

Joseph Viscomi, “Blake’s Invention of Illuminated Printing, 1788”

Abstract

William Blake invented a printing technique known as relief etching and used it to print most of his poetry. He called the technique illuminated printing and the poetry illuminated books. Nearly all of his critics believe that the idea for illuminated books preceded the invention of relief etching, that either the idea of text integrated with images on the same page or *Songs of Innocence* actually mocked up on paper was the mother of invention. This essay, however, approaching the question of the technique’s origin from the context of other new print technologies of the day, argues that illuminated poetry was the child and not the mother of invention. There were no “illustrated songs” on hand or even in mind needing a technique by which they could be printed in facsimile. Blake’s idea of publishing himself occurs only after the invention of relief etching, once he sees that he could use his new mode for writing as well as images and both in the same space.

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“1822 W Blakes Original stereotype was 1788 [sic]” is how William Blake signed *The Ghost of Abel*.^[1] His colophon is important to Blake studies not because it dates *The Ghost of Abel*, but because it dates the origin of the technique that he invented and used to print nearly all of his illuminated books—including *The Ghost of Abel*. By 1788, Blake had begun working in a new graphic method in which he etched his design into relief, a method known today as “relief etching.” Using quill pens, brushes, and an “ink” impervious to nitric acid, he executed the design directly on a copper plate, writing text backward and adorning it with images; he then etched the plate in acid to bite the unprotected metal down, thereby leaving the design in printable relief.^[2] He printed impressions in colored inks and often finished them in watercolors and pen and ink. He referred to the method of production as “Illuminated Printing” and to the product as “Illuminated Books.” He never referred to the method as “relief etching,” but he had referred to his relief-etched plates as “type” in *The Chaining of Orc*, an experimental plate signed “Type by / W Blake / 1812” (Essick, *Separate Plates* 91), and as “types” in *Jerusalem* plate 3 (Erdman 145). But the colophon to *Ghost of Abel* is the only instance in which he identifies these kinds of plates as “stereotypes.” And that is troubling, because they are not stereotypes, the invention of which was a major economic development in book production. Stereotypes were solid plates of type-metal cast from standing types and used to print books expected to be reprinted many times. Once cast, they allowed the compositor to redistribute type and saved him from having to reset the type for subsequent issues. Blake’s relief etchings are “stereos” only in the sense that they are a solid body of letters and as such similar in appearance, and this is certainly what John Thomas Smith, in his biography *Nollekins in his Times* (1828), meant when stating that the “poetry” and “marginal subjects of embellishments,” after being etched, “were left as a stereotype” (qtd. in Bentley, *Blake Records* 460, my emphasis).

Readers of Blake learn quickly that illuminated printing—the method he used to make and print his poetry—is important; a comparison of any of Blake’s illuminated texts with their letterpress translation reveals immediately that Blake’s poetry is pictorial, his lettering calligraphic, and that images, coloring, and design contribute significantly to the poem’s meaning and aesthetic experience. His illuminated books do not look like any of the books of his day and are far looser and bolder than illuminated manuscripts, to which they are often compared. Nevertheless, because they are books, referring to the plates as “stereotypes” or grounding their origin in the technologies of *book* production appears reasonable. For example, according to Bentley, “in the 1780s there was much interest in stereotype printing in France and Britain, with inventions in 1784 and 1785 by Franz Ignaz Joseph Hoffmann, Alexander Tilloch, and George Cumberland. Blake probably learned something of these experiments from his friend Cumberland, but there is a tradition that Blake’s own process of relief etching and printing was revealed to him in a vision from his brother” (*Blake Records* 32). Essick notes that “the invention of stereotyping may have provided a further stimulus to Blake’s experiments in printing letters from plates. Stereotyping requires making a mold from standing type, and thus is very different from Blake’s etching procedures; but the resulting plates are remarkably similar in appearance and function” (*Printmaker* 115-16). Placing Blake’s method in the context of stereotyping reveals the similarity in appearance of their products (the basis probably of Blake’s own reference as well as Smith’s), and it highlights the differences in purpose and mode of production, but it does not reveal origin. Such

contextualization cannot because Blake's earliest graphic experiments were exclusively about producing images and not about producing text. To assume, nonetheless, that these early experiments in making printable images reveal Blake's intentions about text is to disconnect what Blake expressed and displayed from what he was thinking. It is to misunderstand what the method *does*, how it came to be, why Blake considered its creation a major event, and, indeed, why it is a major event in print technology.

II

From Smith onward, critics commenting on Blake's illuminated book have misunderstood its origin and Blake's motivation, with the misreading of motivation ensuring a misunderstanding of origin. Critics have inferred motivation or cause from effect, the books themselves, as well as from comments Blake stated in his prospectus of 1793 and, more troubling, from the prices for his books made in letters to Dawson Turner in 1818 and George Cumberland in 1827, rather than from his actual practice leading to the prospectus and his even earlier graphic experiments.

According to Smith, Blake was motivated by the need to save money:

after deeply perplexing himself as to the mode of accomplishing the publication of his illustrated songs, without their being subject to the expense of letter-press, [Blake's] brother Robert stood before him in one of his visionary imaginations, and so decidedly directed him in the way in which he ought to proceed, that he immediately followed his advice, by writing his poetry, and drawing his marginal subjects of embellishments in outline upon the copper-plate . . . so that the outlines were left as a stereotype. . . . The plates in this state were then printed in any tint that he wished, to enable him or Mrs. Blake to colour the marginal figures up by hand in imitation of drawings. (qtd. in Bentley, *Blake Records* 460)

Gilchrist repeats the story, emphasizing the ideas that many of Blake's "illustrated songs," by which Smith and Gilchrist meant *Songs of Innocence*, had been designed or mocked-up as pages, and that in addition to saving money Blake sought a method that would enable him to reproduce what he had already produced without translating it into another code, which is to say, keeping word and image integrated as well as appearing in form and size as originally designed:

By the end of 1788, the first portion of that singularly original and significant series of Poems [*Songs of Innocence*], . . . had been written; and the illustrative designs in color, to which he wedded them in inseparable loveliness, had been executed. . . . He had not the wherewithal to publish on his own account; and though he could be his own engraver, he could scarcely be his own compositor. Long and deeply he meditated. How solve this difficulty with his own industrious hands? How be his *own*printer and publisher? . . . After intently thinking by day and dreaming by night, during long weeks and months, of his cherished object, the image of the vanished pupil and brother at last blended with it. In a vision of the night, the form of Robert stood before him, and revealed the wished-for secret, directing him to the technical mode by which could be produced a facsimile of song and design. (1.69)

Like Smith, Gilchrist believes Blake invented illuminated printing as a means of "imitating" or reproducing illustrated texts in "facsimile." Assuming the existence of "illustrated songs" needing to be reproduced as the *catalyst* for inventing their means of reproduction led modern critics to speculate further: that such facsimile reproduction *required* new technology; that publishers *rejected* Blake's poems, forcing him to publish himself; that Blake rejected publishers to retain full *control* over all stages of production, or to make money and thereby secure his *financial* independence.

Each of these hypotheses regarding Blake's motives for inventing illuminated printing is easily rejected (see chapter 20 of my *Blake and the Idea of the Book*). Refuting their shared premise, however, is quicker and equally effective. Each hypothesis infers cause from effect, assuming that "illustrated songs" existed *before* relief etching and acted as its catalyst. Illuminated poetry, however, was the child and not the mother of invention. There were no "illustrated songs" on hand or even in mind needing a technique by which they could be printed and published in facsimile. On hand, most likely, was the long narrative poem, *Tiriel*, c. 1786–88, a manuscript consisting of fifteen pages of text and twelve illustrations, which is decidedly not an "illustrated song" or text embellished with images. *Tiriel* is an illustrated poem in the conventional sense; the text is written in fair copy and the full-page illustrations are separate and horizontally oriented, a preparatory layout almost certainly meant for letterpress printing, in which text and engraved illustrations are printed separately and the illustrations are inserted either vertically or horizontally and folded in. The idea for using relief etching to print poetry integrated with images arose not out of a pre-existent model but *evolved* out of the method itself. But before showing why and how this is, we need to examine the phrases "Illuminating the Manuscript" and "I would have all the writing Engraved instead of Printed" in Blake's unfinished prose satire, *An Island in the Moon*, c. 1784, which are usually cited to support the idea that Blake was, by that date, "already considering how to combine the engraving of words and drawings on copper, as a means of creating coloured prints of poems which would resemble illuminated manuscripts" (Davis 30).^[3] This interpretation,

however, is a misreading of the first phrase, which is actually "them Illuminating the Manuscript," a phrase that begins the last page abruptly because two or more of the preceding leaves (i.e., four or more pages) were removed, and a misinterpretation of the second's context.

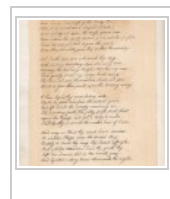
In the satire Blake is the boisterous Quid, one of three "philosophers" and a self-professed cynic. His name refers to money, specifically a pound, and is Latin for "what"—an inquisitive "what?" as well as an exclamatory, disbelieving "what!" He mocks everyone's ambition and vanity, including his own; Suction the Epicurean, also a philosopher, is based on Blake's younger brother Robert, who was seventeen at the time and whom Blake was teaching to be an artist. Quid talks about "them Illuminating the Manuscript," and then says "I would have all the writing Engraved instead of Printed & at every other leaf a high finished print all in three Volumes folio, & sell them a hundred pounds a piece. They would Print off two thousand," to which "she" (Mrs. Gittipin?) responds: "whoever will not have them will be ignorant fools & will not deserve to live" (Erdman 465). Quid does not define "them," the workers responsible for "illuminating the manuscript," nor does he define the "they" who will print off two thousand copies. Earlier in the piece, however, Quid has identified himself as a painter and, possibly, a publisher, with which he is more clearly identified in the "Illuminating the Manuscript" passage.^[4] He says: "If I don't knock them all up next year in the Exhibition Ill be hangd [sic]" (Erdman 455), alluding apparently to the forthcoming Royal Academy Exhibition of April 1785, where Blake exhibited four drawings (Bentley, *Blake Records* 30). And then Quid continues, cryptically, with: "Im hangd if I don't get up to morrow morning by four o clock & work Sir Joshua—Before ten years are at an end said Quid how I will work these poor milk sop devils, an ignorant pack of wretches [sic]" (Erdman 455-6).

Quid is here speaking to the other philosophers, Sipsop and Suction, implying that he is a working man with obligations, sounding, perhaps, not unlike Blake's old master James Basire, in whose house he lived as an apprentice and assistant, no doubt up and at work by dawn and, like printers' "devils," well experienced with a printing house's dirty work that needed to be done. Blake had worked from 1776 to 1779 providing designs and engravings for Basire for Richard Gough's *Sepulchral Monuments of Great Britain*, vol. I, a work not published till 1786 (vol. II was published in 1796). Blake was certainly familiar with working on projects many years in the making and on compositions by famous artists; perhaps "Sir Joshua" refers to a plate after Sir Joshua Reynolds that Quid is engraving (as Basire did of Reynolds' portrait of Lord Camden in 1766), or to Reynolds as an artist for hire—or, what seems more likely given Quid's roles as painter and publisher, to Reynolds demoted to Blake's former apprentice role.

Quid does not define "them" or "they," and with at least four pages missing we may never know their antecedents. But, conceivably, he is referring back to the "devils," those "wretches" who do most of the actual printing work. The sentence may have originally read: "By noon, Ill be hangd if I don't have them illuminating the manuscript." Or, in the conditional, like the sentence that follows ("I *would have* all the writing Engraved"): "By noon, I *would have* them Illuminating the Manuscript." Quid identifies himself as the "I" *having* the "writing engraved" and the "high finished" prints inserted at every other leaf, and not as the engraver or designer. Nor does Quid claim the manuscript as his own. It appears to be one piece in a preposterously elaborate multi-year and multi-volume publishing project that he is directing and which is presumably undertaken by his wretched devils. The process starts with a manuscript that is "illuminated," that is, its initials and titles are gilded in gold.^[5] Much time and effort went into this endeavor—and all of it completely unnecessary and impractical for the purpose at hand, which required only a fair copy manuscript. Perhaps the devils were put to work gilding letters. Equally extreme, unnecessary, and expensive, the text is engraved and lavishly illustrated. Text and illustration, however, remain conventionally separated, unlike works in illuminated printing. Blake, still thinking in terms of conventional book structure, pushes each stage of this variant mode of producing an illustrated book to absurd levels. Perhaps this was how it was done on the Moon.^[6]

As Essick has pointed out, the engraved text mentioned in *Island* alludes to the "New Mode of Printing" that Blake's friend, George Cumberland, one of his earliest patrons, published in 1784 (*Printmaker* 113).^[7] The "New Mode" merely used etching "for writing words instead of delineating figures on plates." Cumberland states: "It had long been conjectured by the author of this paper, in the course of his practice of etching on copper, that a new mode of printing might be acquired from it." Referring to himself as its "inventor," he explains that he "wrote a poem on copper by means of this art," had impressions printed by a professional printer, and that the whole process of writing and printing "had cost very little more time than common writing." He ends his very short article noting that "the author thinks this mode of printing may be very useful to persons living in the country, or wishing to print very secretly." Cumberland instructs his reader how to make and spread a conventional etching ground, though admitting that "all these operations a servant may be taught to execute." His reader need only "to write with a pen (of gold if possible) on the varnished plate, so as to leave the copper bare" and etch in a solution one-third "aquafortis" and two-thirds water.

Cumberland, of course, did not "invent" anything new, at least no professional graphic artist, let alone writing engraver, would have thought so. Blake, for example, learned as an apprentice to sign his name and write inscriptions backward on the plate, that is, to use etching to delineate words. But Cumberland's using etching to multiply a single-page manuscript may have struck other amateur authors as novel—and confusing, since he forgot to instruct his reader to write backward. Eight months earlier, though, on 3 January 1784, he sent his brother an example of



his "invention," the poem "To the Nightingale,"^[8] explaining that one can produce impressions and counter-proofs of wet impressions; the former required a mirror to read and the latter required being printed through the press on top of the first impression (Black 317-18; Essick, *Visionary* 13-14; British Library Add. MS. 36494, f. 232). (See Fig. 1.) In other words, the poem's text was written in his hand correctly in italic, etched in intaglio, and printed to produce an impression in which the text was reversed and that impression counterproofed to produce a readable impression—adding costs and time to the process. Cumberland admits that his new method is "in fact . . . only etching words instead of Landscapes, but nobody has yet thought of the utility of it that I know of," and says his poem was "the amusement of an evening and is capable of printing 2000 if I wanted them" and that it was "executed as easily as writing and the Cost is trifling." He believes that his new mode is economically viable, estimating "the expense of this page ["The Nightingale"] is 1/6 [1s 6d] without reckoning time, wh[ich] was never yet worth much to authors, and the Copper is worth 1/0 [1s 0d] again when cut up." The copper plate, measuring 11.2 cm x 17.3 cm, was one shilling, which he hoped to make back by selling the copper back to the copper smith, and the 6 pence was for a few sheets of paper (for prints and counterproofs) and press time.

Figure 1:
Cumberland,
"To the
Nightingale"
(1784)

Blake apparently received a similar letter or heard of his rationale and size of the press run—which is sheer fantasy and not mentioned in the published article—from Cumberland, with whom he is clearly having a bit of fun for his thinking he had invented something new, practical, and economical. Blake, by scaling single-page production to multiple page or book production, demonstrates the idea of intaglio text as preposterous. What may work for a single page cannot work economically for an entire book, let alone a book in three volumes. The eighteenth-century formula used by English booksellers to determine a book's retail price was "about five times the cost of production" (Gaskell 179). According to this formula, a retail price of £100 per book implies a cost of production per unit of about £20. Assuming the edition of 2000 is numbered at five times the break-even point, then the cost of the first 400 copies of each volume would be £8000, and thus the publisher's total outlay for the three volumes would be £24,000. According to the retail price index of MeasuringWorth.com, £24,000 os od from 1784 is worth £2,420,000.00 in 2009.^[9]

Translating this fantasy project into today's costs helps us get the joke, but Blake's contemporary reader would have used different scales. The tradesmen in the business of producing the volumes, for example, would never be able to afford them, certainly not at their weekly wage of 18-22 shillings (Picard 296). And the collectors of such "books of prints" would have found the prices absurd compared to the most expensive books then on the market. For example, Thomas and John Egerton's catalogue for 1787 lists "Gough's Sepulchral Monuments of Great Britain, vol. 1, *with a great number of very fine plates, in boards, £6.6*" (7) and "Dart's [Antiquities of] Westminster Abbey and Canterbury Cathedral, 3 vol. *a very fine copy £4.14s .6d.*" William Bent lists in his catalogue "Antiquities of Athens, by Stewart and Revertt, Vol. 1, Fol. Sheets 4.4.0" (114); "Greece (Ruins of), by Le Roy Folio, in sheets 4.4.0" (115); "Jones's (Inigo) Designs, 2 Vols, by Kent, half bound 4.14.0" (115); "Palmyra (Ruins of), Folio, half bound 4.4.0" (117); "Vitruvius Britannicus, by Campbell, 3 Vols. Folio, in sheets 5.5.0" (117). There were a few books of prints more expensive, as evinced by those listed in Egerton's catalogue for 1792: "Hamilton's Etruscan, Greek, and Roman Antiquities on Ancient Vases found at Herculaneum and Pompeii, 4 vol. *with plates coloured from the originals, eleg. Bound in Russia leather, £24*" (2).

Blake's phrase "them Illuminating the Manuscript" does not point to illuminated printing or even to his thinking about self publication. We read the word "illuminating" after the fact, as used by Blake in his prospectus of 1793, and fail to recognize that the term was widely used in treatises on watercolors and printing. In Part Two of *The Art of drawing and painting in water-colours* (1778), entitled "The Doctrine of Water-Colours, for illuminating Prints, etc. in the best Manner" (55), is the following recipe for illuminating a manuscript and an engraving:

There may be seen in some Manuscripts fine golden Letters which rise above the Surface of the Vellum or Paper: the Composition that raises them thus is said to be made up of Vermillion and the White of an Egg, whisked or beaten up to the Consistency of an Oil, and worked together like a Kind of Paste, and with a Stamp fixed to the Vellum or Paper with Gum-arabic. . . . and then polish it with a Dog's tooth: this will make it appear as if it was really cast in Gold. (61-2)

The recipe goes on to indicate, however, that unfortunately "Vermilion is too heavy to paint with, when you would illuminate your Prints, because it hides the Shades of the Engraving, though sometimes they had better be hidden than appear" (67).

In *Island*, Blake clearly satirizes the health of his trade. Unlike the "Printing house in Hell," where illustrated books are part of "the method in which *knowledge* is transmitted from generation to generation" (*Marriage of Heaven and Hell* 15, my emphasis), the Moon's publishers seem interested in producing expensive and elaborately illustrated books for shallow connoisseurs at the expense of the very people who make them. What fools they all are for spending so much quid. Bentley, though, sees in Blake's satire less criticism of current practices and tastes than Blake "already . . . thinking of making elaborately illustrated books years before he did so" (*Stranger* 84). Rather than assume that Blake had "illustrated songs" in hand in c. 1787-88 prompting their means of reproduction,

Bentley assumes that, even earlier, Blake was thinking about some version of them and about self-publication, thoughts leading four years later to relief etching. That Blake may have been thinking about elaborately illustrating his own books one day may well be true—or became so—as is evinced by his illustrated poem, *Tiriel*. But, as noted, *Tiriel* was conventionally formatted, indicating that Blake was not considering publishing it himself. Could one argue that despite Blake's opinion of Cumberland's "New Mode" that he was a few years later entertaining the idea of publishing *Tiriel* with intaglio text? I do not think so, because even at this much-reduced scale its expense in copper and time was more than he could afford. It required at least 27 medium-sized (27 x 18 cm) copper plates. To put this in perspective, *Tiriel* required four and half time as much copper as *Songs of Innocence*, four times as much as used in *The Book of Thel*, and more than twice that used in *Marriage*, and, because these illuminated books were executed in relief etching, they required a fraction of the labor and time as *Tiriel's* engraved text and designs, which could take up as much as a year of Blake's time.

The novelty of *Tiriel* was not that it was illustrated (there were many poems and epics illustrated), but in the number of illustrations it had, the ratio of images to text. With fifteen pages of text and twelve illustrations, it appears to mirror the object of satire in *Island*, which had "at every other leaf a high finished print." Or so it appears if we assume Blake intended publishing the manuscript himself. But that very ratio strongly implies, like the fair copy, that he had prepared his project for a publisher, giving him the option of choosing which and how many illustrations. We see exactly this pattern of negotiation between Blake as artist and other publishers later on; Richard Edwards received 537 watercolors for a proposed four volume deluxe edition of Edward Young's *Night Thoughts* (1795-97), from which he planned to select 200 illustrations, later reduced to 150, but publishing only the first volume with forty-three engravings; in 1805, Blake was commissioned by Robert Cromek to prepare forty drawings illustrating Robert Blair's *The Grave*, from which he planned to select twenty for a deluxe edition of the poem, later reduced to fifteen, and finally published with twelve (1808). Moreover, the ratio in *Tiriel* is reduced further once the manuscript is cast off; with 393 lines over eight sections, with each section starting a new page and with twenty-three lines per page, the same as Blake's *The French Revolution*, it would form, with front matter, a twenty-four page quarto-sized booklet with perhaps at most six illustrations inserted throughout, for a total of thirty-six pages (eighteen leaves). Even at this relatively modest size, *Tiriel* was probably too expensive to produce, at least for an unknown author on an obscure subject.

Blake clearly abandoned *Tiriel*, though he returned to it to cross out lines in section 8 that he revised for *Thel* plates 2 and 8 (1789/90), and again for figures for the engraving *The Accusers of Theft, Adultery, Murder* (1790) and *Europe* plates 10 and 11 (1794). Abandoning *Tiriel* was probably a business decision, though one made for and not by Blake. *Tiriel's* conventional format indicates Blake's hope for conventional publication, perhaps by Joseph Johnson, a publisher of a number of projects that he worked on as an engraver. No direct evidence of Blake approaching a publisher exists, let alone of his being rejected by one, but, again, the unillustrated *The French Revolution* is instructive. Johnson did agree to publish this presumably less expensive and more contemporary poem and had 306 lines of "Book the First" of its seven books set over sixteen pages and proofed in 1791. According to its Advertisement, "The remaining Books of this Poem are finished, and will be published in their Order" (Erdman 286). No books are extant, and what was proofed was never published, perhaps out of fear of government reprisals. But if seven books were completed by this date, then the poem's composition and preparation for the press almost certainly unfolded over the same period he was working on *The Marriage of Heaven and Hell* (1790) and perhaps earlier.^[10] That Blake was still thinking in terms of conventional publications of his works after the invention of illuminated printing refutes the hypothesis that the invention's origin lies in Blake's rejecting the marketplace, or desiring to publish himself, or wanting to control all stages of production. Nor were his hopes for a large audience for *The French Revolution* signifying dissatisfaction with illuminated printing's more modest press runs. Indeed, as we shall see, both aesthetic and commercial forces helped Blake to invent relief etching and develop it into illuminated printing.

"Illuminating the Manuscript" does not mean that Blake was thinking about illuminated printing before he invented relief etching; "I would have all the writing Engraved" does not mean that Blake was thinking about self publication or new styles of integrating text and image. These comments may indeed reveal that he was thinking about illustrated books and even wanted to illustrate his own books, but such sentiments are *not* incremental steps towards illuminated printing, because Blake is imagining in conventional terms and not about integrating text and illustration, and, most importantly, given its satirical context, because he is not really thinking in terms of self-publication. His engraving all of *Tiriel* was never a viable option. The idea of publishing himself occurs only after the invention of relief etching, once he sees that he can use his new mode for writing as well as images and both in the same space.

III

The "Original" or first "stereotype" to which Blake alludes is clearly one of the philosophical tractates that make up *All Religions are One* and *There is No Natural Religion*, neither work known to Smith or Gilchrist. The former consists of ten very small relief-etched plates, a few of which were written in a crude roman script, signs of his learning to write a very small text backwards in a viscous "ink" with a quill. [fig. 2: *All Religions are One*, copy A,

plate 3, 1788. Relief etching, 4.9 x 3.0 cm. Link to the William Blake Archive.] Apparently, he learned quickly, for most of the plates are quite legible. [fig. 3: *All Religions are One*, copy A, plate 6, 1788. Relief etching, 5.9 x 4.0 cm. Link to the William Blake Archive.] *There is No Natural Religion* immediately followed, consisting of twenty equally tiny plates with italic as well as roman lettering, the legibility of both improved still more. [fig. 4: *There is No Natural Religion*, copy B, plate b12, 1788. Relief etching, 6.1 x 4.6 cm. Link to the William Blake Archive][11] These first two illuminated works are philosophical tractates on perception and the "Poetic Genius," subjects later dramatized in his poetry. Blake's "Original stereotype," his first use of relief etching to carry text, however, was in the service of philosophy, not poetry—which, given Quid is also a philosopher, may reflect more accurately how he thought of himself at this time. These works were not executed as practice for *Innocence*. Had that been the case, *No Natural Religion* would have been redundant. Indeed, Blake was a quick study and, besides, he had song cycles and lyrics he could have used to practice writing backwards, etching words into relief with strong acid, and printing relief texts legibly. On hand he had short poems from *Poetical Sketches* (1783) and *Island in the Moon*, which included "Holy Thursday," "Nurse's Song," and "The Little Boy lost," and the much longer *Tiriel*, which, as noted, was in fair copy and formatted for conventional printing.

Blake's not printing poems *first* undermines the hypothesis that "illustrated songs" prompted his inventing illuminated printing. The strongest evidence, however, that Blake realized relief etching's potential for printing poetry only after printing prose is that the prose itself followed his attempt to use relief etching to reproduce an image. Blake's *Approach of Doom*, 29.7 x 20.9 cm attempts to reproduce half of his younger brother Robert's pen and wash drawing, 33.5 x 47.5 cm, in facsimile. [fig. 5: *The Approach of Doom*, c. 1787-8. Relief etching, 29.7 x 20.9 cm. Link to the William Blake Archive.] [fig. 6: Robert Blake, *The Approach of Doom*, c. 1787. Wash drawing, 33.5 x 47.5 cm. Link to the William Blake Archive.] Blake redrew the image on a copper plate with a brush using a thin acid-resistant solution, a variation of the "ink" he was to perfect for writing and drawing his illuminated designs. This solution, however, as is evinced by the way it was pitted by the acid and chipped when scratched through with a needle, was made up of alcohol and resin, the ingredients, in different proportions, used as a "spirit ground" in the new technique of aquatint, invented in 1775 to reproduce wash and watercolor drawings but whose formulas were kept secret till 1794.[12] [fig. 7: *The Approach of Doom*, c. 1787-8, detail. Relief etching, 29.7 x 20.9 cm. Link to the William Blake Archive.] Blake was making a good guess at the ingredients of the liquid ground for aquatint, applying it like a wash behind the figures, which he drew in first, redrawing a wash drawing as a wash drawing, and then he worked into the background wash with needles to create thin white and black lines to suggest smoke and clouds.[13] *Doom* looks more complicated than the tractates because it is larger, but in fact it was easier for Blake to execute than the tiny plates because *Doom* did not require any of the new skills necessitated by writing backward very small letters in an ink subject to coagulation. As noted, tradition has it that Blake credited his brother Robert, who died in February 1787, as the method's source. The idea that Blake was actively *seeking* a new method at the time because he had "illustrated songs" to print is inferred solely from the illuminated books, that is, on how Blake *ended* up using the method. It makes for a nice narrative, but it ignores Blake's earliest experiments and what they reveal about his original intentions. His claim that Robert was his inspiration not only supports the idea of *Doom*, a copy of Robert's drawing, as the first relief-etching, but it also suggests that the experiments may have begun in 1787.[14]

Indeed, *Doom* appears to be Blake's first relief etching, but not the first experiment in replicating a pen and ink drawing. That honor goes to *Charity*, a pen and ink sketch, 18.7 x 13.4 cm, planographically printed—that is, transferred from a *flat* support—onto laid paper while the ink was wet. [fig. 8: *Charity*, c. 1787. Planographic print, 18.7 x 13.3 cm. Link to the William Blake Archive.] Indian ink would blot and lose its form if transferred; the ink in *Charity* was quite viscous, and therein lies the experiment. Blake drew *Charity* in a printer's ink thinned enough to be applied by a small brush and placed the design face down on a sheet of paper, possibly rubbing it from the verso to facilitate the transfer or sending the two sheets through the press. He may have gotten two or three impressions either way, each impression needing to be finished (like the one impression extant) in pen and ink. Blake replicated a pen and ink drawing, performing like an artist and thinking like a printer. From a drawing perspective, sketching with an ink that prints and thus enabling a few replicas of a unique image is a welcome marriage of drawing and printing, the kind Blake eventually perfected with colors in the monotypes of 1795. From a printing perspective, though, the yield is too small. The support or matrix, not the drawing medium itself, needs to be printable. And therein lies the technical problem: how to make printable the autographic gestures of pen and ink and brush marks? *Doom* solved that problem. Its thin, acid resist "ink" was applied with brushes and the design etched into printable relief.

At 29.7 x 20.9 cm, *Doom* was the size of a separate print but too large for a book illustration. The presence of rounded corners and beveled sides indicates that Blake prepared the plate for intaglio printing, for these features prevent a plate from tearing its paper when printed with the requisite pressure. Blake presumably had at this time no experience in printing relief plates, which take much less pressure. The two relief plates that appear to have followed *Doom* were both small, as though Blake were scaling down to see if the technique would work for book illustrations or small prints. One of these early experiments, though known only from impressions color printed in 1796, is *Joseph of Arimathea Preaching to the Inhabitants of Britain*. [15] [fig. 9: Joseph of Arimathea Preaching, c. 1788. Relief etching, 7.8 x 10.7 cm; color printed impression, 1796. Link to the William Blake Archive.] At 7.8 x 10.7 cm, it is the

size of an *Innocence* plate, but its landscape format suggests that Blake was thinking of a separate print rather than a book illustration. Like *Doom*, the plate was beveled and its corners rounded, which suggests that it was a plate that Blake purchased in that condition or had prepared himself for an intaglio design but changed his mind. He took a pencil sketch of his own, which at 28.5 x 42.1 cm was just slightly smaller than that of his brother's, and reduced it dramatically as a bold line drawing. The "ink" did not chip when the design was etched in relief and thus appears to have been a refinement from what was used in *Doom*.

The other early experimental relief etching is known as *Songs of Innocence and of Experience* plate a, because it was used as the tailpiece in *Songs* copies B, C, and D.[16] [fig. 10: *Songs of Innocence and of Experience* copy C, plate a, c. 1788. Relief etching, 6.3 x 5.2 cm; impression printed c. 1794. Link to the William Blake Archive.] But this textless, much smaller plate is clearly not part of that series. At 6.3 x 5.2 cm, the plate represents a further scaling down of images for the medium; it is noticeably smaller than the plates used for *Innocence* but slightly larger than any of the tractates that presumably followed, reinforcing the idea that it anticipates both of those works. Moreover, the plate was not squared nor were its corners rounded; it appears to have been a small piece of copper that Blake had laying in the studio and used to continue his experiments in scaling, delineating, and etching images in his new method. In *Songs* plate a, the figures were drawn with a fine brush and in an "ink" that did not pit or chip; the background was washed in solid with a brush and then hatched extensively and variously with a needle in the style of the figures in *Doom*. Indeed, compared to the hatching styles used throughout *Innocence* to delineate figures, forms, and backgrounds, the hatching in *Doom* and *Songs* plate a is tentative, merely workmanlike. For example, see the Frontispiece, "Ecchoing Green" (pl. 1), "The Little Black boy" (pl. 2), and, especially, "The Little Boy Found," where the use and diversity of the white and black lines are astonishing. [fig. 11: *Songs of Innocence* copy U, "The Little Boy Found," c. 1789. Relief etching, 11.7 x 7.2 cm. Link to the William Blake Archive.]

IV

When we define Blake's early innovations of 1787-88 technically and situate them historically among the emerging printmaking technologies then responding to the enormous popularity of drawings and sketches, we can see clearly that they share many of the aesthetic aims of these new print technologies. The idea that an artist's first and spontaneous thoughts are the most valuable because they are closest to the original creative spark, often obliterated by high finishing—an idea first held by artists and then, by the end of the seventeenth century, connoisseurs—had become very popular by the late eighteenth century, creating a taste in the general public for drawings and sketches and motivating printmakers to invent new technologies, such as soft-ground etching, stipple, chalk engraving, and aquatint, to reproduce them in facsimile and to simulate their various visual characteristics and textures (e. g., pencil, chalk, crayon, pen and wash, i.e., "works on paper"). Soft-ground etching actually enables one to execute designs using a pencil instead of metal tools. One draws on paper laid over a plate covered in an etching ground mixed with tallow; the lines drawn are embedded into the ground; pulling off the paper leaves the lines with the paper's texture, which when etched and printed simulate graphite. Drawing manuals used this method for their illustrations, as did Thomas Gainsborough in the early 1780s. Starting in 1785, Cumberland also began using this technique, which is, like his "New Mode," further evidence of the general appeal of the autographic mark, of wanting executions that were "as [easy] as writing" to do and prints reproducing the look and feel of one's hand, in writing or drawing. The same taste for the autographic mark and desire to eliminate translation so artist or amateur can reproduce their own drawings as drawings underlies Alois Senefelder's invention of lithography in 1798, first called "polyautography." [17] Before these new technologies, engravers could produce facsimiles of pen and ink drawings, wash drawings, and sketches by ingeniously combining variously tipped etching needles, stipplers, and mezzotint rockers, the mixed-methods used throughout Charles Rogers' two volume *A Collection of Prints in Imitations of Drawings*, 1778, a collection with eighteen facsimiles of old masters, including Raphael and Michaelangelo, executed by James Basire, Blake's teacher. [fig. 12: William Ryland, etched facsimile of Van Dyke's Jacob Sending Benjamin with his Brethren into Egypt, detail of brushmark, 1762. In Charles Rogers's two volume *A Collection of Prints in Imitations of Drawings*, 1778. Link to the William Blake Archive/About Blake/Essay on Illuminated Printing.]

The new intaglio technologies used tonal marks and areas instead of lines to define forms and were in high demand in a commercial market much increased because of the aesthetic of the sketch and popularity of collecting prints (see Viscomi, "Illuminated Word" 190). Indeed, by 1788 Blake, like other line engravers, could see the market for prints increasing but their share of it decreasing, as line engraving began to go out of fashion while aquatints, stipples, and chalk engravings were becoming all the "rage," or so complained engraver John Landseer, who vehemently dismissed their "soft blending and infantile indefinity" (126). Starting with Paul Sandby's *12 Views in Aquatinta from Drawings taken on the spot in South Wales* (1775), aquatint had within a few years become the medium of choice for the very popular books of picturesque and topographical views. It was also used extensively in books of facsimiles, such as Thomas Rowlandson's *Imitations of Modern Drawings after Gainsborough, Sawrey Gilpin, and Others* (1784-1788). William Gilpin, Sawrey's uncle and the father of the picturesque, used aquatints in his very popular guide books (e. g., *Observations on the River Wye*, 1782) to reproduce his "rough sketches," which had become "the prevailing tide of fashion," or so complained the drawing master W. M. Craig, who dismissed them as the "disease of the pencil" (6, 9).[18]

In responding to the popularity of drawings, these new technologies were trying to solve technical problems: how to reproduce the autographic marks on paper of pencil, chalk, pen, brush, and wash in *metal* where the tools of "sculpting" (burins, needles, roulettes, stipplers, matoirs, rockers, scrapers, and burnishers) were very different. The difference between illuminated printing and other methods that sought to reproduce the look and feel of drawings is that the brush and pen marks in relief-etching are actually created by pens and brushes using a liquid and not, as in the latter, imitated by lines carefully laid in the shape of the original marks or with tools like roulettes and matoirs. [fig. 13: Tools of stipple and chalk engraving, showing roulettes and matoirs. Link to the William Blake Archive/About Blake/Essay on Illuminated Printing.] Illuminated pages look like manuscripts and drawings because the inventions were executed as such. Blake had solved the technical problem of reproducing pen and brush marks in metal by behaving like an artist. His marks are authentic and spontaneous; the others are imitations—their autograph carefully crafted illusion.

Blake was certainly not alone in trying to solve the problem; nor was he the only one or even the first to actually solve it by incorporating into printmaking real pens, brushes, and an "ink." The existence of another method that was independently invented at least twice attests to the aesthetic forces at work, that is, to the pressure on printmakers to reproduce facsimiles of drawings and sketches. Creating dark areas directly as positive pen and brush marks was possible in a variation of aquatint called sugar-lift aquatint (fig.14. Private Collection. Used with permission), the method used by Thomas Gainsborough in the early 1780s to reproduce a few of his pen-and-ink drawings



Figure 14:
Thomas
Gainsborough,
Three Cows, c.
1780. Sugar-lift
aquatint.

(fig. 15. Private Collection. Used with permission) and by Alexander Cozens to reproduce the appearance of ink "blots" that he used in his new method of teaching landscape drawing (See plates 6-16 in Cozens's *New Method of Assisting the Invention in Drawing Original Compositions of Landscapes*, 1784). Their "ink" was water-based with treacle or sugar in it; upon completion of the design, a thin liquid etching ground (essentially a thin version of the "stop-out varnish" that Blake used as his "ink") was applied to the plate, and the plate was placed under water, which slowly penetrated the varnish ground and swelled the sugar in the ink, making it lift from the plate and leaving the shape of the brush marks. The plate was then given an aquatint spirit ground. John Hassell appears to have independently invented the technique in 1791, though he did not publish his *Calcographia: or, the Art of Multiplying with Perfection, Drawings, after the Manner of Chalk,*



Figure 15:
Thomas
Gainsborough,
Three Cows, c.
1780. Wash
drawing.

Black lead Pencil, and Pen and Ink until 1811. On the title page Hassell reported having been "honoured with a Medal and Thirty Guineas by The Society of Arts etc. etc. etc." "Calcographia" was a technique that Hassell—echoing Blake's intent in the prospectus—believed provided amateurs with the means of producing "fac similes" of their own works (27) and would, according to its title page, induce "many of our first rate artists to give to posterity their sketches" (see Viscomi, *Blake*, ch. 20).

No evidence suggests that Blake knew of these experiments; their existence, however, evinces further an aesthetic context in late eighteenth century London conducive of the kinds of printmaking experiments yielding *Charity and Doom*. Blake's method produced designs in relief; these others produced designs in intaglio, which are more difficult to ink and print. And of course Blake would go on to incorporate text in his images. But the main difference between the two is that Gainsborough was *reproducing* pre-existent works in facsimile, whereas Blake—and this is what makes Blake's use of relief etching so radical—was working without models or mockups of "illustrated songs." Blake used his new plate-making technique to *produce* new designs rather than reproduce designs already invented. To understand how radical this is, we need to understand how wrong but logical Smith and Gilchrist were.

As we have seen, Smith's and Gilchrist's idea that illuminated printing originated in Blake's desire to reproduce *Songs of Innocence*—the "illustrated songs" and "illustrative designs" that Blake supposedly had already executed on paper—is mistaken. And, as noted, Smith and Gilchrist thought *Songs of Innocence* was Blake's first work in illuminated printing because they were unaware of *All Religions are One* and *There is No Natural Religion*, and of Blake's earliest works in relief etching as experiments in technique. Had they known of these works, they would have recognized that Blake's illuminated poetry *evolved* from a method that originated in Blake's desire to replicate in metal the autographic gestures of pen and brush. Executing *Doom* required brushes and ink and redrawing the design directly on the plate freehand. The association of "ink" with pens revealed the potential of relief etching to also reproduce writing and even illustrated text. When that text was reconceived as poetry, the idea for illuminated poetry and books was born. Here, in practical terms, the *execution* of a specific relief-etched plate that answered specific technical questions—the recreation in a printable matrix of autographic marks on paper—generated new projects. In doing so it exemplified a theory of artistic production Blake championed all of his life, that execution and invention are mutually generative.

But could Smith and Gilchrist be half right? Wrong about the *origin* but right about "illustrated songs," that is, about Blake illustrating his manuscripts, or mocking up his poetry as page designs on paper, once he had a method to reproduce them? In other words, was, say, *Visions of the Daughters of Albion* (1793) mocked up on paper before

being executed on copper? The answer is no, they were wrong about that too. But to understand how radical this answer is and Blake's use of illuminated printing was, we need to see how logical Smith and Gilchrist were to assume the presence of "illustrated songs" and to think of illuminated prints in terms of "imitations" and "facsimiles," not only because these kinds of prints had come to dominate the print market, but also because *prints* by their very nature are copies of something already invented. Whatever that original "invention" was—painting, drawing, or sketch—and whatever kind of print was to be produced—reproduction, which translates the codes of the original into those of the print medium, or facsimile, which imitates the appearance of the original's codes—the original composition was redrawn, rescaled, and transferred in outline to the copper plate to guide the printmaker's tools.

We know that in illuminated printing Blake did not transfer page designs or the text of designs, because it was not technically possible given the transfer methods available to him.[19] Fortunately, he did not have any technical need to transfer a page design or any of its parts, since he was engaged neither in cutting it into the plate nor in translating it into different kinds of lines.[20] Nor is there any evidence that he worked out the page design on paper and *redrew* it free hand on the plate. That would have been an unnecessary doubling of labor—and would inevitably introduce variants and make exact reproduction impossible. There are two extant designs for pages for *TheL*—and for no work later than *TheL*—but these are very rough and were much revised when redrawn on copper.[21] The tools of writing, drawing, and sketching encouraged Blake as painter to improvise, to integrate invention and execution in ways defeated by both conventional printmaking and book publishing. While the exigencies of the technique required designing directly on the copper, its tools and Blake's twenty years of experience with them made this possible. Blake invented a method that required him to behave like an artist and not an engraver. I say "required" rather than "allowed" because, without effective transfer methods, relief etching, at the very least, forced redrawing freehand and thus was incapable of functioning as an accurate reproductive method. This is a major reason that Blake's method did not catch on commercially. Indeed, commercial use of relief plates began with electrotypes, around 1838, which were used to duplicate letterpress and engravings; line blocks used to reproduce original drawings were not possible till late in the century, for they required a photosensitive ground upon which the drawing was transferred or projected.

With no page designs to transfer, Blake brought to the copper plate his raw materials of text and occasionally a vignette. He rewrote the text backwards and illustrated it. Aesthetic decisions he made on the spot; he decided the placement and extent of text, letter size, line spacing, as well as placement and extent of illustration while executing them. Blake created a multi-media space in which execution was simultaneously visual invention. He could work autographically as poet and painter, executing text and image in "ink" on the plate as though it were paper; etching the plate into printable relief; printing impressions and coloring them. The results do indeed resemble "tinted drawings" as Smith said, or, to Essick's eye, "printed manuscripts," an oxymoron perfectly capturing Blake's great achievement of producing repeatable objects that were each unique (*Language of Adam* 170).

To fully appreciate how radical Blake's use of his new method was, we must recognize that Blake's not using transfers in printmaking, a medium *defined* by them, freed him from models, from having to prepare fair copies or page designs. As noted, that key feature of his practice along with the tools he used enabled him to behave like an artist, encouraging improvisation and rendering illuminated printing a mode of *production* rather than reproduction. As a consequence of working without models to transfer, reconstruct, or redraw, his method was intensely and self-consciously oriented to execution-as-invention. It allowed illuminated pages and books to evolve through their production in ways impossible in conventional print and book making. It allowed execution to generate or participate in invention in small and large ways; for example, *Marriage* grew from an anti-Swedenborgian satire of four plates, 21-24, to a twenty-seven plate work. The book unfolded through its production, with the execution of one section inspiring the invention of the next section and set of variants on key themes in what was a genuinely organic process (see Viscomi, "Evolution"). As in manuscript production, Blake could start a work and keep adding plates at various points, e.g., *Milton* and *Jerusalem*, both begun in 1804 but not published till c. 1811 and c. 1820 respectively.

Illuminated printing *evolved* out of a preexistent method and was not invented to reproduce a preexistent form or content: "illustrated songs" or illuminated book. Because its origin lies in experiments in reproducing image, not text, its eventual use does not mean Blake invented it so he could control all stages in the production of a *book*, and whatever the method may have come to mean to Blake, he was not motivated initially to realize a political agenda of overthrowing conventional modes of book production. Blake's 1787-88 experiments in reproducing the autographic marks of pen and brush led to the creation of "a multi-media site where poetry, painting, and printmaking came together in ways both original and characteristic of Romanticism's fascination with spontaneity and the idea of the sketch" (Viscomi, "Illuminated Word" 190). He could integrate word and image in repeatable, yet, when printed, unique designs, radically redefining for himself what a "print" could be. From this point on he would treat his original copper plates as beginnings, no longer attempting to realize or print the design exactly as it was initially etched or even as it was last printed. For the rest of his life, Blake practiced a "re-creational" aesthetic, in which returning to one of his *own* plates, intaglio or relief etching, provided opportunities for new invention, either in reworking the plate and/or the manner in which it was printed or subsequently hand colored. As a printmaker, he had severed himself from convention, as he was about to do with poetry and would also do as a painter with the 1795

monoprints and subsequent "fresco" paintings. 1788 was a turning point for Blake, from professional line engraver with only two original prints to his name (plate 5 in the *Royal Universal Family Bible*, 1782 and the frontispiece to Thomas Commin's *An Elegy*, 1786), both conventionally designed and executed, to avant-garde graphic artist. From hereon, he began thinking differently, more expansively, about printmaking, poetry, and painting, and he began his life-long willingness to experiment with forms, styles, and materials regardless of media.

Blake could work autographically with pen, brush, and ink directly on a plate as poet and painter to create printable illustrated manuscripts corresponding to no models or mock-ups. He could work without models and without the expectation of exact repeatable images and thus he could improvise and recreate upon reprinting. His new medium contributed far more to his creative work and idea of himself as artist than the creation of any variant of stereotyping could have done. The technical problem he solved was how to reproduce autographic marks and not how to print letters from plates. Once he realized he could use his new printmaking method as painter *and* poet, he began to think up book projects for it, and thus to think also as publisher. He began to think in terms no poet or artist did before him. He began creating untranslatable pictorial poetry. The market may not have been ready for Blake, but he did not give up on the market. The illuminated books were Blake's honest and creative effort to be part of that new market of printed facsimiles of "works on paper."

"1822 W Blakes Original stereotype was 1788" suggests that Blake might have scaled back his initial aspirations, as expressed in 1790, when he claimed his "infernal method" of "displaying the infinite which was hid" and "expung[ing] the notion that man has a body distinct from his soul" (*Marriage* plate 14). Or, perhaps he was simply acknowledging, as Essick notes, how "remarkably similar in appearance" the two kinds of plates were. But for the scholar, "stereotype" is an unfortunate diversion, because approaching illuminated printing from this text-centered and book production perspective forces us down wrong paths and to miss completely what is truly radical about Blake's method and the books—and the Blake—it made possible.

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HOW TO CITE THIS BRANCH ENTRY (MLA format)

Viscomi, Joseph. "Blake's Invention of Illuminated Printing, 1788." *BRANCH: Britain, Representation and Nineteenth-Century History*. Ed. Dino Franco Felluga. Extension of *Romanticism and Victorianism on the Net*. Web. [Here, add your last date of access to BRANCH].

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ENDNOTES

[1] All references to William Blake's individual works are to the *William Blake Archive*.

[2] The "ink" was almost certainly a mixture of resin and turpentine, possibly with lampblack and a touch of linseed oil mixed to make it easier to use in quill pens. This is essentially the solution that etchers called "stop-out varnish" and used to paint over lines and areas to "stop" them from being bitten deeper by the acid. By biting a design multiple times and stopping out different lines and areas each time, the etcher varies the depths of the intaglio lines and thus their tonality, creating the illusion of aerial perspective and modeling. For a thorough explanation and demonstration of Blake's plate-making technique, as well as its variants and materials, see Viscomi, *Blake*, chapters 1-15. See also my illustrated essay "[Illuminated Printing](#)" in the About Blake section of the William Blake Archive.

[3] Surfacing in 1905, *Island* was not known to Blake's early biographers.

[4] Blake had shown two watercolors in the Royal Academy Exhibition of May 1784 and, that same year, had begun a print-selling business with James Parker, an old friend and also a former apprentice of James Basire. The date of the only two plates published by the firm of Blake & Parker, both engraved by Blake after Stothard, is 17 December 1784, which coincides with his writing *Island*. The demands of the business may have led Blake to abandon in late 1784 or early 1785 the *Island* manuscript, whose last page ends abruptly after just nineteen lines.

[5] See "Bibliotheca Regia I" in Robert Dodsley's *The general contents of the British Museum* (1762): "In this Place are preserved the first Books printed in England and France; some are upon Vellum, others on Paper; they bear a great Resemblance to the finest Manuscripts, having, like them the Titles and initial Letters curiously illuminated" (208).

[6] In Hell, they are done differently, as Blake tells us in another satire, *The Marriage of Heaven and Hell* (1790). Returning to the theme of book production, Blake allegorizes the stages of "the method by which knowledge is transmitted from generation to generation" (plate 15), by which he means his "infernal method" (plate 14), describing it unfolding within five chambers of a cave, with the sixth chamber, where readers and collectors reside, outside of hell but part of the overall creative process. Needless to say, the "devils" in this book are the contraries of "milk sops" and "wretches."

[7] Cumberland published it twice, in *A New Review; with Literary Curiosities, and Literary Intelligence for the year 1784* and in *The European Magazine and London Review*.

[8] Cumberland's poem "To the Nightingale" is apparently a counterproof of the plate etched without reversing the lettering. The impression shown is in an album of thirteen prints by Cumberland assembled in 1848 by his son, George Cumberland, Jr., for presentation to his late father's friend, the publisher Mathew Gutch of Bristol, in the collection of Robert N. Essick. Geoffrey Keynes ascribes the composition of this poem to Blake in "To the Nightingale: Perhaps an Unrecognized Poem by William Blake," but this attribution has not been generally accepted. It is the only example of his "New Mode of Printing" in the album.

[9] See [Measuringworth.com](#). Bentley approaches the question of cost by estimating the prices of materials, labor, and distribution and arrives at £44,000 (*Stranger* 85). He also notes that within a few years of *Island*, "there were a number of elaborately illustrated folio editions," including "John Boydell's Shakspeare with 100 plates in nine folio volumes at £100 ([1791-] 1802), Macklin's Poet's Gallery (1788 – 99) and his Bible with 65 plates in six folio volumes (1791 – 1800), and Robert Bowyer's edition of Hume's History of England with 195 plates in five folio volumes (1793 – 1806). But none of these had engraved text, none had anything like two thousand copies—and Boydell and Macklin were bankrupted in the attempt" (85).

[10] Johnson also co-published *For Children: The Gates of Paradise*, the second state of the title reading "Published by W Blake No 13 Hercules Buildings Lambeth and J. Johnson St. Pauls Church Yard" (Erdman 32).

[11] Blake signed both works but dated neither, and today they are extraordinarily rare: only one copy of *All Religions* is extant, from a c. 1795 printing, and only one copy of series b of *No Natural Religion*, from the same printing, and six copies of an abridgement of series a and b plates, printed c. 1794.

[12] The first book to identify the recipes for spirit grounds used by British aquatinters was Francis B. Spilsbury's *The Art of Etching and Aqua Tinting* (London, 1794). As late as 1805, when John Landseer gave his "Lectures on Engraving" at the Royal Institution of Arts, aquatint, despite its enormous popularity, was still associated with "secrets." "It has been a real misfortune to this species of etching, that it has been taught and spoken of, as if it were a kind of legerdemain trick. Every booby who could hold a pencil and pour gum and spirit over a plate of copper, has congratulated himself on possessing *the Secret*, and (which is much worse) many have succeeded to a considerable extent in teaching the credulous part of the public, to believe them *Aquatinta Engravers*" (136).

[13] The frontispiece to *America a Prophecy*, 1793, resembles *Doom* stylistically, but it is a much-advanced version of this technique, in which Blake's "ink," consisting primarily of turpentine and resin, was stronger and did not chip or pit. This stronger "ink" he used in *All Religions are One*.

[14] The account given here of the technical and aesthetic origins of relief etching and illuminated printing is drawn from chapters 4 and 20 of Viscomi, *Blake and the Idea of the Book*.

[15] The extant impressions are in copies A and B of the *Large Book of Designs* (British Museum and National Gallery of Art respectively). The B impression was printed immediately after the first without the plate being re-inked.

[16] *Songs* copies B, C, and D were the first three copies of the combined *Songs*. They consisted of 1789 impressions of *Innocence* and 1794 impressions of *Experience*; plate a was printed in yellow ochre along with the *Experience* plates. Earlier proofs or impressions are not extant.

[17] For the invention of lithography and its early history in England, see Thomas Fisher, "The Process of Polyautographic Printing," *Gentleman's Magazine* 103 (March 1808), 193-196. Senefelder was not a professional artist; he began experiments in 1796 to create a printable relief surface, like the kind Blake did with copper plates, using limestone. Through accident he came to create planographic printing, which transfers an image from a flat surface, as opposed to one in relief or intaglio, by recognizing that oily ink adheres to the greasy surface of his drawing crayon but not to the untouched stone once it is given a film of water. The antipathy of oil and water lies at the heart of lithographic printing.

[18] By "pencil" Craig means a drawing brush.

[19] Engravers transferred drawings by counterproof or chalk. In the former method, the drawing is placed face down on the plate to reverse it and thereby ensure that the printed image was in the same direction as the original. This was ideal for text. In the latter method, the verso of the drawing is powdered in chalk and the drawing traced over the plate, transferring lines as with carbon paper. This ensured that the printed image would be the reverse of the drawing. Neither method works in illuminated printing because "ink" traced over counter-proofed graphite or chalk prevents the "ink" from firmly adhering to the metal, which means that the "ink" would lift off during the acid bath, destroying the design (see Viscomi, *Blake*, ch. 1).

[20] The exception here are a few full-page white-line etchings, such as *Jerusalem* pl. 26, which were transferred to plates with etching grounds, traced, etched in intaglio, and printed in relief. The images were transferred because the effects Blake desired required it (see Viscomi, *Blake*, ch. 8).

[21] There are sketches in pencil on paper of figures, vignettes, and other motifs Blake used in his illuminated books, but these are not mock-ups for his books nor, in many cases, direct preliminaries but rather just first-thoughts on paper later incorporated into illuminated books.

