

Imprints: Shakespeare, Gutenberg, and Descartes

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I Metaphysics

Why Wax?

In the *Meditations*, Descartes alone in his study, sitting by the fire, wrapped in his cloak, resolves to make a clean sweep of all his old opinions – among them, the opinion that external objects are more real than consciousness itself. In order to examine this opinion, he needs a representative thing or body. He chooses wax.¹ ‘Let us consider ... one particular body. Let us take, for example, this piece of wax.’² My question is, with a world of objects to choose from, why wax?

It is generally assumed that he chooses the object most noted for mutability.³ Wax waxes. As he notes, it has already undergone two transformations – from flower to honeycomb – before reaching him. And when put before the fire, it suffers a whole gamut of additional changes, one for each of the senses: shape, but also colour, flavour, smell, feel, even sound (when he raps it). That he still, despite these permutations, knows the object to be wax, demonstrates that, contrary to his old opinion, perception of the wax does not depend on the wax itself but on ‘the intellect alone’.⁴

It is not just wax in the abstract that Descartes contemplates, but a particular piece of wax: ‘*this* piece of wax’ [my italics]. He not only observes this piece of wax: he handles, whiffs, licks, knocks it. It is at hand; why at hand? Because it is on the top of the desk where he is writing.⁵ Until replaced by self-adhering and gummed envelopes (before envelopes even), return addresses, individuating signatures and a national postal service, wax belonged on every well-equipped desk, as indispensable as paper, pen, and ink. As the editors of his eight volumes of letters point out, Descartes – in self-imposed exile for most of his life – was a prolific letter writer.⁶ Every letter he sent, he must have sealed. (If we had receipts for purchase of wax, we could approximate the number of letters he wrote and sent.⁷) What must be noted, however, is that Descartes makes no mention of the instrument that was used to make the imprint on wax: the signet. Indeed, he seems to be teasing us with its absence. Warming the wax by the fire was part of the sealing routine: the wax was

melted and then imprinted. But Descartes softens the wax not so that it will receive the signet's defining form but so that it will go formless.

Descartes had good reason to dismantle this little piece of standard desktop equipment. It was the traditional metaphor for how knowledge is acquired and retained. A common household item, the signet/wax apparatus symbolized the mystery of how the outside world entered the mind and stayed there. As the mirror received reflections, so the wax received impressions. Unlike reflections, however, impressions remained – as memory or fantasy. To repeat, then, my opening question: why wax? Why did Descartes choose wax as the representative object? It was not, after all, the only mutable object at hand: he might have reached for a sheet of paper from his desk, for example, and crumpled, ripped, stained, burned it to ashes; he might have taken frost from the window pane. I would like to suggest that his choice of wax was a choice of wax-without-signet. To feature wax alone was to dismantle the apparatus which, as we shall see, was key to those old opinions he determined to clear from his mind. It was critical, for example, to Plato's epistemology and Aristotle's metaphysics, as well as to Descartes's own earlier philosophy.

The model of the signet and wax figures centrally in the Platonic dialogue generally considered to have defined epistemology as a separate science from ontology, knowing as a separate domain from being. In the *Thaetetus*, Socrates asks Theaetetus to 'imagine that our minds contain a wax block',⁸ the scriptive surface used in classical times before papyrus; vellum and paper.⁹ It is on this wax block that impressions were made of perceptions and of ideas 'as if we were making marks with signet-rings', says Socrates.¹⁰ Knowledge and memory depend upon these imprints: 'We remember and know anything imprinted, as long as the impression remains in the block; but we forget and do not know anything which is erased or cannot be imprinted.' The quality of a man's intelligence depends on the state and upkeep of his mental wax block. Those whose wax block is 'deep, plentiful, smooth and worked to the right consistency ... are called clever'; while those in whom it is 'dirty, with impurities in the wax ... or too moist or too hard ... are said to be in error about things and to be ignorant'.¹¹

The same graphic device returns in Aristotle's *De anima*, again in relation to cognition, with emphasis on a new detail: 'as the wax takes the sign from the ring without the iron and gold – it takes that is, the gold or bronze sign, but not as gold or bronze', so too sense receives the forms of the objects it perceives but not their matter.¹² In both processes, efficient and material causes remain distinct. These figural imprints constitute sense impressions which register in the mind as memory, 'just as when men seal with signet rings',¹³ both remembering and thinking draw on these images. Their durability depends on the quality of the surface: a diseased or aged memory, for example, retains no more imprint than if a 'seal were impressed on flowing water'. The metaphor of

imprint on wax continues well into the middle ages and beyond, in discussions of mnemonic devices which derive the metaphor from the anonymous *Ad Herennium*, as well as from Quintilian and Cicero.¹⁴

In his earlier *Rules for the Direction of the Mind* (1628), Descartes called upon the same device to describe perception: 'sense-perception occurs in the same way in which wax takes on an impression from a seal'.¹⁵ Descartes insists that this statement is to be taken literally: 'It should not be thought that I have *a mere analogy in mind here*' [my italics]; and he proceeds to explain how the surface of our sentient bodies is literally changed by the perception of an object, 'in exactly the same way as the shape of the surface of the wax is altered by the seal'. It is not just touch that depends on impressions made on skin, but the other senses as well, for each is wrapped in thin, skin-like membranes which are malleable but not permeable: 'in the ears, nose and the tongue, the first membrane which is pervious to the passage of the object thus takes on a new shape from the sound, the smell and the flavour respectively'.

Even vision depends on physical impressions, for an 'opaque membrane receives the shape impressed upon it by multi-coloured light'. To illustrate how colour impresses the eye, Descartes reproduces three imprints representing white, blue, and red. The figures illustrate the abstract form in which extended things, *res extensae*, like colour, might enter the brain as thought, *res cogitans*. The imprint made by the object on the eye is in turn imprinted on the internal surface of the brain.¹⁶ There is no perception that could not be reduced to a similar imprint: 'The same can be said about everything perceivable by the senses, since it is certain that the infinite multiplicity of figures is sufficient for the expression of all the differences in perceptible things'.¹⁷ The senses relay such imprints first to the common sensibility (the internal sense, which receives and coordinates impressions delivered by the external senses) and then to the imagination (or memory). At each stage, the transmission takes place 'in exactly the same way as the shape of the surface of the wax is altered by the seal'.¹⁸ The triple relay of imprints finishes in the brain of 'cognitive power'. Unlike the passive senses, common sensibility, and imagination, the brain functions like both parts of the instrument: now passive, now active: 'sometimes resembling the seal, sometimes the wax'. But now we *are* in the realm of mere analogy: 'But this should be understood merely as an analogy, for nothing quite like this power is to be found in corporeal things'.¹⁹ What was literally true in relation to the senses is in relation to the mind no more than a figure of speech.

Ten years later, when Descartes writes the *Meditations*, the apparatus is not even useful as analogy. The device has been disassembled: wax stands alone. Signet and wax had represented the process by which objects in the world became objects of knowledge; wax by itself, however, suggests an autonomous consciousness, dependent on its own innate ideational resources. The absence

of the signet is conspicuous too in a letter Descartes wrote on 2 May 1644 in which wax returns as an analogue for the brain, not because it receives imprints, but because it assumes different shapes.²⁰ Paired with the signet, wax worked as something of an epistemic talisman, guaranteeing a correspondence between inner and outer, mind and bodies. Apart from it, mind is thrown back on its own devices – its innate ideas – the most salient of which is the idea of God itself, ‘as it were, the mark of the craftsman stamped on his work’.²¹

II Genetics

The signet/wax apparatus presided over another area of classical enquiry besides epistemology. It was repeatedly evoked to illustrate a similarly mysterious phenomenon: not only how world entered mind to produce thought, but also how man penetrated woman to produce children. The gendering of the two parts of the apparatus was predictable: the form-giving seal was male and the form-receiving wax female. The male bearing down on the female left a foetal imprint (Figures 1.1 and 1.2). The analogy supported the theory that the foetus was from the moment of conception complete, its parts and organs fully formed and therefore undergoing no development, only enlargement.²² Early modern engravings suggest how easily this theory lends itself to the wax/signet analogy. In Figure 1.1, for example, the womb of the woman before impregnation is represented as a blank armorial seal awaiting the imprint that is blazoned on the pregnant womb of Figure 1.2, a flat surface imprinted with a completely formed child. The signet and wax apparatus, then, served to illustrate both processes of *conception*: the having of thoughts and the having of children.

The double designation appears as ancient as the technique itself, existing in both Greek and Latin, activated in several of Plato’s dialogues.²³ In the same dialogue that features the wax block, Socrates discusses learning in terms of giving birth, brainchildren as children of loins, using the language of fertility, barrenness, gestation, labour, delivery, and childbirth to describe the arduous and protracted process by which ideas are generated in the mind.²⁴ In addition to introducing these obstetrical terms, Socrates assigns himself the role of midwife: ‘my midwifery has all the standard features, excepts that I practise it on men instead of women, and supervise the labour of their minds, not their bodies’.²⁵

Socrates’s identification of himself with midwife seems calculated to replace (and neutralize) his identification in *Symposium* with lover or *eros*.²⁶ In ancient Athens, relationships between older men and younger boys were conventionally erotic and instructive, pederastic and pedagogic;²⁷ bodies as well as minds were deduced and established by the priestess Diotima in *Symposium*. In her

famous disquisition, she explains how ‘the ladder of love’ begins with love of a beautiful boy and extends by gradations to love of wisdom. By casting himself as midwife rather than lover, Socrates moves learning from the realm of volatile desire so empowering to the teacher. There is a special urgency to this refiguring of the teacher’s role, for the dialogue ends with Socrates departing to face charges of having corrupted the youth of Athens. The claim to midwifery seems calculated to disarm his accusers: an obstetrician, an innocent bystander (*obstare*), has no power to corrupt, unlike the seductive and inseminating teacher.

In Aristotle’s *De generatione*, the seal/wax mechanics proves as apt in describing generation as it had perception, both types of conception depending of form giving imprint to matter. The homologous relation between the male and female reproductive organs could itself be imaged as the relation between the depressed image on the signet and the raised image on the wax, the female genitalia an inversion of the male.²⁸ The apparatus was also useful in representing generation itself: the foetus is formed when male seed imparts form to female seed, when male generative principle (the efficient cause) imposes perfection upon female matter (the material cause): ‘The female always provides the material, the male that which fashions it, for this is the power we say they each possess, and *this is what it is for them to be male and female*’.²⁹

In his much less respected theories of generation, as in his epistemology, Descartes dispenses with the signet-wax mechanics. Foetus and mind stand alone and autonomous, like the wax. In *Meditations*, he makes the seemingly offhand remark that his parents had a negligible part in creating what he identifies as himself: ‘insofar as I am a thinking thing, [my parents] did not even make me; they merely placed certain dispositions in the matter which I have always regarded as containing me, or rather my mind, for that is all I now take myself to be’.³⁰ He has no more connection to his progenitors than his ideas do to the objective world. In his later physiological work, *Description of the Human Body* (1647/8), Descartes includes a section describing the formation of the foetus or, as he terms it, ‘the seminal material’.³¹ Here, too, as innate ideas are independent of the external world, so the foetus bears no imprint of world or parent. Indeed, for him, there is no moment of inception in which matter receives definitive form but rather a protracted process in which parts and organs gradually come into being.³² Nor are two distinct sexes involved, active fashioning passive; instead two not very different fluids commingle initially to produce not a foetus but ‘a disorganized mixture of two fluids’,³³ an impossibility for Aristotle since the mixture of male and female semen would confuse efficient and material causes. These fluids interact upon one another to generate a mutual heat which in turn sets off a process of fermentation, ‘as a kind of yeast’:

We may observe how old dough makes new dough swell, or how the scum formed on beer is able to serve as yeast for another brew; and in the same way it is easy enough to accept that the seminal material of each sex functions as a yeast to that of the other, when the two [male and female] fluids are mixed together.³⁴

The Cartesian foetus is thus produced by a self-activating internal process (like Cartesian innate ideas) rather than by stimuli from the outside (like pre-Cartesian ideas).³⁵

As this brief account has indicated, the signet/wax apparatus has been of tremendous importance to theories of both knowledge and generation, illustrating the critical interactions that were otherwise imperceptible between world and thought and between father and child. If there were no conformity between world and thought, there would be no truth (only error, fantasy and madness), no basis in the world for thought. If there were no conformity between parent and child, there would be no bloodlines, no basis in biology for social organization. The mechanics of the signet/wax apparatus demonstrated what could not be seen at the site either of cognition (*in mentis*) or of impregnation (*in utero*). In order to clear the mind of all its old opinions (about epistemology, about physiology), Descartes does away with that little apparatus, pulling it apart in the *Meditations*, omitting it altogether in *Description of the Body*. His solipsistic ideas and spontaneous births, requiring no contact with the outside, rendered the apparatus obsolete as a metaphoric and mechanical guarantee of both metaphysical thought and physical birth.

Though not quite altogether: having taken it apart at the beginning of the *Second Meditation*, Descartes puts it back together in the concluding line. He repairs it in order to describe imprints that come, not from outside but from inside, not from world but from mind: 'I should like to stop here and meditate for some time on this new knowledge I have gained, so as to fix [*imprime*] it more deeply in my memory'.³⁶ Here the mind itself has assumed the function of the imprint-making signet, impressing its own mnemonic wax with knowledge. In this concluding sentence, the titular act of meditation is represented as a kind of psychic self-imprinting. Meditation involves a self-reflexive impressing, another fantasy of pure autonomy – like original thought and autogenetic birth.

III Metaphorics

In the English Renaissance, comparisons of mechanical and sexual reproduction, imprints and children, seem to multiply, as if the new technology of the printing press revitalized the ancient trope.³⁷ A cluster of infantilizing tropes anticipates the nineteenth-century term for early printed books, *incunabula* (from

cunabula, cradle). The textual imprint as child recurs in preliminaries to early modern books, putting into play the semantics shared by biological and textual reproduction: of issue, generation, copying, duplication, multiplying, engraving and gravity; of textual and sexual inscriptions that survive the grave through enduring ideas and successive children; of two types of lines, scripted and genealogical which promise to extend the parent/author beyond death.

Dedication pages abound in which imprinted children complain of having been disowned, orphaned, discredited and abused, often as spurious or illegitimate. Without parental protection of any kind, they seek patronage, a patron or foster father who would adopt and support. The preliminaries to the 1623 Folio edition of Shakespeare's plays attempt to procure surrogate guardians or fathers (in the Earls of Pembroke and Montgomery) for the 'orphans' or playtexts gathered by the volume.³⁸ A patron was to protect the textual dependent from various misfortunes, plagiarism among them. It is thought that the poet Martial coined the term – *plagiarius*, literally a kidnapper – to protest against another poet's having claimed Martial's verses as his own.³⁹

The trope in reverse is also pervasive: the child as imprint as well as the imprint as child, the imprint of the father, as Aristotle would lead us to expect. Thus Hermia is 'but as a form in wax, / [by her father] imprinted' (*A Midsummer Night's Dream*, 1.1.50), and Aaron's son is his 'stamp' and 'seal', his 'seal ... stamped in his face' (*Titus Andronicus*, 4.2.69, 127). With all stamping techniques – whether of wax, coins, or paper – there is always the possibility of forgery. Posthumus, convinced of the infidelity of all women, concludes that his father's whereabouts were unknown 'When [he] was stamped. Some coiner with his tools/Made me a counterfeit' (*Cymbeline*, 2.5.5). The changeling child might be substituted for the legitimate child as easily as the counterfeit coin for the true, or – as in the case of Hamlet – the forged letter for the authentic. Hamlet succeeds in substituting his own forgery for his uncle's commission because he has his father's authorizing signet. 'How was it seal'd?' (5.2.47), asks Horatio. Once Hamlet gave it 'the' impression' (line 52) of his father's signet, 'The changeling [was] never known' (line 53).⁴⁰

Shakespeare's Sonnets use the trope in both directions. The children the poet enjoins the fair youth to beget would be his imprints: '[Nature] carved thee for her seal, and meant thereby / Thou shouldst print more, not let that copy die'.⁴¹ And the poetic imprints the poet produces would be surrogate children. Early on in the collection, the scheme for dynastically reproducing the youth yields to the project of poetically reproducing him, inked verse lines substituting for generational loins or lineage, preserving the young man's image for posterity, obliterating thereby Time's disfiguring engravings, the 'lines and wrinkles' of old age.⁴²

In these instances, the connections between offspring and imprints are metaphorical: the book without a patron is *like* an orphan; the legitimate child

is *like* the father's seal. But the same semantic overlappings acquire a more material dimension in practices such as pedagogy and obstetrics, learning and engendering, the reproduction of knowledge and the reproduction of children. Boys are capable of learning for the same reason that women are capable of engendering: because they are impressionable, like wax. That the analogy was more than mere metaphor is demonstrated by the importance of temperature control to both processes. Because a cold pupil could be intractable, schoolmasters are advised to save the most arduous writing exercises until one o'clock in the afternoon.⁴³ Midwifery manuals maintain that a matrix needs to be kept warm in order to avoid barrenness, just as wax needs warming before receiving an impression.⁴⁴

Of boys, it is said that teaching them before the age of seven is futile because 'that which printed is therein / It holds as sure as water graved with pin'.⁴⁵ But once the surface is firm enough, the imprinting process can begin: through mimetic or copying practices, from letters to *exempla* to precepts, so that the child himself will be able to reproduce like a 'mint of phrases' (*Love's Labour Lost*, 1.1.165).⁴⁶ Up to the late Middle Ages, these lessons were routinely impressed on wooden tablets covered with wax,⁴⁷ but they could also be inscribed on paper with pen. A material inscription would ideally register in the mind as well as the writing surface, seeping through the surface via the writing hand or the reading eye into memory itself, from a graphic to a psychic register.⁴⁸ Receptive to pedagogic and stylistic imprints, boys often serve as *pages*, taking in their master's lessons, like Shakespeare's generic pupil William Page.⁴⁹

In all these instances, the line between education and seduction tends to blur, just as it does in Plato's *Theaetetus* and *Symposium*, so that pedagogy slips into pederasty. Falstaff, like Socrates, is alleged to be a great corrupter of youth as well as a philanderer. His great weight makes him a natural maker of imprints; he is called a 'bed presser' (*1 Henry IV*, 1.4.242), the bed of the printing press being the surface on which the forme is laid. It is suggested that he will imprint anything that takes an impression – with the possible exception of Mistress Quickly, who like an otter, is neither fish nor flesh, a man knows not where to have her – whether it be his own boy page in *2 Henry IV*, given to him by Hal who might himself have similarly served him,⁵⁰ or Mistress Page and Mrs. Ford. To the last two, Falstaff sends duplicate love letters to each wife, second editions, each wife assumes, a good 1,000 having already been printed. Textually and sexually indiscriminate, he 'cares not what he puts in press' (*The Merry Wives of Windsor*, 2.1.78).⁵¹

In addition to boys and women, Falstaff also impresses men. In *2 Henry IV*, we observe him impressing men into the King's service, drafting or conscripting them, by writing their names on his list (enlisting them), what he calls 'pricking' them. Men in the military are much more susceptible to marital pricking – to

the peppering of gun shot and knife points – but also to sexual pricking: 'I have misus'd the king's *press* damnably' (*1 Henry IV*, 4.2.12; my italics), admits Falstaff, suggesting sexual coercion as well as monetary extortion. This is the basis of Falstaff's joke at the expense of Feeble, the woman's tailor. Shallow asks 'Shall I prick him?' (3.2.142), doubting whether the tailor used to making holes in women's petticoats will be any good at making holes in the enemy's coats, and Falstaff quips 'If he had been a man's tailor he would have pricked you' (3.2.153), though both Feeble's and Shallow's names suggest limitations in that area. In this context, it is hard not to see the thigh wound Falstaff obscenely gives the dead Hotspur as another instance of his indiscriminate bent for pricking and impressing bodies, male and female, young and adult, dead and alive.

Martial pricking or scoring has venerable precedents among the Ancients – both the Greek Patroclus and Achilles and the Roman Coriolanus and Aufidius. Coriolanus, for example, bears a sword that makes men with 'death's stamp' (*Coriolanus*, 2.2.107). Embarrassed by his own scars, he prefers to publicize wounds he has given his enemies, particularly the stripes he has 'impressed' (5.6.107) upon Aufidius in the 'encounters' (4.5.123) that are the subject of the latter's fantasies. Aufidius admits as much at a telling moment: while embracing Coriolanus as passionately as he did his virginal bride.

The impress of the law makes itself felt in time of peace as well as war, through penal rather than military inscriptions, the lashes, wounds, and scars of corporeal punishment. These disciplinary markings are not altogether unpedagogical. Law impresses itself on the body that will not take in its lessons in any other form. Branding letters on the flesh – the S for Sedition, for example – is intended as a warning to the public, to be sure, but also as a final lesson to the criminal, as if to imprint on the body the instructive cipher resisted by the mind. Caliban is whipped (receives what Shakespeare elsewhere calls 'the impression of keen whips' *Measure for Measure*, 2.4.101), according to Prospero, because resistant to more literate forms of instruction, 'which any print of goodness will not take' (*The Tempest*, 1.2.352). So too boys in Tudor schoolrooms were subjected to the schoolmaster's rod. In fact, Erasmus notes that in many cases 'the school is, in effect, a torture chamber'.⁵² The lettered, however, are spared the law's most extreme imposition. The death sentence could be avoided by demonstrating literacy with the reading of the 'neck clause'. It was not until the very end of the seventeenth century that women gained the full benefit of clergy, but before this they could plead for a benefit of another kind: pregnancy instead of literacy.⁵³ The same logic seems to underlie these two special dispensations, as if both inseminated women and male seminarians were spared because of their reproductive or generational capacity for children and letters respectively.

Impregnation, as our attention to Aristotle would lead us to expect, is also described as an imprinting technique, as when in *The Taming of the Shrew*

Lucentio is told to take the woman he intends to marry, '*Cum privilegio ad imprimendum solum*' – an inscription appearing on title pages signifying that the printer had the sole right to print (4.4.93). In other words, Lucentio should impress Bianca with his insemination imprint before she loses to another man's mark the whiteness or virginity proclaimed by her immaculate page-like name. Beatrice's fantasy takes a similar form when she imagines herself and Benedict between folded sheets, bed sheets and folio sheets, with Benedict, one assumes, on top, imprinting her with his issue. Submission is not always voluntary, as in the case of Lucrece; indeed, she bases her self-defence on women's constitutional inability to resist male disfiguration: 'Women [have] waxen minds' that take on 'th'impression of strange kinds' (line 1242), with no more culpability 'than wax ... Wherein is stamp'd the semblance of a devil' (lines 1245–6).

In coining, the impression is made on molten metal, like wax and paper a surface capable of receiving graphic and sexual imprints. The unstruck metal was called a *blank*, like the unmarked page Blanches and Biancas are named after in honour of their virginity (or, ironically, their promiscuity). Ophelia's lap as well as Gertrude's is made of this metal, and Hamlet finds the maid's more magnetic than the matron's: 'here's metal more attractive' (3.2.108). His next question pushes the word further: 'Lady, shall I lie in your lap? ... I mean, my head upon your lap' (lines 110–11, 114). Despite Hamlet's disclaimer, the request to lie head in/on lap *does* mean '*country matters*' (my italics) – the kind of copulative lying that would transform blank metal to a medal or medallion stamped with the head of the father. Isabella's complaint in *Measure for Measure* that women 'are credulous to false-prints' (2.4.130) refers specifically to the seducing imprint threatened by the man who bears the name of a coin, Angel, whose 'metal/mettle' had the great figure of the Duke 'stamp'd upon it' (1.1.49–50) before it was tested. The stamp Juliet receives is also precipitous, for Claudio impregnates or imprints her with 'too gross' charactering before their union has been fully legitimized (1.2.154).

Counterfeit coining, like usury, is frequently associated with sodomitic sex.⁵⁴ Imprints can be made on both sides of the body, *verso* as well as *recto*, just as they can on both sides of page or a coin. Jove lavishly drops his seminal coins on the right or front side of Danae but on the inverse or backside of Ganymede, another *page*. Ganymede, in Henry Peacham's emblem book (1612), is emblemized as both sodomite and counterfeiter, guilty, says the gloss, of the 'crime of false coin', a sexual and economic violation.⁵⁵ It is he himself who is the counterfeit coin, an example of base metal stamped with the image of the Olympian king, circulating among numismatic nobles, sovereigns, crowns, and royals. But he is base metal too because pressed on the backside or bottom, struck from behind.⁵⁶ Social and anatomical inversions both run counter to nature and are therefore unproductive of either progeny

or profit. The association between sodomy and counterfeiting unfolds in the surprising etymology of the term 'queer' used from the seventeenth century as a cant term for counterfeit money ('queer money'), before centuries later it was applied to aberrant sex.⁵⁷

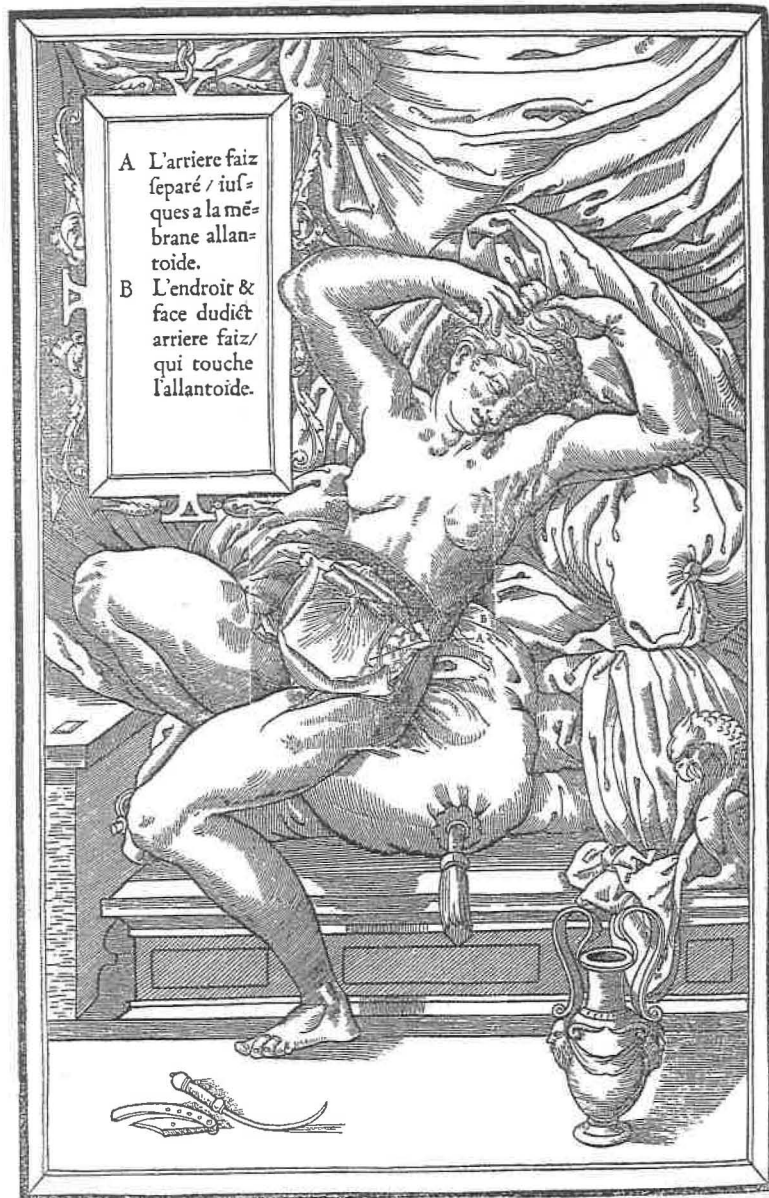
The sexual and mechanical interconnections so prevalent in the period's semantics can also be traced in its graphic representations. In Figures 1.1 and 1.2 for example, the womb is represented before and after conception: first as *tabula rasa* and then as emblazoned seal. The woodcut of the woman is a reworking of a reclining Venus, with an important modification: a rectangle around the abdominal wall has been left open, to be filled in with a woodblock of the gynecological section. This *factotem* was a labour-saving device, enabling the printer to use the same model in illustrating different views of the womb. But it was a device, too, that in the printer's hand graphically enacted the generational trope of male imprinting female. Two independent woodblocks have been impressed on the womb of the female models: of a blank heraldic crest on Figure 1.1 and of a monogrammatic foetus on Figure 1.2. The foetus looks like an insignia, incised on the flat abdominal wall, not unlike the letters cut into the stone plinth beneath the woman's crotch. The figural foetus has been imprinted by the male into the material body of the female, whose womb here serves to showcase the little pictograph. Inception is clearly the formative moment rather than gestation. The foetus from the start is full formed and independent of the womb which provides it only with temporary lodging, like the loggia enclosing the spectacled male in the upper left corner.

In generation as well as in education, the two types of conceptual powers (mental and corporeal) could become confused. As the pupil's body could be impressed as well as his mind, so too the woman's mind could be impressed as well as her body; and simultaneously, though not necessarily by the same male. In a mid-seventeenth century collection of questions and answers attributed to Aristotle, the question arises:

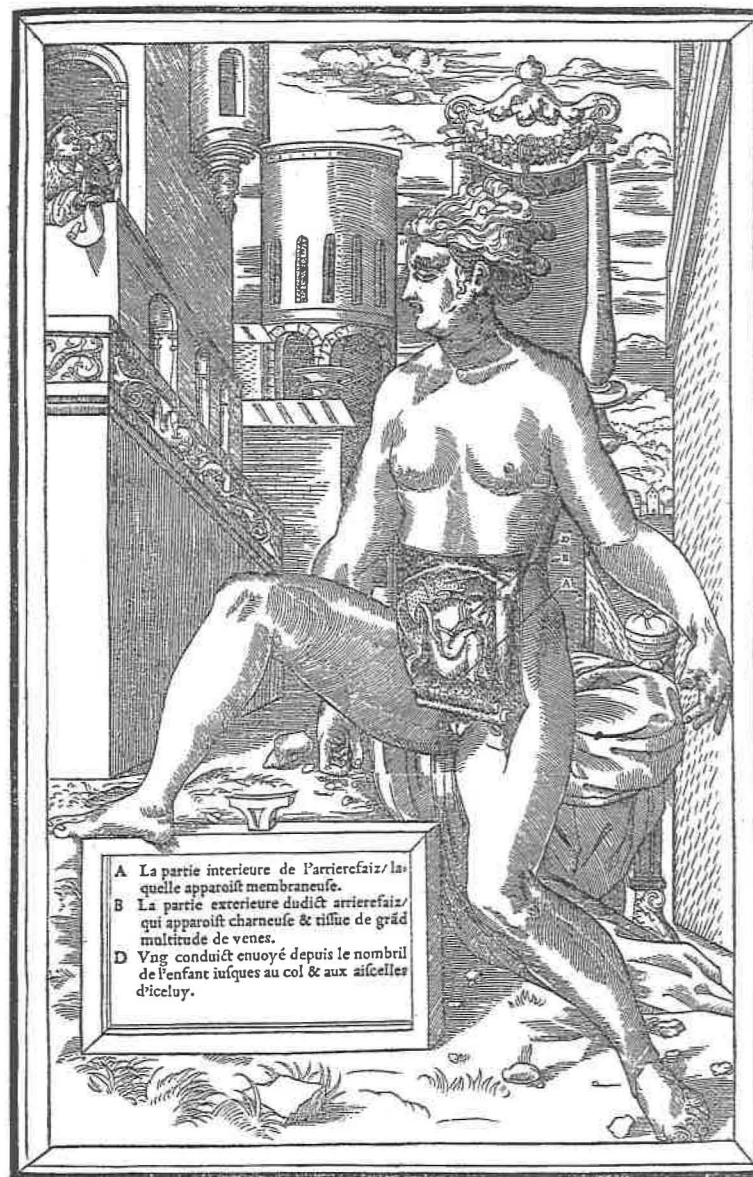
Wherefore doth the imagination of the mother, which *imagineth* of an Ethiopian or Blackmore, cause the mother to bring forth a black child, as Alberus Magnus reporteth of a Queen, who in the act of carnal copulation *imagined* of a Blackmore which was painted before her, and so brought forth a Moor?⁵⁸

And the philosopher responds that in this instance 'the childe born followeth her imagination, and not his power of forming and shaping'. The picture of the Moor pre-empts the imprint of the father, the ocular impression subverts the venereal. The reverse happens in *Titus Andronicus*: white overshadows black – not in Aaron's child who bears his father's black stamp, but in his kinsman Mulietus's child who is fair enough to pass for the Emperor's heir.

Imprinting metaphors surface repeatedly around issues of virginity and chastity, rape and adultery. Editors explain in glossing Malvolio's exclamation



1.1 Female figure 1; C. Estienne, *La Disséction des parties du corps humain* (1546), by permission of The British Library



1.2 Female figure 2; C. Estienne, *La Disséction des parties du corps humain* (1546), by permission of The British Library

upon breaking the seal of the letter he believes from Olivia – ‘By your leave wax. Soft! And the Impresure, her Lucrece with which she uses to seal’ (*Twelfth Night*, 2.4.93) – that Lucrece must have been engraved on Olivia’s seal. To stop there is to miss the ugly joke. Women are sealed in two states: virginity and chastity. The hymenal seal is broken in marriage; the marital seal is broken by either rape or adultery. *Lucrece’s* very name connects her to this sealing process, for it suggests two types of *creases*. There are epistolary creases like those made by Lucrece herself in the letter she sends her husband, folded (line 1311) and sealed (line 1331).⁵⁹ And there are labial creases, like those of Lucrece’s ‘sweet lips fold’ and those of their vaginal counterparts; the one seals with kisses, the other by sexual consummation, both ideally conjugal. The raped Lucrece is like a letter whose seal has been tampered with – and she imagines that one violated seal will be as detectable as the other. The two seals also overlap in *King Lear*: Edgar’s bold ripping of Goneril’s epistolary seal – ‘Leave, gentle wax’ (4.4.256) – is warranted by its contents: proof of her adulterous breaking of the sacramental seal. One broken seal deserves another. The reverse happens in *The Winter’s Tale*. Leontes receives a letter from Delphos, has his messengers swear they ‘have not dared to break the holy seal’ (3.2.128), and after breaking it himself reads that his wife’s seal (that is, *his* seal on her) was also never violated, ‘Hermione is chaste’ (line 131).

Violated chastity and adulterous fornication lead to questions of bastardy and paternity, and once again to imprinting devices. Leontes strains to see himself in his son Mamillius just as he begins to doubt his paternity. He looks at him for a miniature portrait of himself, the only possible confirmation besides women’s suspect words. He refuses to see such signs in the daughter he has convinced himself he did not sire, though Paulina insists she is ‘Copy of the father’ – her features, like so many incisions and recesses in an incised surface, duplicating her father’s: ‘The trick of’s *frown*; his forehead; nay, the *valley*, / The pretty *dimples* of his chin and cheek, his *smiles*’ (*The Winter’s Tale*, 2.3.100–103; my italics). What Leontes doubts in his own children, he recognizes immediately in Polixenes’s son: ‘Your mother was most true to wedlock, *prince*, / For she did *print* your *royal* father off, / Conceiving you’ (5.1.123–5). The trope is from both coining and printing, for a *royal* is both a coin and a size of printing paper (as well as the books made from it: royal octavo, royal quarto, etc.). The *prince* is like both a numismatic and bibliographic *print* of his royal father.

IV Mechanics

As the examples from Shakespeare have demonstrated, the mechanics of the imprint – of seal, stamp, coin, or woodblock – worked itself into the semantics of the period, wending its way through discourses beyond the

literary, into pedagogy, anatomy, law, and finance. But it was not simply that these reproductive machines generated reproductive metaphors. Reproductive metaphors structured reproductive machines, at least one machine: that huge, epochal, imprinting machine – *the printing press*. The press is after all a machine which, like the seal, makes impressions. Or rather it is an aggregate of seals or signets: so many typebodies to be set and locked into a chase and pressed mechanically to produce an imprint, on absorbent paper instead of malleable wax.⁶⁰

The astonishing thing about this machine was the degree to which it materialized or mechanized the metaphors of the signet and wax. It was made and made to function as a generational or reproductive system: made up of sexualized parts, it performed virtual copulative acts. It is not just that textual reproduction shared with sexual reproduction a vocabulary of generating issue, propagating copy, like begetting like. It materialized and mechanized that vocabulary.

Both the text and diagrams of the earliest full description that we have of the construction and workings of the printing press, Joseph Moxon’s *The Mechanick Exercises on the Whole Art of Printing* (1683–84), suggest the extent to which the printing press was constructed as a sexually gendered generational apparatus. The various pieces of equipment – the chase, the mold, the dressing block, the ribs of the press itself – were held together by gendered pieces: ‘*Male-Duftails* are fitted into *Female-Duftails*’;⁶¹ ‘The *Female Block* is such another *Block* as the *Male Block*, only, instead of a *Tongue* running through he length of it, a *Groove* is made to receive the *Tongue* of the *Male-Block*’;⁶² ‘The Office of the *Male-Gage* is to fit into, and slides along the *Female-Gage*’;⁶³ ‘*Male-screw* is fitted into a square *Nut* with a *Female-screw* in it’.⁶⁴ These mechanical pairs – the male and female duftails, blocks, gages, and screws – are the mechanical counterparts to Galen’s sexual organs. According to his model, there was basically one sex: the female reproductive system was simply an inverted, interior, and inferior version of the male, as numerous anatomical drawings attest (Figure 1.3).⁶⁵ That the one-sex model should have endured so long, from the fourth century BC to the Enlightenment, and despite mounting empirical refutations, is hard to explain.⁶⁶ But surely its holding power had something to do with its power to hold: the best way of holding objects and bodies together – of joining wood and coupling bodies – is the mechanics (and erotics) of the plug and the hole.⁶⁷

Put together with copulating parts, the press operated when the force of the press and the press-man bore down on the forme (smeared with viscous oil-based ink) to imprint the absorbent and retentive page. Called a ‘horse’ and later a ‘bear’, the press-man must have been Falstaffian in his corpulence, and so he appears in a late sixteenth-century engraving of the printing-house (see Figure 1.7). Of course, all presses – wine presses, olive presses, paper presses – might be said to suggest the same sexual act of ‘bearing down’. The press

of the printing press was unique, however, in that it applied not just pressure but a figure of some kind: an imprint. So too did all reproductive apparatuses, from the signet on wax, to the stamp on coin, to the woodblock on paper and textiles. All these techniques involved, like the act of copulation itself, inverse commensurate parts, either in relief or *intaglio*, raised or sunken, the reproduced image an inside-out version of the reproduced original: 'what is inside women, likewise sticks out in males'.⁶⁸

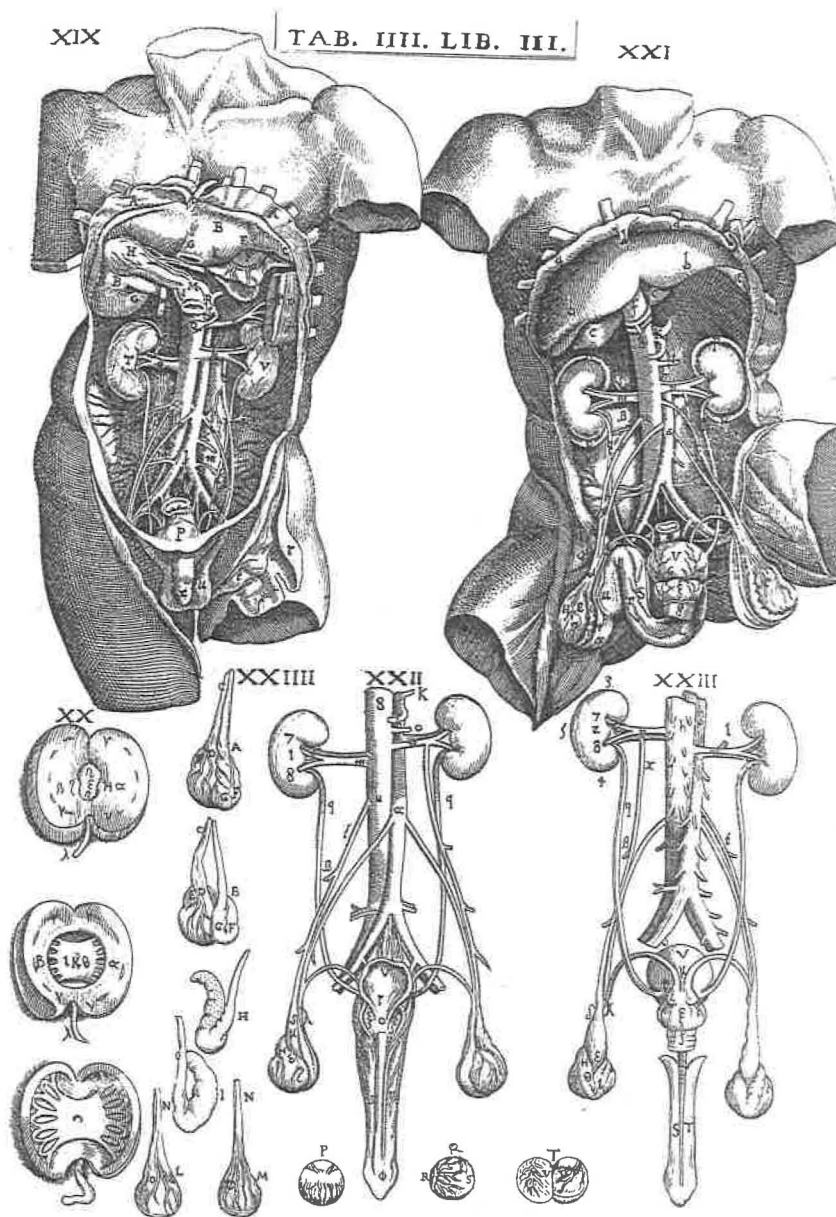
The feature that distinguished the printing press from all other modes of reproduction – movable type – was made by a process that also required gendered conjoining. The process began with a punch or patrix – a sleek tapered metal shank (of about 1 3/4 inches) with letters or ciphers on its tip. The patrix or punch was 'sunk into' a soft piece of wood called a *matrix*. (A question arises, 'viz. How deep the *Punches* [or patrices] are to be Sunk into the *Matrices*?' The answer is 'a thick space deep, though deeper to an n would be yet better'.⁶⁹) It was this process that most closely resembled the imprinting of signet and wax, as the earliest French handbook (1567) on print specified: 'la matrice ... n'est autre chose que l'impression du caractere frappé, non plus ne moins que quand on margue un cachet dedans la cire'.⁷⁰ Molten metal was then poured into and impacted against the matrix in order that a sharply defined letter would be produced. In a 1587 engraving based on an earlier painting, Gutenberg is depicted holding the patrix or punch for the letter A in his right hand that has been struck into the matrix or mould he holds in his left (Figure 1.4).

From this coupling of imprinting patrix and imprinted matrix letters were formed. They were removed from the mould and 'dressed' with great care, even tenderness:

the type dresser goes as near the Light as he can with the *Letters* ... and examines what *Letters Come not well* either in the Face or shanck Then with the *Balls* of the fingers of both his Hands, he *Patts gently* upon the *Feet* of the *Letter*, to press all their *Faces* down upon the *Tongue*; which having done, he takes the *Mallet* in his right-Hand, and with it knocks gently Then with a small piece of *Buff* or some other soft *Leather*, he rubs a little upon the *Feet* of the *Letter* to smooth them.⁷¹

The letters were treated like newborns. And indeed they do look astonishingly humanoid, with human anatomies: a body (stem of metal) standing on 'feet' with 'shoulders' supporting a face whose physiognomy is literally its character, a legible face (Figure 1.5). The anthropomorphic quality of typebodies has not gone unremarked:

For purposes of nomenclature typesetters and printers have always regarded the single movable type character as a human being standing erect, each type having a body, a face, beard, neck, shoulder, back, belly, and feet. These parts fall into three divisions: the shank, the shoulder, and the face; the shoulder and shank together comprising the body.⁷²



1.3 Organs of generation; A. Vesalius, *Vivae imagines partium corporis humani* (1566), copyright British Museum



1.4 Gutenberg with punch; A. Thevet, *Vies et portraits des hommes illustres* (1587), by permission of The British Library

As the mechanical letter has face and body, so too the anatomical man has letters: in Geoffrey Tory's anatomy, 'L'homme lettré' (Figure 1.6 is 'insinuées et intimées'⁷³) with the 23 letters of the Attic (Roman) alphabet, programmed for virtuous words and deeds.

Issuing from copulative mechanical exercise, letters could themselves be quite sexy, as they are in sixteenth-century embodied alphabets in which the body of the letter is represented by lusty human bodies in seductive poses and erotic positions, intended to inspire a love of letters.⁷⁴ And their inseminating power was suggested by the name of the receptacle in which they were held when not in use, (upper and lower) *cases*⁷⁵ (Figure 1.7 left), the same name given the seed-carrying scrotum and uterus, which also possessed upper and lower cases.⁷⁶ It is because the letters have such anthropomorphic traits and drives that the Star Chamber orders that offending presses and letters be 'defaced', 'battered', and 'broken'.⁷⁷ (Greg, 1930, pp. 161, 240, 243). Once dismembered, its broken parts are returned, like the scattered bones of a saint. A *male* saint, it must be emphasized, for the imprinting type-bodies, true to Aristotle, were decidedly male, each one possessing that determining marker of masculinity – a beard.⁷⁸

Like the letter, the printing-house was gendered male.⁷⁹ The printers' guild, the Brothers of the Stationers' Company, was unusual in excluding female apprentices.⁸⁰ This cannot have been because of the physical and messy nature of printers' work, for female apprentices were routinely admitted in the early modern centuries to such 'unfeminine' crafts as wheel-wrighting, masonry, and blacksmithing.⁸¹ It was not until 1666, however, that the first girl was indentured to the Stationers' guild.⁸² It is true that printers' widows not uncommonly became members of the Company in the sixteenth century. However, that remarriage outside the Company entailed the forfeiture of membership⁸³ suggests that it was conferred upon them not in their own right but as surrogates for their deceased husbands. Even as late as the nineteenth century, with the large influx of women into the printing industry, they were mainly barred from print-making machine and type and assigned to the manufacturing and stitching of print-taking pages.⁸⁴ Nor was this assignment any more than their original exclusion dictated by biological difference, for, if anything, women's smaller hands were better suited for the nimble work required by type-setting.

A curious female counterpart to the masculinist printing-house can be found in the birthing-place (Figure 1.8). Until midwives' hands were replaced by man-midwives' forceps, the delivery of children was an exclusively female occupation.⁸⁵ As recent studies have shown, women in seventeenth-century London received their training as midwives through an apprenticeship system made up only of women; so too, the licences and testimonials required for practising were obtained through a female network.⁸⁶ The mutual exclusivity

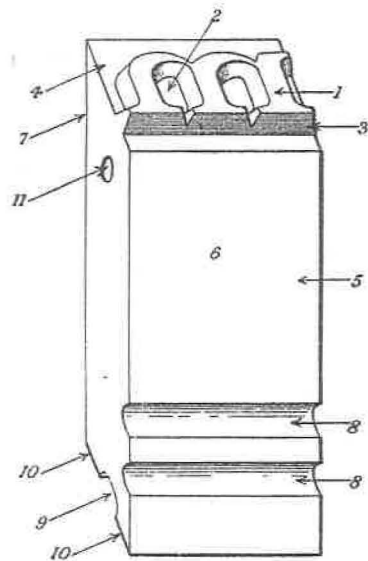


FIG. 3.—Isometric view of type. (2½ times full size.)

1. The face.
2. The counter.
3. The neck (or beard).
4. The shoulder.
5. The stem or shank.
6. The front.
7. The back.
8. The nicks.
9. The heel-nick or groove.
10. The feet.
11. The pin-mark or drag.

FIG. 2.—Isometric view of type as usually cast before and after breaking off the tang.

1. The dot.
2. The tang.
3. The body.
4. The nick.
5. The face.

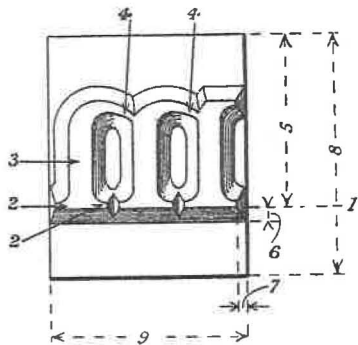


FIG. 4.—Plan of type. (2½ times full size.)

1. The line.
2. Serifs.
3. Main-stroke.
4. Hair-line.
5. Line-to-back.
6. Beard.
7. Side-wall.
8. Body.
9. Set.

The body-wise dimension of the face is called the gauge.

1.5 Diagram of type; L.A. Legros and J.C. Grant, *Typographical Typing Surfaces* (1916)

LE SECOND LIVRE.

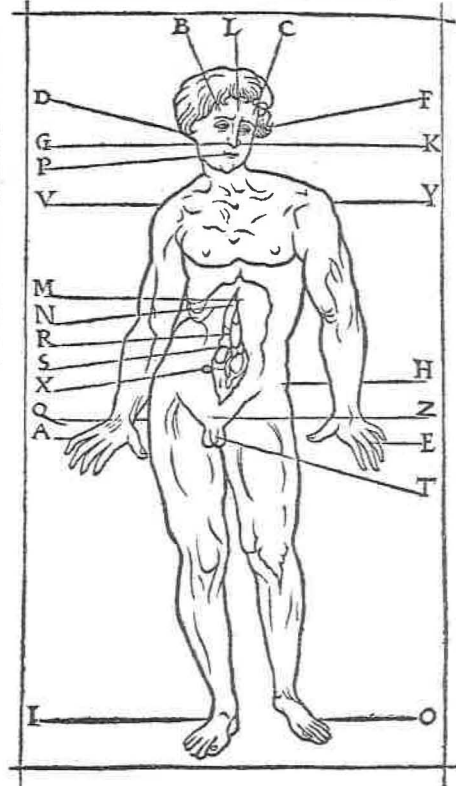
L'HOMME LETRE,

L'homme me lettre

ON peut voir en la presente figure com māt lenōbre des. XXIII. lettres Attiques accorde, comme iay dit, aux membres & lieux pl^s nobles du corps humain, & non sans cause, Car noz bons peres Anciēns on este si vertueux en leurs speculations quilz ont voulu secretement entēdre que lhōme parfait est celluy en qui les bōnes lettres & sciences sont insinuees & itimees si biē que tous endroictz & moues mēs de son corps est garny du bon mot q̄ Cicero au XXXV. Chapitre du premier liure de ses Offices, & au cōmancement De Oratore Ad Brutū, dict & appelle en Grec, Περσόν. & en Latī Decorū, qui vault autant a dire en nostre langage Francois decēt & cōuenable en toutes les actions, & cōsequēment en tous les faictz & dits hōme vertueux.

Cicero,

Περσόν. Decorū,



Avant que ie face laustre portraict que iay promis ie veulx cy bailler par escript toutes les lettres ainsi quelles se doivent appliquer aux neuf Muses & leur sequelle, & aux dits lieux plus notables du corps humain, afin que plus facilement on puisse voir & cognoistre leur bon accord ensemble. Celluy accord est tel qui sensuyt,

- Belle speculation, & notable,
- B. Vrania. L'oeil dextre.
 - C. Calliope. L'oeil senestre.
 - D. Polymnia. L'oreille dextre.
 - F. Melpomene. L'oreille senestre.
 - G. Clio. La narine dextre.
 - K. Erato. La narine senestre.
 - P. Terpsicore. La bouche.
 - Q. Euterpe. Le lieu pour decharger le ventre.
 - T. Thalia. Le membre naturel a yriner.

1.6 Lettered man; G. Tory, *Champ Fleury* (1529), by permission of The British Library



1.7 Printing-house; J. van der Straet, *Nova reperta* (1600), copyright British Museum



1.8 Birthing-place; L. Dolce, *Transformationi d'Ovido* (1555), by permission of The British Library

of the two sites upheld the gendered binaries of signet and wax: the printing-house doing the printing of the notional figural signet, the birthing-lace doing the receiving of the corporeal material wax. The belief that the two reproductive processes were incompatible also kept the realms discrete. There is evidence in French printing shops of fear lest menstruating women ruin metal machinery, 'rust iron and brass, dull cutting instruments, jeopardize already hazardous process of casting, and the like'.⁸⁷ In England generally, midwives called on the assistance of male surgeons only if the foetus or mother or both had died.⁸⁸ In this deeply entrenched division of labour, the gendered binaries of the signet and wax still prevail, directing not only ideas and metaphors but machines, customs and institutions.

This essay has discussed how imprinting devices – seal, stamp, coin, and woodblock – have been used to represent the workings of the mind and body. From ancient times, reproductive mechanisms, particularly the signet and wax, have provided a model for reproductive bodies and minds – for the conception and generation of ideas and children. In the early modern period, these connections were elaborated and extended through a complex semantic circuitry, traceable in Shakespeare's language as well as in several contemporary discursive sites and practices. Yet the transposition between the mechanical and human worked in more than one direction: not only from machine to man to mechanized man, but also from man to machine to humanized machine – as the example of the printing press suggests. With its anthropomorphic reproductive parts and processes, the copying machine was a kind of copulating body.

A copulating body *with a difference*, that is, and not just in size or capacity. The difference pertained to the imprint-making mechanism itself: uniform in all other imprinting apparatuses, it was multiform in the press. A signet or stamp could produce only one insignia; the forme of the press, however, made up of variable and movable letters, could produce a virtually infinite number of impressions. Even in the course of a single working day, the forme was assembled and disassembled, often repeatedly. On a bad day, letters might even spill out onto the floor (and the compositor would be fined for each one dropped). It may be quite misleading, then, to assume that *fixity* was the printing press's great effect on Western culture. The innovation was, after all, *movable* type. While perhaps more fixed than *cursive* script, it was certainly less stable than *stamp*, *block*, or *signet*.

The movable imprint of the press made for a more efficient and flexible reproductive technology, to be sure. But what happened to the epistemic and genetic theories that once conformed with the fixed imprint of the signet? Were knowledge and generation imagined differently? Was the new mechanics of the press attended by transformations in how thought and sex were construed?

It is fair to raise such huge questions at the end of this study only because it may well be that recent Shakespeare studies have been in the process of

anticipating answers. Textual scholars are no longer tyrannized by the Fixity of Print, the assumption that typography worked to standardize, regularize, and stabilize texts. It is generally recognized now that malleability and provisionality characterize the Shakespearean text to such a degree that it is not clear whether certain texts should be regarded as single or multiple.⁸⁹ As our sense of what kind of textual imprints the early modern press produced has changed, so may have our assumptions about knowledge and sexuality. We are skeptical of claims like Hamlet's that plays constitute 'the very form and pressure' of the age (3.2.24). The discursive complexes in which the plays are enmeshed are mimetic of no prior and independent reality, historical or empirical. Nor is the binary model of imprinting male and imprinted female any longer adequate for plays that are now seen to stage a range of polymorphous fits and mis-fits. In approaching body, mind, and text, Shakespeare studies appear to be dispensing with the binaries once mechanized by the signet and wax. It may be that the combinatorial possibilities of movable type on page are more in line with our present expectations, as we ourselves move from one form of reproductive technology to another.

Notes

- 1 I wish to acknowledge my indebtedness to Neil Hertz's consideration of the practical, conceptual and mystical importance of wax. 'Dr. Johnson's Forgetfulness, Descartes' Piece of Wax', *Eighteenth Century Life* 16.3 (1992): 167–81. I must also thank Peter Stallybrass for showing me Hertz's essay as well as for his encouragement from start to finish.
- 2 Descartes, *The Philosophical Writings of Descartes*, 3 vols, eds J. Cottingham, R. Stoothoff, and D. Murdoch (Cambridge: Cambridge University Press, 1993), v2, p. 20.
- 3 On Descartes' wax and the topos of mutability, see J. Hollander, *Melodious Guile: Fictive Patterns in Poetic Language* (New Haven: Yale University Press, 1988), pp. 217–19.
- 4 Descartes, *Philosophical*, p. 20.
- 5 Hertz, 'Dr. Johnson's Forgetfulness', p. 175.
- 6 Descartes, *Philosophical*, p. viii.
- 7 For a demonstration of how poundage of wax correlates with volume of letters, see the conclusions drawn from the documented increase in the use of wax (from 3.63 pounds to 31.9 pounds) in Chancery over a 50 year stretch in Henry III's reign, in M.T. Clanchy, *From Memory to Written Record: England, 1066–1307* (London: Edward Arnold, 1979), pp. 45–6.
- 8 Plato, *Theaetetus*, trans. R. Waterfield (Harmondsworth: Penguin, 1988), p. 99.
- 9 R.H. Rouse and M.A. Rouse, 'The Vocabulary of Wax Tablets', *Harvard Library Bulletin* 1 (1990): 1–13.
- 10 Plato, *Theaetetus*, p. 100.
- 11 Plato, *Theaetetus*, pp. 104–5. In Plato's *Phaedrus*, Socrates draws on the same image of the imprint to describe knowledge as recollection. Here, however, the

- imprints come not from the outside through time, but reside inwardly from birth – imprints of ‘absolutes’ like equality, beauty, goodness, and justice. See Plato’s *Phaedrus*, in *The Dialogues of Plato*, trans. B. Jowett (Oxford: The Clarendon Press, Oxford University Press, 1953), 7SD.
- 12 Aristotle, *De anima*, trans. H. Lawson-Trancred (Harmondsworth: Penguin, 1986), p. 187.
 - 13 Aristotle, ‘On Memory and Recollection’, in *On the Soul, Parva naturalia, On Breath*, trans. W.S. Hert (London: Heinemann, 1935), p. 287.
 - 14 Frances Yates, *The Art of Memory* (London: Pimlico, 1994), pp. 49–50.
 - 15 Descartes, *Philosophical*, p. 40.
 - 16 For a physiological description of this phenomenon, see the description and diagram of how impressions on the eye refigure themselves on the brain, in his *The World and Treatise on Man* (1629–33) (Descartes, *Philosophical*, p. 105). See also his description of the eye of a dead ox, ‘Optics’, in *Discourse and Essays* (c. 1630) (Descartes, *Philosophical*, p. 167).
 - 17 Descartes, *Philosophical*, p. 41.
 - 18 Descartes, *Philosophical*, p. 40.
 - 19 Descartes, *Philosophical*, p. 42.
 - 20 Descartes, *Philosophical*, p. 232. In the same letter, Descartes compares the brain to paper as well as wax; and as wax is without signet, so paper is without pen. Folds in the paper take the place of any stamp or script (p. 233). He draws the same analogy in his letter of 29 January 1640: ‘As for the impressions preserved in the memory, I imagine they are not unlike the folds which remain in this paper after it has once been folded; and so I think they are received for the most part in the whole substance of the brain’ (p. 143). On Descartes’s punning on his own name, ‘the Greek word for paper’, see J. Nancy, ‘Dum Scribo’, *Oxford Literary Review* 3 (1978): 6–20.
 - 21 Descartes, *Philosophical*, p. 35.
 - 22 On the theory that the foetus at fertilization was complete in miniature (preformation) and on the countervailing theory that the parts and organs developed sequentially (epigenesis), see P. Bowler, ‘Preformation and Pre-existence in the Seventeenth Century: A Brief Analysis’, *Journal of the History of Biology* 4 (1971), pp. 221–44.
 - 23 The signet/wax apparatus makes a comeback in this century, however, both in Freud’s identification of the psyche with the modern day wax tablet – the mystic pad – and with Derrida’s critique of that identification, in ‘Freud and the Scene of Writing’ in *Writing and Difference* trans. Alan Bass (Chicago: University of Chicago Press, 1978) pp. 196–231. Both writers are fully aware of the tradition behind their discussions, Freud announcing ‘a return to the ancient method of writing upon tablets of clay or wax’ (quoted by Derrida, p. 223) and Derrida noting, ‘From Plato and Aristotle scriptural images have regularly been used to illustrate the relationship between reason and experience, perception and memory’ (p. 199).
 - 24 Plato, *Theaetetus*, pp. 25–9.
 - 25 Plato, *Theaetetus*, p. 27.
 - 26 Plato, *Symposium*, trans. A. Nehamas and P. Woodruff (Indianapolis: Hackett Publishing Company, 1989), p xxiii, 177D.
 - 27 Plato, *Symposium*, pp. xiv–xv.
 - 28 On the Galenic one-sex model (in which female sexual parts were construed as the interiorized inversion of male), see Thomas Laqueur, *Making Sex: Body and Gender from the Greeks to Freud* (Cambridge: Harvard University Press, 1990), esp. pp. 32–5.

- 29 Laqueur, *Making Sex*, p. 30.
- 30 Descartes, *Philosophical*, p. 35.
- 31 Descartes, *Philosophical*, p. 321.
- 32 For a discussion of Descartes’s theories of generation in the context of seventeenth-century theories of preformation and epigenesis, see D. Fouke, ‘Mechanical and Organical Models in Seventeenth-Century Explanations of Biological Reproduction’, *Science in Context* 3:2 (1975): 366–88. I wish to thank Karen Newman for showing me before publication her invaluable genealogy of generation, ‘Fetal Positions: An Essay on Individualism’, *Science and Visuality* (Stanford: Stanford University Press, 1996).
- 33 Descartes, *Philosophical*, p. 322.
- 34 Descartes, *Philosophical*, p. 322.
- 35 In Book II of *Paradise Lost*, Milton solves the doctrinal crux of how original sin entered the world by drawing on both forms of Cartesian conception: innate ideas and epigenetic birth. Sin emerges not from any outside stimulus, neither Creation or Creator, but automatically – from Satan’s own brain, its conception of sin simultaneously a sinful thought and a child named Sin (lines 747–61).
- 36 Descartes, *Philosophical*, p. 23.
- 37 I have benefited in this section from Ann Thompson and John O. Thompson’s discussion of Shakespeare’s use of printing, stamping and coining metaphors in relation to issues of gender difference, generation, and legitimacy in this volume
- 38 See my *Shakespeare Verbatim: The Reproduction of Authenticity and the 1790 Apparatus* (Oxford: Clarendon Press, 1991).
- 39 H.O. White, *Plagiarism and Imitation During the English Renaissance. A Study of Critical Distinctions* (Cambridge: Harvard University Press, 1935), p. 16.
- 40 On the monarch’s use of the signet, Privy Seal, land Great Seal, and their eventual preemption by the monarch’s signature or ‘sign manual’, see Jonathan Goldberg, *Writing Matter: From the Hands of the English Renaissance* (Stanford: Stanford University Press, 1990), pp. 260–63.
- 41 Shakespeare, *The Sonnets and a Lover’s Complaint*, ed. J. Kerrigan (Harmondsworth: Penguin Books, 1986), p. 11.
- 42 See my ‘The Scandal of Shakespeare’s Sonnets’, *Shakespeare Survey* 46 (1994), pp. 35–49; p. 46.
- 43 J. Brinsley, *Ludus literarius: or, the Grammar Schoole* (1612), facs. rpt (Menston: Scholar Press, 1964), p. 32.
- 44 See D. Everden, ‘Mothers and Midwives in Seventeenth-Century London’, in *The Art of Midwifery* ed. Hilary Marland (London: Routledge, 1993).
- 45 T. Whythorne, *The Autobiography*, ed. J. Osborne (Oxford: Oxford University Press, 1962), p. 7.
- 46 On the various forms of copying prescribed by humanist pedagogy, see Jonathan Goldberg’s chapter ‘Copies’ in *Writing Matter*, pp. 111–69; for a discussion of the importance of various mimetic practices in Tudor education, see Richard Halpern, *The Poetics of Primitive Accumulation: English Renaissance Culture and the Genealogy of Capital* (Ithaca: Cornell University Press, 1991), pp. 19–60.
- 47 Rouse and Rouse, ‘Vocabulary’.
- 48 Goldberg, *Writing Matter*, pp. 159–60; ‘Hamlet’s Hand’, *Shakespeare Quarterly* 39:3 (1988): 307–27; 316.
- 49 On the circulation of folio and boy pages, especially among pederastically inclined pedants and pedagogues, see E. Pittinger, ‘Dispatch Quickly: The Mechanical Reproduction of Pages’, *Shakespeare Quarterly* 42, pp. 389–409. On Nashe’s

- punning use of *page* in *The Unfortunate Traveller*, see J.V. Crewe, *Unredeemed Rhetoric: Thomas Nashe and the Scandal of Authorship* (Baltimore: Johns Hopkins University Press, 1982), pp. 69–73. On the male author's identifications with the *pages* of his publications, see Wendy Wall, *The Imprint of Gender* (Ithaca: Cornell University Press, 1993), pp. 1–2.
- 50 'Hal's Desire, Shakespeare's Idaho', in *Henry IV Part One and Two*, ed. Nigel Wood (Buckingham: Open University Press, 1995), pp. 56–7.
- 51 There is some suggestion that the blubbery Falstaff – called 'tallow' (1 *Henry IV*, 2.4.111), 'greasy tallow-catch' (line 228) and likened to 'a candle, the better part burnt out,' 'a wassail candle ... all tallow' (2 *Henry IV*, 3.3.79–80, 84) might be considered in this context. For a discussion of Falstaff's effeminacy, see Valerie Traub, *Desire and Anxiety: Circulations of Sexuality in Shakespearean Drama* (New York: Routledge, 1992), pp. 50–70, p. 155, n. 19.
- 52 Halpern, *Poetics*, p. 26.
- 53 I wish to thank Albert Braunmuller for pointing out to me that women did not receive benefit of clergy until the end of the century.
- 54 The connection between sodomy and counterfeiting is the subject of William Fisher's essay, 'Queer Money', and I wish to thank him for sharing it before publication.
- 55 H. Peacham, *Minerva Britanna, or a Garden of Historical Devices*, London (1612). I am grateful to William Fisher for this reference.
- 56 S.K. Fischer, *Econolingua: A Glossary of Coins and Economic Language in Renaissance Drama* (Newark: University of Delaware Press, 1985), p. 95.
- 57 Fisher, 'Queer Money', *ELH* 66 (1999): 1–23;
- 58 Aristotle, *The Problems of Aristotle, with Other Philosophers, and Physicians: Wherein are Contained Divers Questions with their Answers, Touching the Estate of Mans Bodie*.
- 59 On the poem's 'postal circuit', see, Joel Fineman, *The Subjectivity Effect in Western Literary Tradition: Essays Toward the Release of Shakespeare's Will* (Cambridge, MA: MIT Press, 1991), pp. 195–200; on Lucrece and the humanist project of textual purification, see Stephen Jed, *Chaste Thinking: The Rape of Lucretia and the Birth of Humanism* (Bloomington: Indiana University Press, 1989); and on her relation to the 'stigma of print', see Wall, *Imprint of Gender*, pp. 214–20.
- 60 For the similarity between the two technologies, see M.T. Clanchy, *From Memory to Written Record: England 1066–1307* (London: Edward Arnold, 1979), p. 160. It should be noted, however, that the letters of the press are in relief whereas the figure of the signet is recessed.
- 61 Moxon, *Mechanick Exercises on the Whole Art of Printing* (1683–84), ed. Herbert David and Harry Carter (London: Oxford University Press, 1978), p. 43.
- 62 Moxon, *Mechanick Exercises*, p. 181.
- 63 Moxon, *Mechanick Exercises*, p. 140.
- 64 Moxon, *Mechanick Exercises*, p. 72.
- 65 Laqueur, *Making Sex*, pp. 32–5, Figures 20–37.
- 66 Laqueur, *Making Sex*, pp. 150–54.
- 67 This is, quite literally, the rude mechanics of Shakespeare's 'rude mechanics' in *A Midsummer Night's Dream*. That it applies to both artisanal and sexual activity is apparent in the very names of the artisans, all of them alluding to the fitting together of inverse parts, sexual and artisanal. Snug the Joiner or Carpenter snugly joins pieces of wood together, like male-duftails and female-duftails. Snout the Tinkerer knows, like all tinkerers, how to stop up holes, his outstanding nose or snout giving

- him a natural advantage; Starveling the Tailor needles his way, thin starveling that he is, into women's garments. 'Peter' Quince finds his way into women's corners or quoins, the metal or wooden shanks used to fill up gaps. And Francis the Bellows Mender, liberally (licentiously) stops the holes in womb-like bellies or bellows. What all these names suggest is the basic phallocentricity of both making things with cloth, metal and wood and making children with bodies: different hardware, but the same mechanical principle of joining and fitting together inverse parts. The only exception is Bottom the Weaver: though his name suggests the right phallic shape of the spool around which the yarn is wound, it is, as his name also suggests, in the wrong erotic position: on the bottom, encircled rather than inserting, as Bottom is when Titania mounts him in the stretch of the play demonstrating topsy-turvy consequences of female domination. On the names and trades of these artisans as well as their erotic counterparts, see Patricia Parker, 'Rude Mechanicals' in *Subject and Object in Renaissance Culture*, eds Margreta de Grazia, Peter Stallybrass, and Margaret Quilligan (Cambridge: Cambridge University Press, 1995), pp. 54–5.
- 68 Laqueur, *Making Sex*, p. 133.
- 69 Moxon, *Mechanick Exercises*, p. 154.
- 70 Christophile Plantin, *La Première, et La Second partie des dialogues francois pour les jennes enfans*, anvers, 1567, p. 236.
- 71 Moxon, *Mechanick Exercises*, pp. 184, 187.
- 72 D. Thomas, *Type for Print* (London: Joseph Whitaker and Sons, 1936), p. 17.
- 73 Geoffrey Tory, *Champ Fleury* (Paris, 1529), p. XXIIIIV.
- 74 Goldberg, *Writing Matter*, pp. 226–8.
- 75 Moxon, *Mechanick Exercises*, pp. 27–32.
- 76 Patricia Parker, *Literary Fat Ladies: Rhetoric, Gender, Property* (New York: Methuen, 1987), pp. 27–31.
- 77 W.W. Greg and Eric Boswell, *Records of the Court of the Stationers' Company, 1576–1602* (London: The Bibliographic Society, 1930), pp. 161, 240, 243.
- 78 I wish to thank Ian Gadd for first telling me about bearded typefaces. Moxon discusses the cutting of beards in *Mechanick Exercises*, pp. 24–5, 188.
- 79 According to C. Cockburn, printing in England has a long history of excluding women from the setting type (*Brothers: Male Dominance and Technological Change* [London: Pluto Press, 1991], esp. p. 154). For similar conclusions about nineteenth- and twentieth-century America, with attention to how definitions of masculinity were repeatedly unsettled by changes in type-setting technologies, see A. Baron, 'Questions of Gender, Deskillling, and Demasculation in the U.S. Printing Industry, 1830–1915', *Gender and History* 1:2 (1989): 178–99. For a full account of women's involvement in printing in the eighteenth century, despite these customary restrictions, see C.J. Mitchell, 'Women in the Eighteenth-Century Book Trades' in *Writers, Books, and Trade*, ed. O.M. Brack, Jr (New York: AMS Press, 1991), pp. 25–75. (My thanks to Simon Stern for showing me this essay.)
- 80 Although his interest is women's apprenticeship in the eighteenth and nineteenth centuries, K.D.M. Snell endorses studies establishing that 'the apprenticeship of girls was an accepted fact' in the earlier centuries (*Annals of the Labouring Poor: Social Change and Agrarian England, 1660–1900* [Cambridge: Cambridge University Press, 1984], pp. 272–6).
- 81 Snell, *Annals*, pp. 274–5.
- 82 Cyprian Blagden, *The Stationers' Company: A History, 1403–1959* (Stanford: Stanford University Press, 1960), p. 162.
- 83 Blagden, *Stationers' Company*, pp. 95, 162.

- 84 Cockburn, *Brothers*, pp. 23–6.
 85 On the invention of the forceps, the replacement of the traditional midwife with men-midwives and the sudden increase in male attendance at childbirth in the eighteenth century, see Hilary Marland, ed., *The Art of Midwifery* (London: Routledge, 1993).
 86 Everden, 'Mothers and Midwives', pp. 9–26.
 87 On the incompatibility of menstrual and technical processes in sixteenth-century France, see Natalie Zemon Davis, 'Women in the Arts Mécaniques', *Lyon et l'Europe, hommes et sociétés: Mélanges d'histoire offerts à Richard Gascon* vol. 1 (Lyon: Presses Universitaires de Lyon, 1980), p. 146.
 88 Audrey Eccles, *Obstetrics and Gynecology in Tudor and Stuart England* (London: Croom Helm, 1982), pp. 109–18.
 89 See my essay, 'The Question of the One and the Many', *Shakespeare Quarterly* 46:2 (1995): 1–7.

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 ed. Douglas A. Brooks, CHAPTER 2 (Ashgate, 2005), 27–58

Meaning, 'Seeing', Printing

Ann Thompson and John O. Thompson

I The Trouble with Imagery

In this essay we consider metaphors drawn from the field of books and printing. They will be explored for their own sake, but also used as a body of examples against which to test the arguments put forward by the philosopher Donald Davidson against there being any such thing as metaphorical meaning.¹

But before assembling some printing metaphors or expounding Davidson, we want to begin by making a few critical points about the notion of 'imagery' still widely used in discussing the figurative in literature. Perhaps our reservations are based on an over-literal view of what speaking of imagery and images implies. But we need to lay out our broad objections at this point, since later we will be asking whether Davidson runs the risk of echoing at a more sophisticated level the mistake we believe to be involved in any treatment of metaphor as imagery.

What is supposed to be going on in a piece of language that is 'rich in imagery'? On the face of it, such language must prompt *mental images* in profusion. The reader is provided with a number of stimuli for the visual imagination. To speak of metaphor as a species of imagery is to claim that it is primarily concerned with the evocation of mental pictures. The best metaphors become those which make one 'see' something, 'picture' something. Similarly, the best vehicles, or the best donor semantic fields,² become those which lend themselves to visualization, and the best readers are those who discover or are taught how to maximize this inner-eye effect in responding to metaphor.

We are not making a very original point when we reply to these assumptions that such an account turns one of the things that *can* happen as the result of encountering a metaphor into metaphor's defining characteristic. An account of mental picture-making as part of the literary reading process would be a very interesting study in its own right. What makes it difficult is the well-known difference between visualizers and non-visualizers: some people report a vastly fuller inner-eye 'accompaniment' to the reading process than others do. It is not at all clear that non-visualizers are greatly disadvantaged when the text before them is a metaphorical one. On the other hand, it is necessary to visualize when reading descriptive prose, such as the leisurely scene setting paragraphs in the novels of Sir Walter Scott, if one is to enter into the experience of reading which makes the most of the text's power. What seems perverse