention to the materiality of texts with cultural and literary theory. Examples include essays in *Language Machines*, eds. Jeffrey Masten, Peter Stallybrass, and Nancy J. Vickers (New York: Routledge, 1997); Paula McDowell, *The Women of Grub Street: Press, Politics and Gender in the London Literary Marketplace 1678–1730* (Oxford: Clarendon Press, 1998); and Adrian Johns, *The Nature of the Book: Print and Knowledge in the Making* (Chicago: Univ. of Chicago Press, 1998).

3. Technological determinism haunts Elizabeth Eisenstein's otherwise groundbreaking *The Printing Press as an Agent of Change: Communications and Cultural Transformations in Early-Modern Europe* (Cambridge: Cambridge Univ. Press, 1979), in which she outlines the "communications revolutions" wrought by Gutenberg's invention and the social changes that derive from the new medium of print. Her title explicitly credits the technology itself with subsequent cultural transformation, a potential problem she addresses when she writes in her preface that she "would have liked to underline the human element in [her] title by taking the early printer as [her] 'agent of change.'" Eisenstein calls certain master printers "unsung heroes" and "the true protagonists of this book." Nonetheless, she does concede that "impersonal processes involving transmission and communications must be given due attention" (xv) and in fact, the work of master printers and others in the print trade become in her text merely an effect of an always already installed technology.

4. Michael Warner, *The Letters of the Republic: Publication and the Public Sphere in Eighteenth-Century America* (Cambridge: Harvard Univ. Press, 1990), 5.

5. Warner, *Letters*, 6.

6. See, for example, Alvin Kernan's description of Samuel Johnson as a product of print logic in *Samuel Johnson and the Impact of Print* (Princeton, NJ: Princeton Univ. Press, 1987). Similarly, work on hypertext and electronic writing often assumes that regimes rising directly and inevitably as a result of print are toppling as the essentialized technology of the computer becomes dominant. See Jay David Bolter, *Writing Space: The Computer, Hypertext, and the History of Writing* (Hillsdale, NJ: Lawrence Erlbaum Associates, 1991); George Landow, *Hypertext: The Convergence of Contemporary Critical Theory and Technology* (Baltimore: Johns Hopkins Univ. Press, 1992); and Richard A. Lanham, *The Electronic Word* (Chicago: Univ. of Chicago Press, 1993).

7. For the importance of rhetoric in assessing Renaissance print culture, see Wendy Wall, *The Imprint of Gender: Authorship and Publication in the English Renaissance* (Ithaca: Cornell Univ. Press, 1993), 20–1. For the various strategies used in late seventeenth-century England to legitimate print and to authorize the knowledge it disseminated, see Johns, *The Nature of the Book*, 138–150.

8. Philip Gaskell, Giles Barber, and Georgina Warrilow, "An Annotated List of Printers' Manuals to 1850," *Journal of the Printing Historical Society* 4 (1968): 13. Herbert Davis and Harry Carter explain that Moxon's volume "was appropriated by compilers of technical encyclopedias and printers' grammars; thus, parts of Moxon, disguised under other names, remained a standard textbook until the great bulk of printing ceased to be a 'handy-work'" (*ME*, vii). For more on the influence of Moxon and Smith, see also Herbert Davis, "Catalogue of an Exhibition of British and American Printers' Manuals at Dartmouth College," *Printing and Graphic Arts* 5 (1957): 1–33; and E. C. Bigmore and C. W. H. Wyman, *A Bibliography of Printing* (London: Bernard Quaritch, 1884). Moxon's and Smith's manuals can be usefully compared to similar texts written in this period, which also reveal a self-consciousness about printing. These include James Watson, *The History of the Art of*

Printing (Edinburgh: printed and sold by J. Watson, 1713); Samuel Palmer, *The General History of Printing* (London: printed by the author and sold by his widow and by J. Roberts, 1732); Conyer Middleton, *A Dissertation concerning the Origin of Printing in England* (Cambridge: printed for W. Thurlbourne, 1735); and Joseph Ames, *Typographical Antiquities: Being a Historical Account of Printing in England* (London: printed by W. Faden, 1749); as well as shorter pieces in encyclopedias and dictionaries of the trades or sciences. Moxon and Smith are still the most frequently quoted today, and their works exist in recent reprints.

9. Eisenstein, *The Printing Press*, 383. See also *ME*, li.

10. See Eisenstein, *The Printing Press*, 553–63.

11. For a more detailed description of these and other factors leading to a loss of guild power in this period, see Peter Earle, *The Making of the English Middle Class: Business, Society and Family Life in London, 1660–1730* (Berkeley: Univ. of California Press, 1989), 250–68.

12. For the following details on the print trades in this period, I am indebted to John Feather, *A History of British Publishing* (London: Croom Helm, 1988). See especially 43–63.

13. For a detailed reading of the political and symbolic role of Stationers' Hall and the Stationers' Register in preserving their power, see Johns, *Nature of the Book*, 187–248.

14. See *ME*, xxvii–xxviii, 370. As a freeman of the city (a member of the Weaver's Company), Moxon may have been protected by a 1614 legal decision which allowed any freeman to practice any trade. See Earle, *The English Middle Class*, 250–68. Moxon's position as official Hydrographer to the King may also have allowed him printing privileges. At the time *Mechanick Exercises* was published, the Licensing Act was in abeyance (it lapsed in 1679 and was not renewed until 1685), but Moxon, as well as many other unofficial printers, published books before this time.

15. Moxon's expertise in this scientific realm was cemented when he became Hydrographer to the King in 1662. Moxon's two occupations were interdependent, however. Most of the books he sold, whether he served as writer or printer, were popularizations of science. His authored textbook, *A Tutor to Astronomie and Geography* (London, 1659), went through five editions in forty years. See *ME*, xxii–xxv, xxxi, and Bigmore and Wyman, *Bibliography*, 56–63. Books like these created a market for the sale of his scientific tools by educating amateurs. Eisenstein, *The Printing Press*, 557, explains this linkage: "the output of mathematical-instruments, atlases, globes and 'theatres of machines' should also be related to the new possibility of profiting from disclosing instead of withholding the tricks of the various trades."

16. Eisenstein, *The Printing Press*, 558.

17. See Walter E. Houghton, Jr., "The History of Trades: Its Relation to Seventeenth-Century Thought: As Seen In Bacon, Petty, Evelyn, and Boyle," *Journal of the History of Ideas* 2 (1941): 33–60. For Moxon's connections to Society members, see Johns, *The Nature of the Book*, 80–1.

18. For examples, see Gaskell et al., "Annotated List," 11; Herbert Davis, "Catalogue," 22; and Eisenstein, *The Printing Press*, 154.

19. Similarly, when Petty envisions his audience for the history of trade, he refers to customers, scholars, divines, students, and mathematicians among others, but does not mention any practitioners.

20. Joseph Moxon, *Mechanick Exercises or the Doctrine of Handy-Works* (New York: The Early American Industries Association, 1979), n.p.

21. See Houghton, "The History of Trades," 54.

22. Cited in Nancy Armstrong and Leonard Tennenhouse, *The Imaginary Puritan: Literature, Intellectual Labor, and the Origins of Personal Life* (Berkeley: Univ. of California Press, 1992), 98.

23. Of course, such distinctions were not new to this period. See, for example, Patricia Parker, "Rude Mechanicals," in *Subject and Object in Renaissance Culture*, eds. Margreta de Grazia, Maureen Quilligan, and Peter Stallybrass (Cambridge Univ. Press: 1996), 43–82.

24. Armstrong and Tennenhouse, *The Imaginary Puritan*, 97, linking the writing of Restoration intellectuals with the rise of the middle class, similarly note that Thomas Sprat's *History of the Royal*

Society "subordinates those who work with their hands to those who think and write." However, while their study references "print culture" and the role of the press in creating a public sphere, it mostly deals with "writing" in its general, textual sense, not specifically print as a unique form of information transmission.

25. Moxon, *The Doctrine of Handy-Works*, n.p..

26. I am not asserting that this promotion of print mirrored reality. In this period, despite the Stationers' Company's loss of power, most printers still learned their trade through apprenticeship and would have no need for such a book. In fact, research on the spread of early modern technical knowledge suggests that practical changes were rarely instigated by printed texts. See Peter Mathias, "Who Unbound Prometheus? Science and Technical Change, 1600-1800," in *Science and Society*, ed. Peter Mathias (Cambridge: Cambridge Univ. Press, 1972), 54-80; and Carlo Cipolla, *Before the Industrial Revolution: European Society and Economy, 1000-1700* (New York: W.W. Norton & Co., 1976).

27. See Thomas Laqueur, *Making Sex: Body and Gender from the Greeks to Freud* (Cambridge: Harvard Univ. Press, 1990), esp. 134-48.

28. This hierarchy is a microcosm of the larger political structure, described by Thomas Hobbes in his 1651 *Leviathan* as a giant artificial man made up of individuals who are the "atoms" of the body politic. The Sovereign, like the Master Printer, rules the social body. A full political reading of Moxon is outside my purview here, but I want to point out that he does, by implication, stress the print shop's position in a larger cultural context. This comment also may reflect Moxon's insecurities about his own position as both Royal Society "intellect" and embodied printer-worker. He reminds his readers that a master printer, such as himself, is different: as soul, he transcends "ignoble" Mechanics. At the same time, however, it is clear from Moxon's text that the two aspects, soul and body, cannot exist without each other.

29. D. F. McKenzie, *Bibliography and the Sociology of Texts: The Parnizzi Lectures, 1985* (The British Library, 1986), 83-4, discusses the problem with the term "accidental" and the importance of recovering accidentals as textually significant. He is interested, however, in the way these make up a book's "organic form" and so reveal an author's more nuanced intentions. I am not trying to pinpoint Moxon's intentions, but instead insist that "accidentals" be taken as part of the typographic sign system which forms the interface between text and reader and so cannot help but affect reception. A text is understood to a great extent through its typography and screening out some of its elements imposes an anachronistic reading style.

30. I discuss below the role of the compositor in the construction of print meaning.

31. Donna Haraway, "A Manifesto for Cyborgs: Science, Technology and Social Feminism in the 1980s," rpt. in *Feminism/Postmodernism*, ed. Linda Nicholson (New York: Routledge, 1990), 191.

32. Robert Darnton, *The Business of Enlightenment: A Publishing History of the Encyclopédie, 1775-1800* (Cambridge: Harvard Univ. Press, 1979), 228-30, discusses a literal example of this: an inky fingerprint left behind by "Bonnemain," one of the printers of the *Encyclopédie*. He also asserts that "in the era of the handmade book there existed a typographical consciousness that disappeared sometime after the advent of automatic typesetting and printing . . . Every page, every line has its individuality. Each character bears the imprint of a gesture made by someone like Bonnemain" (236). This "typographical consciousness" is one, I have shown, shared by Moxon; that it disappeared in England well before the advent of automated printing I detail below.

33. See Mark Rose, *Authors and Owners: The Invention of Copyright* (Cambridge: Harvard Univ. Press, 1993).

34. John Smith, *The Printer's Grammar*, ed. D. F. Foxon (London: Gregg Press, 1965), 1 (hereafter, *PG*).

35. See, for example, Smith, *PG*, 24-7, 42-6.

36. See, for example, Moxon, *ME*, 163, 201, 206, 280, 283, 313-314.

37. See Laqueur, *Making Sex*, 149-92.

38. Michael McKeon, "Historicizing Patriarchy: The Emergence of Gender Difference in England, 1660-1760," *Eighteenth-Century Studies* 28 (1995): 302.

39. McKeon, "Historicizing Patriarchy," 302.

40. See also Hannah Barker and Elaine Chalus, eds., *Gender in Eighteenth-Century England: Roles, Representations and Responsibilities* (New York: Longman, 1997), esp. 1–28.

41. [Anon.], *The Art of Governing a Wife, with Rules for Batchelors* (London, 1747), 3. For a more detailed and nuanced description of the divided sphere of masculine and feminine behaviors as represented in conduct manuals and other texts, see Robert B. Shoemaker, *Gender in English Society 1650–1850: The Emergence of Separate Spheres?* (London: Addison Wesley Longman: 1998), 15–44.

42. For example, John Gregory, in *A Father's Legacy to his Daughters* (London, 1774), notes that "Dress is an important article in female life" and advised that "good taste will direct you to dress in such a way as to conceal any blemishes, and set off your beauties, if you have any, to the greatest advantage" (55–6).

43. Gregory, *A Father's Legacy*, 73.

44. Indeed, women writers could use this construction to argue for their inclusion in the public realm of print. Anne Dutton, in *A Letter to Such of the Servants of Christ, Who May Have Any Scruple about the Lawfulness of Printing Any Thing Written by a Woman* (1743), 158–9, argues that "what is printed is published to the World, and the Instruction thereby given, is in this regard *Publick*, in that it is presented to every ones View: Yet...*Books* are not Read, and the Instruction by them given in the *public Assemblies*...But visit every one, and converse with them in their own *private Houses*. And therefore the Teaching, or Instruction thereby given is *private*: and of no other Consideration than that of Writing a private Letter to a Friend." Cited by Lawrence E. Klein, "Gender and the Public/Private Distinction in the Eighteenth Century: Some Questions About Evidence and Analytical Procedure," *Eighteenth-Century Studies* 29 (1995): 106. For more on the role of the eighteenth-century domestic woman, charged with overseeing the private-sphere realms of emotion and interiority, see also Nancy Armstrong, *Desire and Domestic Fiction: A Political History of the Novel* (Oxford: Oxford Univ. Press, 1987), 59–95.

45. See Jonathan Goldberg, *Writing Matter: From the Hands of the English Renaissance* (Stanford: Stanford Univ. Press, 1990), 138–9 and 233–4.

46. For the ways in which eighteenth-century conduct manuals taught women to create themselves as objects of male desire within the matrimonial system, see Vivien Jones, ed., *Women in the Eighteenth Century: Constructions of Femininity* (London: Routledge, 1990), 14–56. On the economics of middle-class marriage, see Earle, *English Middle Class*, 177–204.

47. For the problem of "excess" implied by sensibility, see John Mullan, *Sentiment and Sociability: The Language of Feeling in the Eighteenth Century* (Oxford: Clarendon Press, 1988), 98. Mullan, *Sentiment and Sociability*, 201–40, also claims that while sensitive men were believed to have suffered physically and mentally by such nervous disorders, women were the primary patients, thought to be prone to more frequent and violent attacks. Mullan describes how medical literature insisted that laborers and servants did not suffer from these disorders, not being as delicate, refined or sensitive as women in the upper echelons of society (see 238–9).

48. Elizabeth Singer Rowe's *Letters Moral and Entertaining, in Prose and Verse* (1728) has a brother confessing to his sister that "while I stay'd at Rome...the only loose amour I had, was with a beautiful *Italian*" (cited in Jones, *Women in the Eighteenth Century*, 26). Chesterfield, too, contrasts the virtues of Ancient Rome with the debaucheries of modern Italy.

49. Similarly, Darnton describes the plates on printing in the *Encyclopédie* as showing pristine workrooms with automaton-like workers, as opposed to the reality of a dirty, smelly, and loud work environment. He also notes that the accompanying article "fails to say much about the craftsmen as human beings and does not mention anything about their ceremonies, humor, and lore." According to Darnton, *The Business of Enlightenment*, 242, "in stripping artisan work down to its technological base—or recasting it as it ought to exist according to a more rational technology—the *Encyclopédie* eliminated a fundamental aspect of it: its culture."

50. See Martha Woodmansee, *The Author, Art and the Market: Rereading the History of Aesthetics* (New York: Columbia Univ. Press, 1994). See also Rose, *Authors and Owners*, 49–66.

51. Margaret Ezell, *Social Authorship and the Advent of Print* (Baltimore: Johns Hopkins Univ. Press, 1999), 11.
52. Johns, *The Nature of the Book*, 104–5, 137.
53. Andrew Marvel, *The Rehearsal Transposed* (London: printed by J. D., 1672), 92.
54. See Francis Kirkman, *The Unlucky Citizen: Experimentally Described in the Various Misfortunes of an Unlucky Londoner* (London: printed by Anne Johnson, 1673) and John Dunton, *The Life and Errors of John Dunton, Citizen of London* (London: printed for S. Malthus, 1705). Like Moxon's, Dunton's text is also interested in the ways print workers are "embodied" in typography.
55. For details on Dodsley's work as a bookseller, see Harry M. Solomon, *The Rise of Robert Dodsley: Creating the New Age of Print* (Carbondale: Southern Illinois Univ. Press, 1996); Robert Dodsley, *The Correspondence of Robert Dodsley, 1733–1764*, ed. James E. Tierney (Cambridge: Cambridge Univ. Press, 1988); and Robert Dodsley, *A Collection of Poems by Many Hands*, ed. Michael F. Suarez, S. J. (London: Routledge/Thoemmes Press, 1997).
56. Caleb Stower, *The Printer's Grammar*, ed. D. F. Foxon (London: Gregg Press, 1965), vi.
57. Stower, *The Printer's Grammar*, 152–9, 371, 382–6.
58. Francis Barker, *The Tremulous Private Body: Essays on Subjection* (Ann Arbor: Univ. of Michigan Press, 1995), 15.
59. Donna Haraway, "A Manifesto for Cyborgs," 191.
60. For the role of printing women in the construction of the public sphere, see McDowell, *The Women of Grub Street*. Overviews of women in the print trades include C. J. Mitchell, "Women in the Eighteenth-Century Book Trades," in *Writer, Books and Trade: An Eighteenth-Century Miscellany for William B. Todd*, ed. O. M. Brack, Jr. (New York: AMS Press, 1996), 25–75; Maureen Bell, "Women and the Opposition Press after the Restoration," in *Writing and Radicalism*, ed. John Lucas (London: Longman, 1996), 39–60; Margaret Hunt, "Hawkers, Bawlers, and Mercuries: Women and the London Press in the Early Enlightenment," in *Women and the Enlightenment* (New York: Institute for Research History, 1984), 41–68; and Lois Schwoerer, "Women and the Glorious Revolution," *Albion* 18 (1986): 195–218.
61. I discuss the relationship between female publishers and the domestic woman writer in "Political Propriety and Feminine Property: Women in the Eighteenth-Century English Text Trades," *Studies in the Literary Imagination* 34 (2001): 79–99.
62. See Mitchell, "Women in the Eighteenth-Century Book Trades," 31.