One Pull or Two?

Michael Phillips, Martin Butlin, Robert Essick and Joseph Viscomi

Revisit Blake's Method of Color Printing
AN ILLUSTRATED QUARTERLY
www.blakequarterly.org

VOLUME 36  NUMBER 2  FALL 2002

CONTENTS

Discussion

Color-Printing Songs of Experience and Blake's Method of Registration: A Correction
By Michael Phillips 44

"Is This a Private War or Can Anyone Join In?": A Plea for a Broader Look at Blake's Color-Printing Techniques
By Martin Butlin 45

Blake's Method of Color Printing: Some Responses and Further Observations
By Robert N. Essick and Joseph Viscomi 49

Reviews

The Blake Exhibition at Tate Britain, 9 November 2000-11 February 2001, and at the Metropolitan Museum, 27 March-24 June 2001, and their Catalogues
Reviewed by G.E. Bentley, Jr. 64

Michael Phillips, William Blake: The Creation of the Songs from Manuscript to Illuminated Printing
Reviewed by Alexander S. Gourlay 66

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BLAKE/AN ILLUSTRATED QUARTERLY is published under the sponsorship of the Department of English, University of Rochester. Subscriptions are $60 for institutions, $30 for individuals. All subscriptions are by the volume (1 year, 4 issues) and begin with the summer issue. Subscription payments received after the summer issue will be applied to the 4 issues of the current volume. Addresses outside the U.S., Canada, and Mexico require a $10 per volume postal surcharge for surface, and $25 for airmail delivery. Credit card payment is available. Make checks payable to Blake/An Illustrated Quarterly. Address all subscription orders and related communications to Sarah Jones, Blake, Department of English, University of Rochester, Rochester NY 14627-0451. Back issues are available; address Sarah Jones for information on issues and prices, or consult the web site.

MANUSCRIPTS are welcome in either hard copy or electronic form. Send two copies, typed and documented according to forms suggested in The MLA Style Manual, and with pages numbered, to either of the editors: Morris Eaves, Dept. of English, University of Rochester, Rochester NY 14627-0451; Morton D. Paley, Dept. of English, University of California, Berkeley CA 94720-1030. No articles will be returned unless accompanied by a stamped self-addressed envelope. For electronic submissions, you may send a diskette, or you may send your article as an attachment to an email message; please number the pages of electronic submissions. The preferred file format is RTF; other formats are usually acceptable.

INTERNATIONAL STANDARD SERIAL NUMBER: 0160-628x. Blake/An Illustrated Quarterly is indexed in the Modern Language Association’s International Bibliography, the Modern Humanities Research Association’s Annual Bibliography of English Language and Literature, American Humanities Index, Arts and Humanities Citation Index, Current Contents and the Bibliography of the History of Art.

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DISCUSSION

with intellectual spears & long winged arrows of thought

Color-Printing Songs of Experience and Blake’s Method of Registration:
A Correction

BY MICHAEL PHILLIPS

I wish to correct a mistake in William Blake The Creation of the Songs From Manuscript to Illuminated Printing (London: The British Library; Princeton: Princeton UP, 2000), specifically in Chapter V, “Colour-Printing Songs of Experience.” This concerns the claim that Blake used a form of pinhole registration in color printing four impressions of Songs of Experience! from Copy T in the collection of the National Gallery of Canada.

In my effort to see every copy of the Songs in researching my book, I visited the National Gallery of Canada in August 1991. While inspecting the examples in the collection my attention was drawn to the four color-printed impressions of the title-page, “Introduction,” “EARTH’S Answer” and “LONDON.” With the help of the Senior Conservator of Prints and Drawings, Geoffrey Morrow, these were taken to the conservation laboratory and viewed under magnification, raking light and ultraviolet light. This clearly revealed that Blake had used a method involving two printing stages, the first to print in monochrome and the second in colors. In some instances, like that of the title-page, Blake had then applied color with a brush over areas of the color-printed pigments. It was clear that the monochrome ink had been largely absorbed into the fabric of the paper, while the vis­cous color pigments had been printed with less pressure and remained on the surface, often forming minute peaks and shallows when the print had been lifted from the copper plate.

From the evidence of our study in the laboratory, we were both curious as to how Blake could have printed these impressions in two stages. In May 1992, Geoffrey sent 35mm. color slides of each of the four color-printed impressions from Copy T of Songs of Experience in the collection of the National Gallery of Canada.

In September 2000, while correcting proof of my book, I wrote to ask Geoffrey to check my text where it referred to the color-printed impressions from Copy T in the collection of the National Gallery of Canada, including the passages referring to pinhole registration (on pp. 98, 99 and 101 as published). He replied to say that “Everything looks good except for one sentence” that concerned my description of the blackened lead white pigment that was found on the title-page; a description that I duly amended and passed to the printer.

Geoffrey Morrow has now confirmed that I was mistaken in deducing from his description that the small black dots seen in the 35mm. color slides were in fact pinholes. I am now able to draw attention to this error in my book. Unfortunately, it was not possible to correct the label in the Tate Britain Blake exhibition describing the title-page of Copy T of Songs of Experience as showing pinhole registration. There was no allowance in the exhibition budget for me to revisit the collections from which I had requested exhibits, where I would have had a chance to look again at the title-page. It was also not possible to see the exhibits in London in time to make changes. All of the exhibits arrived during the week before the opening, and immediately they arrived were unpacked and secured in their showcases under the supervision of their couriers.

Geoffrey Morrow’s reply to my request to check my descriptions in proof gave me no reason to question the presence of pinhole registration on these four impressions. Nevertheless, as I made clear (p. 101): “The four impressions in the collection of the National Gallery of Canada, title-page, ‘Introduction’ ‘EARTH’S Answer’ and ‘LONDON,’ are the only examples that I have found that have been registered by using a pin. All of the remaining colour-printed impressions have no visible sign of registration.”

It was the overwhelming evidence that Blake had found another, simpler method of registration that led to the experiments that I describe in my book. After printing the impression in monochrome, Blake could have nipped the plate to do so (described on pp. 101-02). This method is illustrated in my chapter using the eighteenth-century roll-
Using this method the monochrome impression and registration sheet passed between the rollers, but before the impression was lifted from the plate a weight was placed at one end. This allowed the opposite end of the impression to be lifted and the copper plate to be daubed with color, or for the plate to be removed, cleaned and applied with color before being placed back into register. As I describe, using this second method also made it possible to remove the print and replace it with a second monochrome impression, which could then be color printed using the color pigments remaining on the plate (pp. 107-08).

Relying upon photographic reproduction led to the error published in my book. Such a mistake illustrates how there is no substitute, however sophisticated, for seeing Blake’s illuminated books and prints firsthand, ideally in laboratory conditions where special lighting and magnification are available. Only by studying Blake’s illuminated books and prints in this way are we able to discover the materials that he used and how they were printed. This in turn will bring us closer to an understanding of the time and effort that were involved in their making, and place us in a position to address questions of intention and audience that follow directly from such an understanding.

I have recently confirmed my description of events with Geoffrey Morrow. He adds: “The main point, that Blake did use a double printing technique on occasion, is one about which we are in full agreement. Only by examining prints like the title-page under the conditions you describe can the technical reality be experienced with full understanding.”
It may seem petty to niggle about a mere footnote but, sadly, its approach is symptomatic of the Inquiry as a whole. Surely, the article was, specifically, a review of Phillips’ views on color-printing in his book and at the Tate Gallery.

And now, to go back nearly three hundred years for another piece of history, Blake’s prospectus “To The Public” of 10 October 1793 (E 692-93). The authors of the Inquiry go to some pains to define Blake’s term “Illuminated Printing,” later qualified by Blake as to be “Printed in Colours,” as being “created simply by printing from relief-etched plates” (75). This excludes the books of 1795 printed in intaglio. It seems far more likely however that Blake is relating his books to the “illuminated manuscripts” of the Middle Ages in which text and design are combined on the same page; the use of the word “illuminate” in this sense goes back to the beginning of the eighteenth century. Incidentally, the authors’ restricted definition of the books in “Illuminated Printing” has now become their accepted usage, as in their essay in the recent festschrift for Morton Paley; so quickly does a theory become an assertion of fact.

Lacking the detailed expertise and technical experience of the authors of the Inquiry, I must leave most technical details to the better qualified, though one or two points deserve comment, such as the question of the mis-registration of the “Nurses Song” in Copy E of Songs of Innocence and of Experience. The Inquiry seems effectively to demonstrate (96-98) that what caused the mis-registration in this case was not color-printing but a reprinting of the outlines of the text in a yellow ink rather than the more painterly pigments of Blake’s color-printing technique; the yellow ink must have been fluid enough to have produced a linear, rather than a more general blotting effect, and indeed the authors refer to the fact that “Yellow ink on top of green color means that the inked text was printed after the color printing in green” (97). In other words, it is not color-printing at all in the usual sense, and Blake soon realized that it was much easier to reinforce such linear elements with the pen or the point of the brush (96). Incidentally, while disposing of the suggestion that the mis-registration of “Nurses Song” proves a two-pull process, the Inquiry fails to take up Phillips’ point (103) that “small failures of registration in colour-printing can also be seen in” other plates in Copy E of the Songs. In fact the authors repeatedly assert that the “Nurses Song” is the sole example of mis-registration (81, 94, 96, 98, 100). Interestingly, these cases seem to have been confined to the odd pages that Blake salvaged for his special copy of the book that he prepared for Thomas Butts in about 1805.

Blake’s main use of color-printing in his books was to produce a depth of color and a textural effect that was impossible in his previous procedure of coloring by hand in watercolors, and it was used for the illustrations and decorative features rather than for the text itself. Linear quality was the one thing for which this technique was not suited. In the first book that Blake seems to have designed from the beginning to be color-printed, The First Book of Urizen, 1794, he was careful to distinguish the pictorial areas, whether they filled a whole page or part of a page, from those occupied by the text. In already existing books, such as Songs of Innocence and of Experience and The Marriage of Heaven and Hell, he did add color-printing to the decorative details that appear among the body of the text. Here the blobs of color-printed pigment can be seen to be more or less superimposed upon the linear decoration but they do not follow the lines with any exactitude. Nor do the fields occupied by the independent designs follow the areas defined by the passages of text with any precision, tending to spread beyond the borders implied by the width of the text. The same happens in The Song of Los of 1795 where, presumably to match the preceding “Continental” books, the format is larger and retains decorative features among the text. (Here, to complicate matters still further, Dörrebecker has suggested that the full-page illustrations were “coloured-printed from almost unetched plates, occasionally in multiple layers of paint ...” (Continental Prophecies 319); this implies multiple pulls.) Exact registration is therefore hardly a consideration when discussing Blake’s usual form of color-printing and, despite the assertions in the Inquiry, it is very difficult to see that any of the color-printing in Blake’s books, as defined in this sense, avoids the muzziness that the authors claim would result from a two-pull process.

The Inquiry’s description of how Blake might have used a two-pull process (taken but elaborated from Phillips 95) seems to be deliberately designed to put this process in its worst light by making it as complex as possible (80). The authors seem to have forgotten one of Viscomi’s most important discoveries, that Blake, in his illuminated books of 1789 and the early 1790s, tended to print individual pages in series with one inking of the plate, sometimes continued with a renewed printing possibly in a differently colored ink, before assembling the pages into different copies of the book and coloring them by hand (Idea 112-18, 260-61). The Inquiry admits that such series printing could occur in the color-printed books, as in the argument over the “Nurses Song” (96), and also that the color-printing medium could be applied more than once (84n15, 87), but insists on assuming that Blake would have had to wipe the plate completely clean of ink before adding colors, and then wipe the color off the plate before adding ink for the second impression (80). If in fact Blake first continued with his existing practice of printing the outlines on a number of sheets in series, and then went back and printed the same series of sheets with his thick color medium (renewing the color as necessary), the problem of registration would not have been nearly so difficult, particularly in view of the fact that, as we


46 Blake/An Illustrated Quarterly Fall 2002
have already seen, precise registration is not in question. Indeed, Viscomi (*Idea* 126-28) accepts that "Color printing did not prohibit edition printing," adding that "Unlike ink, water-soluble colors, even those mixed with a retardant, would have dried on the plate had Blake dawdled."

Another assumption made by the authors of the Inquiry is that, in a two-pull process, the color-printing would have to be done whilst the ink was still wet (87). If individual sheets were printed in series, first in ink and then by color-printing, there would have been no necessity for this. However, the authors never examine directly the question of the different drying times of ink and Blake's color medium, though the implication is that ink took considerably longer to dry, both on the plate and on the paper.

There is also the problem of what actually happens to the ink in a one-pull process. In my simplistic way I see the processes, whether one-pull or two-pull, as producing a sort of sandwich. In a one-pull process one has the plate at the bottom, then the ink defining the text and the outlines of the designs (the authors suggest that there are exceptions to this when only part of the raised surface of the relief etching is inked) and finally the color-printed medium (again applied selectively); one then adds the paper on top. Removing the paper from the plate reverses the sandwich and one has the final colored page. In a one-pull process one would then expect to find the ink lines lying on top of the denser colored areas. In the case of a two-pull process, the inked text and outlines would be applied to the paper first and subsequently covered, at least in part, by the thicker color medium. To the naked eye it would appear that, insofar as one can see the printed outlines, they lie below the color-printed pigment. The authors of the Inquiry use enlargements and enhancements to refute (86-88) Phillips' theory (102-03) that the printed date 1794 in Copy T was covered by color-printing, saying that this was in fact done by hand. This is, of course, extremely difficult to prove absolutely, and the Inquiry's approach does not altogether arouse confidence. The caption to illus. 16 (85) reads "Detail showing printed colors painted [sic] over inked relief lines ..."; are these details printed or painted and which finish up on top? On page 87 it is admitted that the black color on certain pages of Copy E of *Songs of Innocence and of Experience* "is easily confused with true color printing."

The recently sold independent plate 3 from *The First Book of Urizen* (Christie's London, 18 December 2001, lot 84, illus. in color) seems to show, as well as the lines added after the coloring by pen or the point of a brush, printed lines beneath the color. To add to the complications Richard Lloyd, head of the prints department at Christie's London, has argued to me, unprompted, that in one place a layer of watercolor has been added over the printing in ink but under the color-printed pigments. Despite the miracles of modern technology, one feels that such distinctions will always be a question of opinion rather than provable fact.

Another general point not fully discussed by the authors is that of the relative pressures needed to print on the one hand the outlines in ink and on the other the designs in Blake's color medium. We are told that printing in color from the depths of a relief etching requires greater pressure than from the surface of a plate (83; Viscomi, *Idea*, 123, 126) but not how this compares with the pressure needed for printing in ink. It is assumed that color-printing from a relief-etched plate and printing in ink are compatible. However, what does seem to be clear is that printing in intaglio requires a much greater degree of pressure (Viscomi 103, 367). That the color-printing was done planographically from the surface of a more or less smooth plate rather than from a relief-etched plate would still create a two-pull process, nor can one see how, for instance, the design at the foot of page 6 of *The Book of Ahania*, let alone that filling the bottom right-hand corner of page 5 of *The Book of Los*, could somehow have been applied at the same time as the areas of text above were being printed under much greater pressure. Here surely a two-pull process was necessary, as is admitted by Essick (*Printmaker* 130):

> The pressure needed to print the intaglio texts in these books was too much for simultaneous color printing from the plate surfaces. That Blake used a separate printing for the designs is confirmed by the title-page of *The Book of Los* ... Even in a reproduction, the deep platemark caused by intaglio printing is visible. On both the left and right margins, the design extends about 2 mm. beyond the platemark, indicating that the design could not have been printed from the text plate. The design must have been painted directly on the print and blotted, printed from another plate with a very light pressure, or printed from a sheet of paper ....

Again, whatever the precise technique, the process was a multiple one.5

4. Any form of reproduction, including digital techniques, involves a sampling process. Hence certain audio perfectionists still prefer LPs to CDs, claiming that analogue reproduction preserves subtleties lost in digital recording. Whereas enlargement in color on the web site of a detail of the "Nurses Song" from copy E of *Songs of Innocence and of Experience* (section 6, illus. 65 and 66; less effectively reproduced in black and white in *Blake* p. 97, illus. 32) does convincingly demonstrate that the yellow ink is on top of the green, the illustration of details involving the printing over or hand-coloring over of the date on the title page of *Experience* in copy T of *Songs of Innocence and of Experience* (digital version section 5, illus. 46a, 46b, 47; *Blake* p. 88, illus. 20, 21, 22) conveys nothing of the texture on which the argument is based. No form of reproduction, and in particular none that involves projection onto a screen, can convey the three-dimensional quality of a painterly medium. Examination by the eye, including scrutiny under magnification, is essential. (Thanks to Robin Hamlyn, Rosie Bass, and Chloe Johnson of Tate Britain for introducing me to the mysteries of the web.)

5. The title page of *The Book of Ahania* seems to show Blake experimenting in a different form of color-printing to create textural effects
Moreover, if, as we are assured by the authors of the Inquiry, the one-pull process was "more efficient, direct, immediate, and artistically exciting ..." (100-01), why should Blake move from this supposedly much easier and more exciting process by switching to intaglio printing? It is much easier to believe that this switch was intended to make it easier to print by the two-pull process. The whole development of the books of 1794 and 1795 supports this. Firstly, there is the simplification found in The First Book of Urizen whereby the color-printed designs are confined to particular areas. This was accompanied by the increase in the number of full-page illustrations which, in the case of The Song of Los, may not have required any etching or printing of the outlines as such at all. Finally, in the last two books of the 1790s, The Book of Los and The Book of Ahania, Blake realized that it was easier to use a two-pull process if he distinguished between linear elements and pictorial elements, and also that it was simpler to print planographically from a basically smooth surface rather than from the pitted surface of a relief-etch plate, hence intaglio printing. Given that, in these two books of 1795, Blake seems to have been obliged to use a two-pull process, and given the way that this seems to have arisen as part of the development shown in the previous books, one can no longer assert that Blake must have confined himself exclusively to a one-pull process.

One must also remember that, until he started using color-printing, Blake employed a double process, printing the text and design outlines from the relief-etched plate and then coloring the plate by hand in watercolor. Conceptually this is as much a "two-pull" process as if he did it in two different sorts of printing. Moreover, the two-pull process does not necessitate "a man who favored precision over variation" (101). It was indeed anything but a mechanical process creating precise registration; rather, it was the reverse of the precision that, it is claimed, could have been produced by a one-pull process. Blake recognized this, in his more detailed designs, by being forced to fill in the outlines in ink or with the point of a brush. Just the same happened in the large color prints of "1795" which the Inquiry leaves out of the discussion. Surely, whatever the precise dates of these on the otherwise blank paper as well as more typical areas of color around the figure; see David Worrall, William Blake, The Urizenic Books (London: William Blake Trust/Tate Gallery, 1995) 161, and color illustrations on 169, 180, and 181. The effect is very different from, say, the facing frontispiece. Indeed, as Essick says of the two Beinecke Library proofs, "these proofs may record Blake's progress from single to double printing for his intaglio color printed books ..." ("New Information on Blake's Illuminated Books," Blake/An Illustrated Quarterly 15 (summer 1981): 12)—that is, if Blake was actually moving from a single-pull process.

I have been discussing, rather superficially it must be admitted, the development in Blake's books leading up to the great color prints of "1795" ever since I began a series of reviews of the original Blake Trust's facsimiles with The Book of Urizen (Burlington Magazine 101 (July/Aug. 1959): 301-02; see also Ibid. 102 (1960): 544-46, and 103 (1961): 368); these reviews are omitted from Bentley's Blake Records. large prints and the separate Books of Designs of 1796, they represent a culmination of Blake's color-printing experiments in which, recognizing the power of his designs on their own, he was able to discard any written text. These prints in their turn led to the small paintings in tempera of 1799-1800, just as the later pulls of the larger color prints, those on paper watermarked 1804 (and still neglected for their implications for the dating of the color-printed books), led to the tempera paintings that formed the basis of Blake's one-man exhibition of 1809.

There are also further related topics to be explored. At the end of this crucial period in Blake's development there is the question of the independent color prints, where Blake seems to have dispensed totally with a printed outline, leading to such experiments as the repeated printing of his color medium under increasing pressure as the medium thinned out from copy to copy. Bentley has led the way with his fascinating article on the full-page plate 21 of The Book of Urizen from Copy B of The Large Book of Designs in the National Gallery of Victoria, Melbourne. This appears to be a repeat pull without any further coloring of the page in Copy A of the same book, and Blake, to obtain a more effective transfer of color, considerably increased the pressure of his printing, resulting in a heavily embossed platemark and the registration of Blake's relief-etched lines on the reverse of the paper.

In addition, at the beginning of this period, 1793, there is the (to me) strange case of America, of which only four of the known eighteen copies (of which three are posthumous) have been colored, and that in watercolor rather than by color-printing. Stephen Behrendt has stressed the "monochromaticism" of the uncolored copies and the way in which this underscores their "radical departures from the visual form of the conventional typeset book adorned with engraved illustrations," and Viscomi has pointed out how the lack of color makes America the most printlike of the early illuminated books" (Idea 264). Dorrbecker goes further in claiming that the particularly elaborate etching technique, including white-line modelling, of America demonstrates that, at least in "the first edition of the 'Prophecy', Blake must not have intended to add watercolour washes to these prints" (Continental Prophecies 77). All this suggests that Blake was experimenting in two radically opposed directions in the crucial years 1793-94, on the one hand towards the richer effects produced by color-printing and on
the other towards an engraving technique by which he could
dispense with color altogether.

Such questions necessitate a much wider approach to this
short but radical period of technical experimentation than
one confined to the establishment of whether Blake used an
exclusive one-pull process or a two-pull process. I do not
claim to have answered all the points raised by the Inquiry,
let alone to have proved that Blake used an exclusively two-
pull process. What is necessary, however, is that those with
the skill and technical expertise to research this question
should distance themselves a little from the technical details
and approach the subject impartially in the light of Blake's
development as a whole. Research along these directions
cannot but be more enlightening for our appreciation of
Blake's achievement.

Blake's Method of Color Printing:
Some Responses
and Further Observations

BY ROBERT N. ESSICK AND JOSEPH VISCOMI

Authors' note: An online version of this article, with il-
lustrations in color, is available on the journal's web site
at http://www.blakequarterly.org. Readers interested in
the full pictorial evidence supporting the views expressed
here are encouraged to consult the online version.

"Labour Well the Minute Particulars, attend to the Little-ones"

We are pleased that a scholar of Martin Butlin's emi-
nence would find our long, technical essay on Blake's
color printing of interest. We are also pleased that, in his
reply, he does not take exception to any of our basic argu-
ments in favor of one-pull color printing or question their
evidentiary basis. Rather, he raises several issues related, if
somewhat peripherally, to our topic, continues to favor a
two-pull process, and proposes a new method for two-pull
printing distinctly different from the methods offered by
Michael Phillips in his recent book, William Blake: The Cre-
ation of the Songs from Manuscript to Illuminated Printing.
We wish to comment on Butlin's observations seriatim as
they arise in his essay.

Butlin notes that "the concentration" of our article "on
technical detail" missed out the "more general considerations
of Blake's overall development in the 1790s" and left "sev-
eral important questions unanswered." Our essay indeed
concentrated on a single issue raised by Phillips' book, Blake's
color printing of relief-etched plates. This topic, however,
COVERS more than 600 impressions in ten books and touches
on one of the major goals in Blake studies, that of under-
standing Blake's practice and thinking as an artist. More
general considerations of all the techniques Blake deployed
in his illuminated books, and the evolution of those books
into the large color prints of 1795 and finally into the tem-
pera paintings of the late 1790s, would take a book-length
study. We (and we suspect the editors of this journal and
most of our readers) found our article long enough as it is.
The fact that most of the large color prints are planographic
(i.e., printed from the surface), and that the temperas were
painted (not printed) on their supports, does not alter the
way Blake color printed his relief etchings. We continue to
believe that questions about print technology are best an-
swered by looking closely at the primary evidence (in this
instance, color-printed impressions of Blake's relief etch-
ings), by conducting experiments in the print studio, and
by contextualizing one's findings within the history of color
printing in the eighteenth century. Connoisseurship that
produces only the most general comments ("looks like two
pulls to me and my friends"), or rounding up the opinions
of various scholars and taking a vote, are not as helpful.
Technological issues are best resolved by considering "tech-
nical detail," even if this tends to bore or annoy some of our
readers. But since Butlin has raised questions about the color-
printed intaglio plates and color-print drawings that fol-
lowed the color-printed relief etchings, we feel compelled
to answer them, which we do later in this response.

Butlin's second paragraph forces us to quibble over the
meaning of "prominent." As we pointed out in our second
footnote, several scholars, including Butlin, had indicated a
belief in a two-pull process prior to Phillips' book. These
earlier comments are brief and not even "prominent" within
the essays and books in which they appear. It seemed to us
discourteous to critique those who had only mentioned the
two-pull process in passing and had not offered any sup-
porting arguments or evidence. The history of the two-pull
theory prior to Viscomi's 1993 study, Blake and the Idea of
the Book, appears to be one of those cultural traditions that
many assent to but none investigates. Surely Phillips must
be credited with the first, prominent attempt to make a case
for the two-pull theory.²

2. Butlin refers throughout his response to an online version and a
"significantly revised" print version of our essay. He is confusing the
final online version with an early draft of the essay (15 October 2001)
that the authors put online for the purpose of eliciting responses from
curators, scholars, print historians, and other invited guests. The pub-
lished online version (February 2002) and the print version are the
same essay, except that the latter has fewer and only black and white
illustrations and some of the captions and descriptions of the illustra-
tions are altered to take that into account.

"Labour Well the Minute Particulars, attend to the Little-ones"
We apologize to Martin Butlin for not including his review of Viscomi's book in our footnote 2. It was an oversight on our part, not an egregious attempt to slight Butlin's great contributions to Blake scholarship. As far as we can discover, that review contains Butlin's fullest statement, prior to his present essay, in support of the two-pull theory—a paragraph of 206 words. There he refers to the "badly registered" impression of "Nurses Song" in the Experience section of Songs of Innocence and of Experience copy E and claims that "having made such an error, Blake could easily have succeeded in the not very difficult task of producing a perfect register." As we have made clear in our article, producing a "perfect" register, one that shows absolutely no signs of the first pull even under magnification, is, impression after impression, an extraordinarily difficult task indeed, even for the eighteenth-century French masters of multiple-plate (and hence multiple-pull) printing and for twentieth-century masters of color printing, such as Stanley Hayter, who says without qualification that it is not possible (see below). Butlin's reasoning seems to be that an example of poor registration argues for Blake's easy mastery of perfect registration. The logic here escapes us.

Butlin also notes in his paragraph that Viscomi's "argument, based on the white lines left where the paper failed to pick up the color at the base of the sharply etched relief lines [see cover illus.], could apply irrespective of whether there were one or two printings." This is true but misses the point concerning registration. These fine white lines parallel their relief lines. When they are produced in a second pull, experiments reveal, they will intersect minutely with their relief lines. It is impossible, impression after impression, to so perfectly register the paper to the copperplate that these very narrow white lines remain perfectly parallel. Minute intersecting or touching of white lines and relief inked lines signifies a second pull, but it is a sign consistently absent from Blake's color prints.

According to Butlin, our failure to cite his review, or more generally our "approach" in footnote 2, "is symptomatic of the Inquiry as a whole." He has a point, in that our concern was with an investigation of the primary evidence rather than with recording every word ever published on Blake's color printing method. Perhaps if we had concentrated more on that publication record rather than on Blake's own prints we would have remembered and added Butlin's review to our original oversight. However, given the nature of our approach to the subject, our failure to cite his review is irrelevant to our case for one-pull color printing.

Butlin expresses discomfort over our "restricted definition" of "Illuminated Printing." We were concerned with establishing what Blake meant by "Illuminated Printing" in his 1793 Prospectus and not trying to determine how the term should always be used. We are not arguing against the use of the term to include later works with unetched plates printed planographically (The Song of Los, 1795), or those printed from plates etched in intaglio (The Book of Los, The Book of Ahania, both 1795), although Blake did not apply the term to The Gates of Paradise (an intaglio work of 1793) in the Prospectus (E 693). In our contribution to the festschrift for Morton Paley, which we co-authored with Morris Eaves, we claim only that Blake "christened his works and his other works we cite. We trust that we have now made up for our original oversight. However, given the nature of our approach to the subject, our failure to cite his review is irrelevant to our case for one-pull color printing.

The registration, however, was poor; the newly printed plate was displaced below its first, exceedingly weak, printing. The ink traces of the text's first printing are clearly visible in illus. 34a and 34b of the print version and 68-70 of the online version of our "Inquiry." In other words, the plate was initially printed with ink and colors simultaneously, like all the others; had it been printed well, there would not have been a reprinting of text after colors. But perhaps this is not color printing in the "usual sense" because for Butlin the only "usual" method of color printing requires that the colors be applied in a second pull.

It is true that our "Inquiry fails to take up Phillips' point (103) that 'small failures of registration in colour-printing...
can also be seen in other plates in Copy E of the Songs (Butlin). This is the sort of general comment in which the advocates of the two-pull theory specialize. Which plates? Where in each plate? What is the evidence supporting this opinion? Where is the "overwhelming evidence" (mentioned in his "Correction," printed in this issue) that Phillips states exists but does not describe? We looked through Songs of Innocence and of Experience copy E (and other color-printed books and prints) with considerable care and could find no further examples of misregistration or signs of a second printing. We believe we failed in this search because Blake did not print his plates more than once to create his color prints. We have verified this conclusion by printing facsimiles and recreations of Blake's relief etchings, intaglio etchings, and monotypes in the à la poupée method that replicate Blake's various visual and textural features (see illus. 5a, 6a, 13, 15, and 18, and in the print version of "Inquiry," see illus. 5a-b, 6, 11, 29, 33, 35a-c, and in the online version, illus. 18-22, 26, 28, 49, 71-73, and 76).

Butlin next claims that, having "forgotten one of Viscomi's most important discoveries" about edition printing, we cast the two-pull process "in its worst light by making it as complex as possible." He accuses us of assuming that Blake would have to wipe the plate clean of ink before adding colors and then wipe colors before adding more ink ("Inquiry" 80). Again, he appears not to have read the "Inquiry"—or

3. Butlin has apparently changed his mind since 1995, when he alluded to "perfect registration" in his review of Viscomi's book.
4. Butlin apparently believes that if you apply colors only to the illustration and not the text, then only the illustration will print and a slight misregistration (or "muzziness") won't be noticeable. But the uncolored text still stands in relief as the plate is reprinted and it subtly embosses the text, flattening out the first printing and/or creating a slight halo effect around the letters (see "Inquiry" illus. 10a in the print version; 26 in the online version).
Phillips—carefully. We are merely agreeing with Phillips (95, 101) about what would be the necessary stages of production had Blake printed plates twice, and we are explicit about why "Phillips is correct to assume" these labor-intensive stages (82). In his "Correction," Phillips continues to say that the plate is cleaned of ink and colors per pull. It is the advocates of the two-pull theory who make Blake's processes unnecessarily complex. They fail to perceive that complexity by considering the two-pull process only as an one-off activity that produces a single impression. It is by remembering "one of Viscomi's most important discoveries" that we were led to follow out the consequences of the two-pull process as part of edition printing—that is, a procedure in which multiple impressions were printed from each plate before moving on to the next. When we contextualized the two-pull process proposed by Phillips within edition printing, we were ensnared within a labor-intensive, time-consuming, and materials-wasting series of inking, printing, wiping off the ink, coloring, registering, printing, wiping off the colors to ink the plate again, printing . . . and on and on.

To avoid the complexity of Phillips' two-pull method, Butlin advances a new procedure. Instead of coloring the plate immediately after the first pull and printing a second time, Butlin suggests printing all the plates in a series in ink, and later printing "the same series of sheets with his [Blake's] thick color medium." This would indeed be a simpler process, but it actually makes registration more difficult. Indeed, it would make impossible anything even approaching acceptable registration. Unfortunately, to back up this observation will require us to descend, once again, into a few technical details.

Neither of the registration methods Phillips continues to advance, in his "Correction," would allow for the production process Butlin proposes. If the printed sheet were held under the roller of the press after the first pull in ink, then it could not be removed to allow for another sheet to be printed in ink. Removing the sheet would quite obviously destroy the possibility of keeping it firmly in place. If bottom-sheet registration were used, then the registration for any one plate would be ruined when a second plate was placed on the bed of the press for printing in ink. This is because Blake's plates differ in size and configuration, even within a single illuminated book, and thus each plate would require a new bottom sheet.

We would like to see Butlin test his hypothesis in practice, for we cannot imagine any method of registration that would be compatible with it, but let us suppose there is one. Printing a series of ink impressions first, and then returning to them to print in colors, implies a substantial amount of time between these two activities, particularly if (as Butlin seems to suggest) the ink is allowed to dry. During that interval, the dampened paper would dry. It was standard practice for all professional plate printers in Blake's time to dampen the paper. We can be confident that Blake continued this procedure in his printing from relief-etched plates because of the consistent differences in the size of the plate impressions between examples pulled by Blake himself and the posthumous prints pulled by Frederick Tatham. Lifetime pulls shrunk as they dried. Tatham apparently did not dampen his paper and thus there was no shrinkage. If Blake had allowed his inked impressions to dry before a second pull, the image in those impressions would have been smaller than the image on the copperplate. Registration would have been impossible. Wetting the paper again would have been no help, since one cannot control the extent to which a sheet of paper will shrink or stretch under varying degrees of dampness and printing pressure except under scientifically controlled conditions.

We regret that Butlin was confused by our overly abbreviated caption to illus. 16 in the print version of our essay (illus. 36 in the online version). By "printed colors painted over inked relief lines" we were referring to the way in which the printed colors in the impression of plate 1 from The First Book of Urizen copy D were painted on to the copperplate (not on to the impression) in such a way as to spill over both sides of the relief lines on the copperplate. The point here is that Blake approached the coloring of the plate in a painterly and imprecise way rather than in the exacting manner required of precise registration. We hope that we did not mislead too many readers on this point.

Butlin does not believe that we can determine, in the case of the title plate to Experience in Songs of Innocence and of Experience copy T, that the colors over the date were painted on the impression rather than printed from the copperplate. We think we can, based in part on careful comparison between the reticulated surfaces created by color printing and the much smoother surfaces when the same medium is painted on the impressions (see illus. 19 and 20 in the print

5. This was no mere thought experiment on our part. For "Inquiry," we actually used the two-pull process in the studio, using Phillips as a guide, for about 45 minutes. At that point we got very tired of its complexity. For the present essay, Viscomi spent 22 hours in the print studio at the University of North Carolina (16, 24, and 26 July 2002) and as many hours in his home studio printing and coloring plates he made based on Blake's designs and conducting tests; at least ten hours were spent printing the plates in the two-pull method. This experience (and previous experience at multiple plate printing in the 1970s and 1980s) reconfirms his opinion that for a work like Songs of Innocence and of Experience or The Book of Urizen, the technique is tedious and slow, wastes materials, has a high error rate, and, most importantly, provides no aesthetic gain.

6. These measurable differences were first pointed out in Bentley 67. We are confident that Bentley is right about the origin of these differences: "The reason for this variation may be that Blake and his wife dampened the paper when printing to get the best possible impressions, and it subsequently shrunk, while Tatham did not dampen his posthumous pulls."
2. *Songs of Experience*, title plate. Handmade relief etching based on Blake's design, 12.8 x 7.5 cm., color printed in oil-based ink and undiluted burnt sienna watercolor. Detail: the color lower right, below the area where the date appears in Blake's original (only a faint trace of it is present here), was printed from the plate and reticulated as it transferred from the plate to the paper; the color covering the date (upper right) was brushed on the impression after the ink was dry and has a flat texture and stronger covering power because it did not mix with the wet ink. Printed 26 July and painted 27 July 2002.

3. *Songs of Experience*, title plate. Handmade relief etching based on Blake's design, 12.8 x 7.5 cm., printed in a Van Dyke brown intaglio ink from the surface and shallows simultaneously to show the two levels of the plate and where ink is and is not picked up by the paper. Printed 29 July 2002.

But our argument concerning the *Experience* title page in copy T\(^1\) also rests on the patterns of color printing observable in Blake's other impressions (in *Songs* copies F and G) of the plate pulled in the same printing session. Patterns are repeated in sequentially pulled color prints because the colors, after that first impression, remain on the plate; these colors in turn guide the hand coloring of the plate. If they were wiped off between pulls, as Phillips claims, then Blake was not only wasting colors and preventing color build up—which allowed him to add less color in subsequent printings—but was also repainting his plate in imitation of his previously pulled impression. In the *Experience* title plate impressions, these patterns are all the same in the areas that were color printed, except that none of the other impressions has the date covered. In all these sequential impressions, Blake has avoided printing colors over the date, hooking them around the beginning of the date instead. It is far more likely that Blake painted out the date directly on the copy T\(^1\) impression than that he interrupted his printing process to color the area of the date on the copperplate in a new color for a single impression. It is also unlikely that he could print a pigment that ignored the physical laws of sur-

7. In his note 4, Butlin says that the three-dimensional qualities of the paint over the date of the *Experience* title page cannot be ascertained in a digital reproduction and that it needs to be examined by the eye. One can, however, see in the enlarged digital reproduction (46a bottom of the online version of "Inquiry") and in the enlarged print reproduction in the Tate exhibition catalogue (Hamlyn 119) that the texture of the gray pigment is smoother than the colors around it.
4a-d. Songs of Experience, title plate. Hand made relief etching based on Blake's design, 12.8 x 7.5 cm., printed in a Van Dyke brown intaglio ink and gray and burnt sienna watercolors. Detail of pillar and date from four impressions all showing white lines around the numbers: a. (far left) date printed over in gray pigment in one pull; b. (second from left) date printed over in gray pigment in a separate, second pull; c. (third from left) date printed over in gray pigment in a separate, second pull using less pressure than used to print the ink; d. (far right) date printed over in gray pigment in a separate, second pull using more pressure than used to print the ink. All four methods of applying colors over the date fail to cover the date the way it is covered in the Songs copy T1 impression. The same color applied directly to the impression once it is dry, however, can cover the date (see illus. 2). Printed 29 July 2002.

face tension to reticulate less than all the others in the same impression. Further, the gray pigment covering the date in the T1 impression is the same as that used to paint over the white-line escarpments that remain uncovered in the other impressions produced in the same session.

And finally, and most convincingly, there is the physical character of the plate itself that would make covering the date by printing colors over it—in one or two pulls—extremely difficult and extremely obvious had it been done. Illus. 3 shows the structure of the plate, its surface areas and shallows. Note that ink does not print at the base of the relief lines or spaces between letters and lines, and this includes the lines forming the numbers of the date. The pattern around the date resembles that in the impressions of the Experience title plate in Songs of Innocence and of Experience copies T1, F, and G ("Inquiry" illus. 20 and 21 in the print version; 46a and 46b in the online version). Had the color hiding the date actually been printed, there would be fine white lines around and between the numbers. Unless Blake had previously built up colors in that area and/or printed with undue pressure or with very thick colors (both of which would cause splotching and filling up of lines), the escarpments around these relief lines would be present whether the plate was color printed in one pull (illus. 4a) or two pulls (illus. 4b), or if the second pull had "been printed with less pressure" (illus. 4c), as Phillips claims ("Correction"), or with more pressure (illus. 4d). Knowing the structure of his plate and the character of his printing technique, Blake also knew there was no point in blotting out the date as part of his printing procedure when it could be covered up more effectively during hand finishing—as were the escarpments around the lines forming the pillars.

Phillips implies that the inked date hidden under opaque color is evidence that the colors were applied separately. Otherwise, he concludes, the ink would lie on top of colors as it presses into the paper. Butlin is explicit about this supposed "sandwich" effect. He states that he is convinced by our argument (his footnote 4) that a denser medium or a darker color will always appear to be lying on top of a thinner medium or a lighter color, as we demonstrated in our discussion of "Nurses Song," but he continues to believe that "ink lines" would appear to be "lying on top of the denser colored areas" in a one-pull process. Because we do not see this visual effect in Blake's color prints, he reasons that Blake printed the colors in a second, separate pull through the press. But this is faulty reasoning. We do not see it in one-pull printing because the colors are applied over the ink and are thus mixed wet on wet with it. The result is that the colors often dominate the ink. Intermixing of colors and

been printed separately with less pressure to create a top layer above the ink since the colors were printed from the plate's shallows and not just its surface areas. Less pressure would not have picked up all the colors from the shallows. Depending on the depth of the plate, colors printed with less pressure would appear thinner, not thicker, and have less rather than more covering power.

8. Logic alone indicates that the colors over the date could not have
5a-b. *The Marriage of Heaven and Hell*, plate 10. Handmade relief etching based on Blake’s design, 15.3 x 10.1 cm., printed in oil-based ink and water-based colors. a. (left) Detail of devil’s wing and shoulder, table, and right figure printed in one pull showing printed color intermixing with ink. b. (right) Detail of devil’s wing and shoulder, table, and right figure printed in two pulls showing the black printed ink dominating the color. Printed on 26 July 2002.

6a-b. *Songs of Experience*, title plate. Handmade relief etching based on Blake’s design, 12.8 x 7.5 cm., printed in oil-based ink and water-based colors. a. (top) Detail of figures printed in one pull showing printed color intermixing with ink. b. (bottom) Detail of figures printed in two pulls showing the black printed ink dominating the color. Printed on 26 July 2002.

Ink increases for the subsequent impressions, because the dabber reinks over the colors and the colors are then reapplied over that ink. The color-printed relief etching based on *The Marriage of Heaven and Hell* plate 10 (illus. 5) demonstrates this intermixing. The plate was printed in black ink and various water-based colors simultaneously; the colors painted over the ink on the wings and body of the devil intermix with the ink and remain clearly on top (illus. 5a). Printing this plate in two pulls, however, first in ink and then in colors, minimizes intermixing, the result of which is a cleaner looking ink or outline (illus. 5b). This is true whether the ink is intaglio or relief, whether printed on a press or by hand. We see the same contrast between relief etchings based on the *Experience* title plate color printed in one and two pulls (illus. 6a and 6b). This intermixing effect is seen throughout Blake’s color prints (illus. 7; see also in the print version of “Inquiry” illus. 9, 12, 16, 36, and in the online version, illus. 25, 29, 36, 74, 75). By painting over some inked lines and leaving others uncolored (painting within the lines, as it were), Blake could continue to vary the tonality and textures of his color prints.

At issue is the covering power of the colors. They have the most when applied thickly as an opaque film on the impression, as illus. 2 demonstrates. They cover less completely when intermixed with ink, as in one-pull printing (illus. 5a).

7. William Blake, *The Marriage of Heaven and Hell*, copy F, plate 10. Relief etching, 15.0 x 10.2 cm., 1790, color printed and finished in watercolors and pen and ink, c. 1794. The Pierpont Morgan Library, New York, PML 63935. Detail of devil’s wings, table, figure on left, and plant showing printed yellow ochre and burnt sienna color intermixing with and covering the black ink. The ground below the figures shows layers of colors printed from the plate.
8. Printed colors and pen and ink washes, detail. The blotchy colors were printed from an unetched plate onto damp wove paper; the horizontal gray wash lines were applied with a brush directly on top of the printed colors once they were dry. Printed and colored on 26 July 2002.

9. William Blake, The First Book of Urizen, plate 3. Relief etching, 15.0 x 10.2 cm., 1794, color printed with touches of hand tinting with brush and pen and ink c. 1794. Robert N. Essick collection. Detail of left forearm, with gray wash filling in areas of the arm where the color printing is weak or did not print.

and 6a). And they cover least when printed separately in a second pull (illus. 5b and 6b). A cleaner or sharper outline is comparable to Butlin's "ink lines lying on top of the denser colored areas." In other words, what Butlin says should happen with one-pull printing actually happens with two pulls. The facts that the intermixing of colors and ink is present throughout Blake's color prints—and that sharper ink lines showing through colors is not—are further evidence for one-pull and against two-pull printing.

Butlin is also misled by the illusion created by thin washes applied on top of printed colors. Thin, water-based colors are absorbed by unprinted areas of the paper. At the same time, because of their different viscosities, water-based colors tend to run off of oil-based ink or thick color-printing medium. Thus, washes will appear to be under a dense medium printed prior to the application of the washes. This is, pace Butlin, a "provable fact," and can be demonstrated without resorting to "the miracles of modern technology." Illus. 8 shows three horizontal gray wash lines of various thickness that appear to lie under thick, reticulated colors (burnt sienna and raw umber) printed from a plate onto damp paper, but all three horizontal lines were applied with a brush over the colors once they were dry. This illusion is probably the reason why Richard Lloyd, "head of the print department at Christie's London," observed that "in one place a layer of watercolor has been added over the printing ink but under the color-printed pigments" (Butlin) on an impression of The Book of Urizen plate 3 sold by Christie's London on 18 December 2001. Note the lack of specifics. Which "place" on the print? What color is the wash? Is it thinner than the printed colors? We have carefully inspected the Urizen print in question (see cover illus.). The thin grayish washes that outline the arms and legs do indeed appear under the printed colors, but all were applied on top of them.

One need not know how washes and colors interact or resort to facsimile reproduction to realize how absurd the idea is that the watercolor washes on the Urizen print were applied before the colors were printed. One need only think through the production process to see how unworkable it is to apply colors by hand prior to finishing all stages of the printing procedure. The text is lightly printed in a light orange-yellow ochre ink. We have searched diligently, but we can find at most only a few very small spots of this ink in the design area. The figure and flames, the relief lines of which guided the coloring on the copperplate, are defined primarily by the colors in which they were printed (burnt sienna, raw umber, red, beige, and yellow-umber pigments) rather than the ink. Thus, if Blake had added washes to the design area before he color printed it, he would be painting on what was virtually a blank piece of paper. How did he determine where to place the finishing washes before there was any image on the paper to finish? The purple-gray wash surrounding the figure's left forearm is clearly an attempt to fill in areas of the arm where the color printing is weak or did not print at all (illus. 9). How would Blake know that he needed to improve this area before the color printing had been executed and its incompleteness on the arm made evident? The black ink line, almost certainly added with a pen, that outlines the upper edge of the figure's right leg carefully follows the edge of the color printing (illus. 10). There is no underlying orange-yellow ochre ink printed in this area. How would Blake know where this fine pen and ink line should be drawn prior to color printing? Adding handwork to a print is always the last step, after all printing has been

The illusion, claimed by Phillips in his "Correction" (see also his book, 103), of multiple layers on the title plate of Songs of Innocence and of Experience copy T, and which he read as evidence of two pulls, appears to be another instance in which the various viscosities and surface tensions of ink and colors trick the eye. An illusion of various layers can be experienced by viewing a reproduction of the Experience title plate (or of any color or colored print) in the Tate exhibition catalogue (Hamlyn 119) with a magnifying glass.
10. William Blake, *The First Book of Urizen*, plate 3. Relief etching, 15.0 x 10.2 cm., 1794, color printed with touches of hand tinting with brush and pen and ink c. 1794. Robert N. Essick collection. Detail of top edge of right leg below the knee, with a black ink line, added to the impression with a pen, outlining the leg where the ink did not print.

finished. To reverse this procedure and add an intervening layer of handwork between printing operations creates unnecessary problems, particularly when there is little if any image printed on the paper. All such difficulties and complexities are avoided if, as we are convinced, Blake printed the inked text and the color-printed image in one pull through the press and later added the washes and pen and ink outlining. The fact that this was the conventional sequence in Blake's time does not persuade us that Blake did not follow it.¹

10. Butlin states that “creating precise registration ... was indeed anything but a mechanical process” — which is to misunderstand the material exigencies of printmaking and printing because he equates “registration” with pen and ink “outline” that is done on the impression after printing. He argues that Blake was “forced to fill in the outlines in ink or with the point of a brush” on many of his color-printed impressions because the outline as printed was imprecise. He is right about the printed line being less sharp and wiry, hence “precise,” than hand-drawn pen and ink lines, which would be true of impressions printed in one pull or two pulls. But he is wrong to imply that we think that one-pull printing was "precise" in this sense of the word and hence not in need of hand finishing. We are very clear in "Inquiry" and in its captions for illustrations that Blake finished his color prints in watercolors and pen and ink. In short, registering a plate precisely to an earlier impression from it is not the same thing as adding fine lines and details in pen and ink on impressions. Butlin also equates a two-part or "double process" of printing impressions and then coloring them in watercolors with a two-pull printing process. This analogy obscures the issue at hand. Most image-making processes can be divided into multiple activities; the question is where those divisions occur.

Butlin faults us for not discussing the intaglio illuminated books, the "independent color-prints" (i.e., the intaglio and relief etchings color printed as part of the *Large Book of Designs*), and the large color prints. He suggests that all these provide strong evidence for two-pull printing of all of Blake's color prints. We disagree and take the opportunity to examine them now.

Why Blake switched in 1795 to intaglio printing for the last two illuminated books of the 1790s is a good question, but the idea that "the switch was intended to make it easier to print by the two-pull process" (Butlin) is not the answer. If that was Blake's intention, why do *The Book of Los* and *The Book of Ahania* exist in one copy each? Why only eight color prints—counting proofs—among the 17 extant im-
12a-b. (left and center) William Blake, *The Book of Los*, copy A, title plate. Etching, 13.5 x 9.8 cm., 1795, color printed and finished in watercolors and pen and ink, 1795. British Museum. Details of the right and left sides of the image showing colors spreading beyond the platemark and over the beveled edges.


14a (left)-b (right). *The Book of Los*, copy A, title plate. Handmade intaglio plate based on Blake's design, 13.8 x 10.0 cm., printed simultaneously in ink from the intaglio lines and in colors from the surface of the plate. Impressions before finishing. Detail of colors extending past the left and right platemarks and over the bevels in two different impressions. Printed 16 July 2002.

Pressions of the two works? How does this compare to over 600 color-printed relief etchings? From this minority report, Butlin reasons that, if two pulls here, then two pulls in everything leading up to it. Such logic should give one pause, given how experimental Blake was as a painter and printmaker, often engaging in methods that are unique to a single work (as Butlin notes in his comments about *America a Prophecy* of 1793). In this matter, however, Blake was as consistent as Butlin supposes. But this consistency resides in his continued use of one-pull printing.

We have argued that Blake color printed his relief-etched plates by inking the raised surfaces with a dabber and applying colors locally with brushes and small dabbers to the inked surfaces and uninked shallows in the standard à la poupée manner and then printing raised surfaces and shallows simultaneously. Printing the two levels of an intaglio plate simultaneously is a variation on this technique. Essick once suspected otherwise, because he interpreted the colors extending beyond the platemark in *The Book of Los* title plate (illus. 11) as signs of a second printing (*Printmaker* 130). What he now realizes is that these colors were printed from the beveled edges of the copperplate (illus. 12a, b). Because an intaglio plate requires more pressure than surface print-
15. *The Book of Los*, copy A, plate 5. Handmade intaglio plate based on Blake's design, 9.0 x 9.0 cm., printed simultaneously in ink from the intaglio lines and in colors from the surface of the plate. Detail of bottom right corner showing intaglio text, surface colors, and slight intaglio lines in the illustration. Impression before finishing. Printed 26 July 2002.

Viscomi printed his replica of *The Book of Los* title plate simultaneously in intaglio with an oil-based black ink and in relief with water-based colors (illus. 13). It is one of 21 impressions he printed on 16 July 2002 in the University of North Carolina print studio in a two-hour period. A detail of the left margin of the impression in illus. 13 and one of the right margin of another impression show the colors extending past the platemark and even past the bevel (illus. 14a-b). Viscomi also color printed etched replicas of the bottom corner of *The Book of Los* plate 5 (illus. 15) and of *The Marriage of Heaven and Hell* plate 10 (illus. 16) simultaneously in intaglio and relief. The latter impression, with intaglio text and color-printed vignette, is analogous to *The Book of Los* plate 5 and *The Book of Ahania* plate 6. Blake's illustrations in *The Book of Los* plates 2 and 5 appear to have been rudimentarily etched and lightly printed with the col-
Variations on “this simultaneous relief and intaglio printing technique,” which Hayter referred to as “simultaneous color printing,” included “the direct wiping of certain areas of the plate, as well as the use of stencils, silk screens, inks of different viscosities, and rollers of varying hardness to control the placement of the relief colors (Moser 35-36; see also Hayter, New Ways of Gravure 158).” However the colors were applied to the surface of the plate, the application of colours was less important than the big idea of combining all colours on one plate and printing it in one passage through the press. Efficiency was not the only reason for adopting this process; it gave imaginative artists an entirely different notion of working in colour intaglio. New textural possibilities, new aesthetic means of expression lay open. In the past, traditional colour aquatint had appeared sporadically; after Hayter’s breakthrough, intaglio printing in colour began to burgeon and is now common practice. (Black and Moorhead 16)

Simultaneous color printing was born out of the attempt to avoid “all the difficulties of register,” which Hayter knew all too well (New Ways 159). In About Prints, he describes various methods for registering plates, including pinholes, bottom sheets, and pinching the paper with the press’s roller, and concludes that “it is worthy to note that none of these methods is absolutely precise” (58). Phillips continues to suggest that Blake might have used the roller to hold his paper in place, despite our pointing out that the sheets used in Songs of Innocence and of Experience are too short for this method, given the circumference of the roller of his press (“Inquiry” 95), and he suggests a variation on the method in which the paper is held in place by a weight. Of the pinched sheet method (and this would be true of its variant), Hayter states: “If done carefully it is accurate to within 1/32 inch even on large plates, but it is only applicable when printing wet on wet” (New Ways 136). This means that the paper must be printed damp and sequentially, and thus cannot be set aside as Butlin has suggested, and that the best alignment one can hope for might fall below the threshold of vision but will be detected by close scrutiny and magnification. Our facsimile in “Inquiry” is this good, but when examined under a magnifying glass it reveals the characteristic ghosting of a second pull (see illus. 6 and 7a in the print version; 20 and 21 online). Moreover, plates that pass through the press twice look the part: “… it must be obvious that the full, sharp relief can only be seen from the last plate printed, that of all other plates having been flattened by subsequent passes through the press.” And, as we noted in “Inquiry,” registering one plate on top of another is “typical of the practice of a skilled artisan rather than a process by which the original thought of the artist becomes visible directly in a print” (Hayter, About Prints 58-59).

It may come as a surprise to Butlin, as it did to Essick, that Hayter believed that simultaneous printing in intaglio and surface colors to the layman would seem so obvious that he will be surprised to hear that it was not carried out successfully long before, as the advantages of producing a full colour proof in a single operation, rather than having to recommence the whole operation three or four times, are obvious enough. Of course it had been tried before, and what happened to the printer attempting it was probably what happened to us many times during the fourteen years we spent developing this method. (About Prints 59-60)

His method as finally or fully developed could be very complicated, involving multiple intaglio techniques on a large plate (e.g., engraving, soft-ground, aquatint) and multiple roll ups in relief inks of different viscosities (see note 11). But Hayter, who was “among the first to admit that the fewest and simplest operations should be used to achieve the

11. A thicker, more viscous ink roller over a thinner ink is rejected and adheres only to the surface surrounding the first ink. This technique is usually referred to as “color viscosity printing,” but Hayter considered that a misnomer and preferred to call it “simultaneous color printing, making no distinction between this technique and that used for other prints made with stencil, silk screen, or offset colors” (Moser 38). Plates etched to create relief areas and open shallows (called “open etched,” “relief etched,” and “deep etched” plates) could be inked with hard rollers for the surface in an ink of one viscosity and softer rollers for the shalloes in inks of different viscosities. For more on Hayter’s experiments in color printing and its origins, see Black and Moorhead’s catalogue raisonné, The Prints of Stanley William Hayter (15-16, and 23ff). The reproduction in this catalogue of the print Jeux D’Eau (#208) from 1953 is of particular interest to the present discussion because it was one of the color prints produced from the same plate registered and printed twice. Along the edges and corners ink slightly overlaps from the two prints to reveal the registration. In other words, even a great printer like Hayter in a first class workshop like Atelier 17 could not completely hide the signs of registration. By the mid 1950s, Hayter “stressed so strongly the advantages of printing color from a single plate that an artist interested in printing from several plates rarely did it at the workshop” (Moser 46).

12. Phillips was, he realizes now, too quick to accept the notion that Blake produced four perfectly registered color prints without signs of registration using just one pinhole, a technique never before used for good reason. Common sense tells one that it cannot work: at least two pinholes are required (see Hayter, About Prints 57). Yet not only was he willing to believe in Blake’s use of this technique, but he claims the technique does “work,” because he has tried it (“Correction”). We are curious to know what he means by “work” and to see the results. Are his registrations acceptable or perfect and without any traces of the second pull?
desired effect” (Moser 40), identified the fundamental technical problem as “surface colour shifting under the rolling pressure of the press, [which] once clearly understood, was solved by controlling the surface tension of the [relief] ink” (About Prints 61). For Blake, who used water-based colors instead of relief inks, this meant making colors that could be applied thickly or thinly to shallows or surfaces and which transferred to damp paper without prominent splotching or smearing. As illus. 17 demonstrates, modifying the composition of the colors can affect their surface tension and viscosity. Too much or too little pigment, glue, ox gall, honey, whitening, or water in the color makes for different visual qualities in the print, as do the type and texture of the paper, the amount of size in it, and the amount of pressure used in printing. Painting quickly and keeping the colors moist works well, but so does painting the plates and letting them dry (which is inevitable for larger works), because when printed onto damp paper under pressure the dried water-based colors are reconstituted and will transfer to the paper. The color-printed replicas reproduced here are of this second kind.

We agree that the large color-print drawings (1795) and the Books of Designs (1796) “represent a culmination of Blake’s color-printing experiments.” But it is not as Butlin imagines. He sees Blake’s development as moving from simple to complex, from small relief etchings printed in one pull, to etchings and relief etchings printed in two pulls, to large color prints produced in two pulls and elaborately finished in watercolors and pen and ink. The development, however, was towards greater simplicity, from printing a combination of oil-based ink and water-based colors from two levels of one plate to the planographic printing of just water-based colors from the surface of a support. Technically, the color-printed Albion rose is the vignette from The Book of Los title plate writ large; the unprinted intaglio line was used as a guide for painting the surface of the plate in colors that were printed onto damp paper and finished in watercolors and pen and ink. The large color-print drawings are, technically, Albion rose writ large, in that the colors were painted on a flat support. The outline of the design was probably drawn on a gessoed millboard (though copper was used for at least one design) in India ink, which would adhere permanently to the support and not transfer to the paper. The composition was painted in colors using brushes and dabbers and printed onto damp paper and finished in watercolors and pen and ink. The outline and composition, the latter in thin layers of dried colors on the support after printing, could be returned to years later and the process repeated. 16

14. Butlin does not explicitly say so, but he implies that the large color prints were printed in two pulls, first in outline and then in colors. In earlier statements, he implies that Blake used both a two-pull and a one-pull procedure: “In some cases, such as God Judging Adam, Blake seems to have printed a monochrome outline of his design before over-printing it in his tacky, tempera-like medium, a process akin to that used in the colour-printed examples of his books.… In others only colour-printing can be detected” (Paintings and Drawings 1:156). He makes the same point in his “Physicality” essay (4-5).

15. The outline may also have been drawn in watercolor and covered over in a thin film of transparent varnish or gum Arabic, which would prevent it from printing and assist in transferring colors from the support. Gum Arabic is used in this manner today in printing monotypes in watercolors. Millboard, the thick kind used in binding books, would have to be sealed with a glue or gesso to prevent the watercolors from being absorbed into the board. The idea that the patterns in the gesso may have contributed to the spongy appearance of the color print or parts of it was suggested to Viscomi by Beth Grabowski, Professor of Art at the University of North Carolina, who teaches printmaking. To test this hypothesis, impressions from the same board color printed in 1795 and c. 1804-1805 would need to be examined minutely. Identical patterns of reticulation in two such examples would suggest that they were produced by the surface structure of the gesso on the board.

16. It is interesting to note that Blake provided his chief patron, Thomas Butts, with a set of the large color-print drawings in 1805,

The color-print drawings are monoprints, in that the impressions pulled from the painted surface are not exactly repeatable. The monoprints reproduced here were executed in the method described above. Illus. 18 is a recreation of *Albion rose* before finishing, printed without outlines in one pull in undiluted watercolors from the surface of a sheet of 1/16 inch plexiglass in place of an intaglio plate. Illus. 19 is a color print of a still life printed in watercolors from a 3/32 inch gessoed board (illus. 20) with India ink outline, which did not print. If dark outlines are wanted with the colors, they need only be applied with them, over the India ink outline, as another monoprint from a different gessoed board demonstrates (illus. 21). Blake appears to have used the method more for its textural possibilities (illus. 21) than its reproductive potential. However, he could print two or three impressions from a well-painted plate or board before having to replen-

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some printed on paper dated 1804, and a copy of *Songs of Innocence and of Experience* (copy E) in 1806. In the latter case, he returned to sets of impressions printed 1789, c. 1794, and 1795 and finished them in watercolors and pen and ink. With the color prints, he did something very similar. Instead of executing new images, he returned to his series of painted boards executed in 1795 and repainted some of them to produce new impressions, dating them “1795” in pen and ink.
ish colors. Such subsequent impressions are called maculatures, which are usually lighter and less intense than the first impression (illus. 22 and 23). Increasing pressure for the subsequent prints helps to secure a good impression but is not absolutely necessary (it was not done for the maculatures here, but was done for a third still life impression). Many of the color-printed illuminated plates (relief etchings and intaglio etchings) have maculatures (see "Inquiry" illus. 12, 13 in the print version; 29-32 online).

In William Blake, Butlin claims correctly that Blake did not repaint "his plate before taking each impression. In at least some cases Blake seems to have printed two or even three copies of a print without renewing his application of paint to the plate, each impression being therefore weakened in intensity" (83). He does not, however, explain how the second impression is compatible with two-pull printing, nor does he or Phillips appear to realize that maculatures undermine the entire hypothesis of two-pull printing. Neither addresses the issue of maculatures directly and thus they appear to assume that the maculatures of relief and intaglio etchings and, for Butlin, of the large color prints were also printed in two pulls, one for the outline and then for the colors. But this could not be, since the colors and outlines of the maculatures are diminished because they come from the plate just printed; they show, in other words, that there was printable color left on the plate or board from the first pull (even if replenished in some areas). Thus, the relief or intaglio etching or board was not cleaned of all colors in order to print the outline only. Rather, it was printed again, without intervening steps, to produce a second impression. This second impression, from the same plate, is necessarily one pull. Why then would Blake go through all the trouble of registration when a good impression could be produced from the plate in one pull? That second impression again demonstrates the efficacy of one-pull printing.

The core question in this discussion about color printing is not whether relief or intaglio plates could be registered (of course they can—though certainly not with just one pinhole), but whether they could be registered consistently without ever showing any traces of that registration. We have argued that traces of the second pull are always present if one knows how and where to look, and have argued from much practice in the printing of both intaglio and relief-etched plates, from the close examination of Blake's prints, and from the practice of many other printmakers. We have also argued and demonstrated that both intaglio and relief-etched plates can be printed from both their surfaces and incised lines and shallows simultaneously, and that water-based colors can be used with oil-based inks. Blake pioneered these printing and etching techniques as well as the monoprint and the modern concept of the color print as an aesthetic work equal to painting. A question we asked in "Inquiry" is worth repeating: why do in an intricate and expensive way (two-pull printing) what can be done directly and more simply and less expensively (one-pull printing)? As Hayter and other printmakers knew, there is no aesthetic gain from printing the plates twice. Butlin and Phillips do not claim that Blake could not do what he did in one pull or that two
pulls made for better images. They merely keep asserting, without solid evidence and without refuting our counter-evidence, that Blake consistently used two-pull printing.

Butlin's concluding paragraph returns to the theme with which he began. We have indulged in too much technical detail, focused over-much on the primary evidence, and this has blinded us to larger issues. Only general knowledge, painted with a broad brush, is allowed. We find this approach unsatisfactory for the study of printing technology. Surveys of Blake's artistic development must neither ignore nor contradict material facts. Indeed, one can speculate on the meaning and aesthetic qualities of an art work, but to ascertain its medium, whether the colors are oil or water based, the support paper or canvas, the plate an engraving or a mezzotint, the print pulled once or twice through a press, it is the material facts, discerned by chemical analysis, x-rays, magnification, hands-on experiments, computer enhancement, and other research aids, that will prove most objective and helpful. Avoiding Minute Particulars will not lead to the Palace of Wisdom.

Works Cited


REVIEWS


Reviewed by G.E. BENTLEY, JR.

Blake went with his nineteen-year-old disciple Samuel Palmer to the Royal Academy exhibition of May 1824. Years later Palmer remembered vividly seeing

the image of Blake in his plain black suit and rather broad-rimmed, but not quakerish hat, standing so quietly among all the dressed-up, rustling, swelling people, and myself thinking "How little you know who is among you!"

At the dinner at Tate Britain opening the exhibition in November 2000 and next day at the Tate reception, there were no broad-brimmed black hats—indeed, there were no hats at all. But if Blake had been there, or Gully Jimson either, what would he have made of it all?—the discrete sponsors leading off the quadrille, the catacatastics of champagne, and room after deftly-lighted room exhibiting a plethora of his works such as the quiet artist-engraver had never seen assembled in one place. Indeed, some of these works had never been in the same room together, and a number of them

1. Blake was wearing his hat indoors; the watercolor by Richard Newton of an exhibition of c. 1794 shows men wearing and doffing their hats (p. 143 in the catalogue here); see the apparent self-portrait of Blake in a rather broad-rimmed hat in the Canterbury Pilgrims design (illus. 1).

had not been on the same continent together for a century or more.

Of course he would have been dazzled by the generosity of lenders throughout the English-speaking world—thirty-two in Britain (mostly the British Library [28], the British Museum Print Room [54], the Tate [37], and the Fitzwilliam Museum [25]); eleven in the United States, three in Canada, and one in Australia.

He might have been as curious as we to compare the coloring of early and late copies of, say, his Songs of Innocence, to see how the Great Color Prints have withstood the ravages of time (often brilliantly), and how the seasons have assailed his beloved temperas (sometimes lamentably).

But most of all he might have marveled at these bank directors and advertising executives and luminaries of fashion assembled to dine at the table of William Blake. Blake's own private exhibition in 1809 in his brother's hosiery shop may not have attracted more than three or four viewers at a time—indeed, we know of no occasion when there were as many as four there at once. William Blake as a culture or cult hero of the Establishment would have bemedled or bewildered the man who wrote of the world of Pitt and Paine in 1798—and could have written of the world of Blair and Bush in 2001—"The Beast & the Whore rule without control." Have Blake's arts reduced the power of the Whore and the Beast—or have his arts been perverted, so that the "Jerusalem" hymn becomes in 1917 a war song to Englishmen and the state itself fosters in 2000 the arts of the most eloquent anarchist in England?


Most of those who enjoy Blake's works have to make do with not-as-good substitutes, from facsimiles to mere "reproductions" to (even though we know better) editions of his works in Illuminated Printing without pictures. The opportunity to see the real thing is rare, for the originals are scattered from Vienna (Austria) to the National Gallery of Victoria (Australia).

As a consequence, a Blake exhibition such as the enormous one at Tate Britain is a rare treat, though a treat which is becoming less rare. Since Martin Butlin organized the great Blake exhibition at the Tate in 1978, there have been important Blake exhibitions in Toronto and New Haven (1982-83), Tokyo (1990), Barcelona and Madrid (1996), and even Helsinki (2000). Perhaps if you just sit still a major Blake exhibition will come to your own hamlet. Or perhaps not.

The Tate Blake exhibition of 2000-2001 was certainly a major exhibition, mounted with enormous éclat and puffy. It included almost all Blake’s works in Illuminated Printing, sometimes in several copies and sometimes with each plate separately exhibited (as in Jerusalem [E]). They included All Religions Are One (A—the only known copy), America (C, F), Book of Los (A, unique), Book of Thel (A), Europe (B), First Book of Urizen (D), For Children: The Gates of Paradise (E), "Laocoön" (B), Marriage of Heaven and Hell (E, L-M), Jerusalem (A, E), Milton (L), Song of Los (B), Songs of Innocence (F), Songs of Innocence and Experience (B, E-F, G, T), There is No Natural Religion (L), and Visions of the Daughters of Albion (a, D). Among Blake's major manuscripts there were his Notebook, Vala or The Four Zoas, and Tiriel, but not the unillustrated Ballads Manuscript.

The drawings included those for Tiriel (all the nine known surviving watercolors), Young's Night Thoughts (8), Gray's Poems (5), Chaucer, Dante (29), Paradise Lost (11 of 12 from the Thomas set), L’Allegro and Il Penseroso, the Large Blake-Varley Sketchbook and the Large Book of Designs.

It is wonderful to be able to see the real thing—but some of these works are not the real thing. Exhibits 111a-d are copperplates made and printed by Michael Phillips, and #103 is a rolling press with arms about 9' high, much higher than the ceiling of the only surviving room in which Blake printed, in his cottage at Felpham.

The most rewarding of the exhibits were those which cannot be adequately reproduced, either because of their size or because of their medium. Most impressive among the originals of the watercolors are the "Vision of the Last Judgment," 20" x 15½" (#59, Petworth House), "An Allegory of the Spiritual Condition of Man," 59 5/8" x 47 ¾" (#60), and Chaucer's Canterbury Pilgrims tempera, 18 3/8" x 53 15/16" (#62). But the most extraordinary effect is made by the complete series of twelve Large Colour Prints (#241–52) which have rarely been seen together—even Butts, his chief

4. The exhibition and catalogue do not, however, include Poetical Sketches and Descriptive Catalogue (which are not illustrated) or the Bunyan designs, and they have only two of the scores of Visionary Heads.
The exhibition was organized chiefly by Robin Hamlyn, and the catalogue is a worthy memorial of the exhibition. The pro forma essays by Peter Ackroyd and Marilyn Butler are remarkable for little more than good will.

The catalogue is very generously illustrated, though the reproductions vary capriciously in size; for instance, the Tiriel designs are reproduced in three radically different sizes, though the originals are all approximately the same size. The reproductions include all those known for Tiriel (9), 29 for Dante, 8 for Milton (A), Marriage (L-M) entire, 9 from Europe (B), 16 from the Bible, and 22 from the Illustrations.

The catalogue is useful and responsible. However, Richard Edwards was scarcely "the leading London bookseller" (p. 52), though his brother James might be so described, and Boydell's Shakspeare Gallery was not "abandoned" (p. 52).

The most original part of the catalogue is Michael Phillips, "The Furnace of Lambeth's Vale" (pp. 98-171). He claims, as he does in his William Blake: The Creation of the Songs From Manuscript to Illuminated Printing (London: British Library, 2000), with many of the same reproductions, that the proprietary chapel built in 1793 in Lambeth was "built on the village green" (p. 145), as background for "The Garden of Love," but he offers no evidence that it was indeed on the village green, as is the plain intent of "The Garden of Love" (1794), and there is no village green on the map of Lambeth which he reproduces (p. 145). In the anti-Paine riots in October 1793, "The fires would have been clearly seen from ... Hercules Buildings" where Blake lived (p. 154), but no evidence is offered. "Clearly, any ambitions that Blake had to engage publicly in the debate provoked by the events in France had been suppressed" in the autumn of 1793 (p. 154), but Blake produced America (1793), Songs of Experience (1794), Europe (1794), and Song of Los (1795), in each of which an assiduous informer could easily have found generous evidence for his sympathies with revolutionary France.

For those who could not see the exhibition at the Tate, a somewhat diminished version of it was exhibited at the Metropolitan Museum in New York on 27 March-24 June 2001. Both exhibition and catalogues are achievements of extraordinary ambition and accomplishment. All who made it possible deserve our thanks.


Reviewed by ALEXANDER S. GOURLAY

Michael Phillips’ engaging account of the origins, early history, and production of the Songs of Innocence and of Experience bristles with startling insights, fresh perspectives, and new discoveries, but important aspects of its most prominent arguments are simply wrong. The idea behind it is outstanding: to review the publishing, political, and aesthetic contexts in which the Songs arose, to reconstruct as far as possible the stages in which they were composed, and to detail the physical processes by which Blake actually produced the books, all accompanied by compelling images of relevant documents, tools, and other visual materials, many in color. In many ways the promise of this concept is admirably fulfilled. The writing is clear, bracing and energetic, the typography and layout are attractive and readable, and the illustrations are fresh, plentiful, well chosen and clear. The book includes more than two dozen large full-color images of pages from particular copies of Songs, many of which have not been reproduced elsewhere. Given all these positive characteristics, it is unfortunate that it is marred throughout by major and minor errors in interpreting the complex evidence about how Blake created the Songs of Innocence and of Experience.

5. Ackroyd's "William Blake: The Man" (pp. 11-13) is notable for his knightings of "Sir William Hayley" (p. 13), rectifying an omission by George III.

6. Marilyn Butler, "Blake in his Time" (pp. 15-25) speaks of Blake's "death at seventy" (p. 14: he was 69), "his first volume of poems" (Songs of Innocence, 1789) (p. 14: his "first volume of poems" was Poetical Sketches (1783)), "the busy printing house of the publisher Joseph Johnson" (p. 17: Joseph Johnson had no printing house; he farmed his books to numerous printers), and "Blake's paganism" (p. 19).

Phillips begins to establish the formative context and origins of these poems by adducing two interesting books of prints from his personal collection that Blake may have owned and doodled on as an adolescent. These aren’t shown to be especially relevant to the Songs, either in themselves or because of Blake’s putative additions to them, but they do effectively suggest the potential range of his early interests, and it is tantalizing to see a few pages from them. Phillips then focuses more narrowly on Innocence, reviewing early Blake poems copied (by someone other than Blake) into a copy of Poetical Sketches and also lyrics in the dramatic satire An Island in the Moon, of which Phillips published a sumptuous and scholarly facsimile edition in 1986. Certain of these are versions of poems that later appeared in Songs of Innocence, and others explore related themes in ways that illuminate Blake’s developing sense of the topography of both Innocence and Experience. Although some poems probably had versions even earlier than the fairly polished drafts we see recorded in these ms., and any or all could have been adapted to the contexts in which they appear rather than being steps in a straightforward evolutionary process culminating in the Songs, Phillips’ account of the poetic process is generally persuasive and consistently illuminating. Knowing what a poem used to be or where it came from should not determine our understanding of what it became, but this chapter makes an excellent case for reading poems in their developmental context.

Some troublesome issues arise two chapters later as Phillips conducts the reader through the much more complicated documents that underlie the etched texts of the Songs of Experience. These are more clearly drafts in development even if some may have been copied into Blake’s Notebook from still earlier unrecorded versions, and most contain discernable (but not easily distinguishable) layers of revision in addition to plentiful false starts, dead ends and other expected signs of poetry caught early in the creative process. When the late David V. Erdman documented these changes in his editions of Blake and of the Notebook, he only described the sequence of marks that overlap, and didn’t specify a chronology of creation and revision or attempt to sort out broad layers of changes made about the same time. Phillips undertakes to do both, but the resulting account of Blake’s process of composition and revision is ripe with dubious assertions—the broad outlines of the process Phillips describes are plausible and the narrative as a whole provides a very useful perspective, but much of what he specifies about the mechanics and chronology of composition and revision is unlikely and most is impossible to confirm.

Part of the problem is that although Phillips’ account is not overtly polemical, it is more tendentious than it first appears to be: throughout the book, the descriptions of Blake’s creative and printing processes are skewed by misconceived reaction to the portrait of Blake as a maker of illuminated books promulgated by Robert N. Essick in William Blake, Printmaker (1980) and William Blake and the Language of Adam (1989) and even more emphatically by Joseph Viscomi in Blake and the Idea of the Book (1993). Essick and Viscomi represent Blake as an heroic and ingenious inventor of means by which the poet/artist is freed from the drudgery and mechanization that dominate creativity in conventional book production. In their view, Blake’s methods maximize artistic control, spontaneity, and the ratio of productivity to uncreative labor. When Viscomi described the process of making illuminated plates in 1993, he was especially concerned with debunking critical corollaries to the persistent myth that in making his plates Blake mechanically transferred finished calligraphic texts to the copper after they were actually written on something else. In that context Viscomi noted that when writing on the copper Blake could have recorded spontaneous effusions of verse or created designs directly on the plate, without any drafting or premeditation. But when Viscomi wrote of Blake regularly “composing” text and pictures on the copper he referred not to literary or graphic invention (as Phillips seems to think) but to the arrangement (and adaptation) of pictorial and textual material on the page. Some of the shaggiest passages of such later prophecies as Milton and Jerusalem could have been invented wholesale as Blake recorded them on copper, but nobody has ever argued that Blake wrote the Songs without drafts. The critical point that both Essick and Viscomi were trying to make was that every stage of making a Blake book was a fresh performance by the artist, whereas in conventional bookmaking there is almost always at least one stage that is at best a simulacrum of a performance that has been fixed at an earlier stage and in another medium, as when a commercial engraver copies a design by an artist or a compositor makes a copy in type from fair copy in the poet’s hand.

In a move that is characteristic of this book, Phillips undertakes to set Essick and Viscomi straight about the means of production by showing how hard Blake appears to have worked on drafting the proto-Songs in the Notebook, as if they were claiming that Blake’s poems, including the Songs, were all communicated to him by spirits while he worked on the copper. Just as he seems to misunderstand “composition” of texts and designs, Phillips treats the word “autographic,” used by both Essick and Viscomi to describe the way Blake produced the printed texts and designs for his books, as a synonym for “automatic,” as in “automatic writing.” Phillips writes, “The manuscript drafts, both in An Island in the Moon and in the Manuscript Notebook, make clear that Blake did not write autographically, unpream­dicted or from any form of dictation divine or otherwise.”

2. The engraver or compositor in conventional book production may be an artist in his or her own right, and may have considerable control, but nothing like what Essick and Viscomi call Blake’s “autographic” command of processes and content.
(111). The word “autographic” actually means “written in the author’s own hand,” and to the extent that it is related to the issue of volition it means that the author is more, not less, in control of what appears in the published book.

The misdirection of the argument about composing on copper is complemented by systematic errors in interpreting the manuscript drafts of the Songs that make it appear that Blake, far from being in control, was both inattentive and irrational. Ironically, because Phillips is so diligent about specifying what he supposes to be the minutiae of the creative process (and so careful to provide the materials that we need to corroborate his narrative), it quickly becomes apparent that he is not entirely reliable as a guide through the editorial thickets of the Notebook drafts. In most of these erroneous reconstructions, Phillips treats tentative moves by Blake that were rejected immediately or overwritten as if they were still part of the context as Blake moved on with an entirely different thought in mind. To take one example, in reconstructing the “first draft” of “I laid me down upon a bank” (36), Phillips has Blake writing “Driven” in the last line. Are we to suppose that Blake’s first inspiration was to invent a nonsense word, then thought better of it after he finished the poem? Isn’t it more likely that he abandoned a word beginning with “T” and wrote “Driven” on top of it, then went on to the rest? This isn’t an important error by itself, but as the instances multiply one realizes that Blake is being treated more like an oblivious telegraph clerk than a poet.

3. Ominously, Phillips has communicated his confusion to the reviewer Vincent Carretta, who concludes that “the evidence for the evolution of the Songs... renders this notion of ‘Blake’s autographic mode’ no longer tenable” (443).

4. To take another example, in reconstructing the “first draft” of the poem “I asked a thief” on page N114 of the Notebook, Phillips offers a neat draft of the whole poem ending with a nonsense phrase, “And twist earnest & game / He enjoyd the dady.” Later, Phillips reports, as part of a general scheme of revision, Blake revised it to read, “And twist earnest & joke / Enjoyd the Lady,” correcting “dady” to read “Lady” (38-39). I think Phillips has grievously misinterpreted a harmless over-reading by Erdman, thereby producing editorial hash. In transcribing the poem for his 1965 edition of Blake, Erdman supposed he saw vestiges of a “d” at the beginning of the word “Lady” and guessed, in his impetuous way, that Blake must have first written “dame” to rhyme with “game” (itself a very speculative reading, perhaps suggested by an initial “g” that seems to be underlying the “j” of “joke”) and then later changed it to “Lady.” In his edition of the Notebook and in his 1981 revised edition of Blake, Erdman corrected his account of the revision, recognizing that the letters “me” were never written, but he still reported “da[me],” that is, an abortive “dame” rejected even before the poet finished writing it, with “Lady” written on top of it. I think Erdman’s “da[me]” was a figment of his fertile editorial imagination: more likely, Blake initially wrote “lady” and then, either immediately or sometime later, capitalized it with his usual majuscule “L,” which has a leftward loop in the lower corner, thus producing something that looks like a “d” made up of that loop and the superimposed stems of the “l” and “L.” The hypothetical Blake who inhabited Erdman’s head when he examined manuscripts was creative, logical, and purposive, his mind bursting with synonyms and potential rhymes as he writes. The hypothetical Blake who writes “enjoyed the dady” is as unaware of what he is producing as a numb-fingered recruit from the typing pool. Similar improbabilities are specified as fact in transcribing “Thou hast a lap” on N111 (Phillips 52), where Phillips leaves “can” in line 3 of the second stanza, though it is much more likely that the word would have been deleted before he wrote it again in the next line. In line 3 of “The Earth’s Answer,” also on N111 (52), Phillips has Blake writing “Her eyes fled dead” in the position of a tri-syllabic line; even if we assume that Blake had not yet determined the metrical structure when he drafted the first stanza, he would at least have settled on “eyes fled” or “orbs dead” (another rejected reading) before writing the rest of the poem, and it makes no sense to offer a “reconstructed” draft of the poem containing meaningless and mis-metrical scraps of both readings at once. Once one starts looking closely at these editorial reconstructions one can quickly find as many more that are downright impossible, as well as numerous instances in which more plausible alternative reconstructions are neglected. It does not help that there are also several annoying typos in Phillips’ transcriptions that suggest the intervention of an officious electronic automaton rather than flawed editorial methods: e.g. “new noon hay” on pages 39 and 41, “jealously” on both 52 and 53. In his “Corrigenda” of 2001 Phillips lists other errors in the book—see “Works Cited.”

5. I agree with Phillips that the Notebook drafts reflect several stages of revision, but his stroke-by-stroke account of multiple pens and inks is more positive in its assertions than my experience with sharply pointed quill pens and period inks would allow me to be. Such pens and such inks can produce writing with highly variable characteristics, even at a sitting, if the pen is set down, held aloft, trimmed, recut, or even shifted in the hand.

68 Blake An Illustrated Quarterly Fall 2002
methods of creating printable text on plates, but also the efficiency of the techniques used to print from those plates, techniques which similarly freed the artist from mechanistic drudgery. Viscomi pointed out evidence of small-scale mass production everywhere in Blake's illuminated canon, and showed that even though copies of illuminated books are often quite different from each other, Blake's method permitted him to create individuated copies efficiently without having to become a slave laborer in his own mills of reproduction. Viscomi may have exaggerated the efficiencies achieved by systematic production while downplaying some of the ways in which Blake worked unsystematically and inefficiently, but once again Phillips' account of the printing process goes far overboard in the other direction, and again he sometimes has Blake acting in ways that don't make much sense.

Phillips' description of how Blake wrote, drew, and etched text and design on the plate basically follows Viscomi and Essick, but whereas they were especially interested in the "composition" stage of the process, Phillips glides by it in a few sentences. All three agree that Blake wrote and drew backwards directly on the plate with a quill or brush loaded with an acid-resistant substance, and then etched or engraved further on some plates after initial etching. Phillips does not dwell on the fact that as Blake worked with the resist he could stop and erase errors or make improvements fairly easily (we don't yet know exactly how easily, since the recipe for the resist itself is still the subject of speculation), so improvising the layout on the copper and freely creating or modifying text or design as Viscomi described would be practical if not inevitable. As part of the campaign against Blake and the Idea of the Book, Phillips emphasizes the existence of some preliminary drawings of elements used in the etched images, but even these are very sketchy designs copied freely to the plates, and hardly prove that Blake never created major images on the copper. The fact is, we have very few sketches of design elements that appear in any illuminated books, and even fewer combining text and design, and those circumstances suggest strongly that Blake usually composed (in Essick's and Viscomi's sense) his pages directly on the copper. In spite of Phillips' arguments, it is also likely that some primary designs for the Songs never existed in any material form before Blake drew them in resist upon the plate.

Although Phillips does not say as much as he could about the process of preparing plates, photographs of beautiful facsimiles of Blake's relief plates "by Michael Phillips" are sprinkled throughout the book (frontispiece, figs. 33, 34, pls. 30, 31, 32, 35, 65) and were featured prominently in the Tate Britain/Metropolitan Museum Blake shows of 2000-2001 (co-curated by Phillips). These are probably accurate replicas, and they are impressive to see, important to show, and inadvertently misleading, because they make it appear that the author has personally mastered Blake's plate-making techniques. When asked, Phillips freely acknowledges that they were created photographically, using a modern light-sensitive resist to reproduce Blake's writing and drawing on the plate, then etched in stages, as Blake did. At least two reviewers of this book have supposed that these plates were created using Blakean techniques rather than photographically generated.6

When Phillips turns to inking and printing from relief plates, he again pointedly emphasizes how hard and how long Blake must have worked, as if Essick and Viscomi had represented Blake churning out prints effortlessly or carelessly. Phillips makes much of an 1839 account by John Jackson (not the color printer John Baptist Jackson), who says that Blake spent longer wiping the ink off his plates after inking than he did inking them (20). But even if we accept this belated report at face value, the amount of time for the whole inking process would have been brief: if Blake was adept at manipulating the printer's ball7 that he probably used to ink his plates, basic inking (exclusive of loading the ink on the ball) might have taken at most five to ten seconds per plate, so if he spent twice or three times that much time wiping the border of the plate and removing an occasional spot of ink from the etched areas, the total time spent on inking would still be measured in seconds rather than minutes, and probably didn't require removing the plate from the bed of the press. Unlike Phillips, I believe that Blake usually didn't foul the etched "whites" when inking, or if a plate did get fouled occasionally it would usually happen in the middle of a large open area where wiping would be almost as easy as cleaning the border. We need not assume, as Phillips seems to, that every inking was followed by several minutes of tedious wiping (and perhaps reinking) before Blake could take a clean impression. I am not a skilled printmaker, but I can't imagine any self-respecting artisan who would work that way—usually, one strives to do things right the first time, operating briskly with care and grace, rather than blundering through and then laboriously cleaning up the mess. When we see an illuminated page printed pristinely, with no residual ink smudges in the white areas, we are probably seeing an impression from a plate that was inked carefully and efficiently in a few seconds, without any fouling at all, and wiped only on the border edge (if the edge was wiped, as it often was not in Blake's later practice). The entire printing process for ordinary relief printing could have averaged as little as one or at most two minutes per impression. That is more time than it would take a commercial printer to print a simple relief woodcut of the same size, but such a rate hardly "believes" (Phillips' word) Viscomi's estimate that Blake and his wife could in theory have done the printing for all the first copies of Innocence (700 pages) in a single week, especially if they printed two separate leaves at a time.8

6. Carretta was misled (443), as was the astute John Windle in his online review.
7. Or a dabber, used in intaglio printing, as Viscomi proposes.
8. See Phillips 21, where Viscomi's week shrinks to "a few days." In
For the first copies of Songs of Experience, which were printed in color as well as washed with watercolors, Phillips insists upon a printing process that is both cumbersome and extremely improbable. In their recent refutation of the two-pull theory promoted in this book (Essick and Viscomi argue that for most color printing, Blake applied a variety of thick color pigments to some areas of the relief plates in addition to his usual printing ink and printed from the etched and unetched surfaces of the shallow plate at once. He could then replenish the ink and/or colors as needed and print again, often without cleaning or even removing the plate from the press. The process would have taken only a little longer than relief printing in monochrome—if that took a minute or two per page, the most careful color printing might take twice or at most three times as long, depending on the amount of color involved. If two or more impressions were taken from each inking and pages were printed in pairs (both probable if not inevitable), the per-page rate would have been much faster than that. I think it is likely that runs from a given plate between cleanings would typically be shorter than in monochrome printing, since the plate would get messy fairly quickly, but he could still take several impressions in succession before stopping to clean accumulated ink and colors from the plate, a tedious process. In contrast, Phillips supposes that Blake must always have color-printed the Songs plates in two stages, once in monochrome and once in colors, working one leaf at a time, and twice cleaning the plate completely for every single impression. With the exception of the obviously double-printed "Nurses Song" of Experience Copy E, the isolated, slender and ambiguous evidence that Phillips produces as evidence of universal two-stage color printing—occasional suggestions of overprinting and isolated "registration" pinholes—are much better explained as accidents in one-stage printing or the consequence of subsequent hand-coloring. We would need much more and much clearer evidence before we could conclude that Blake always or often or ever worked in this extremely inefficient way.

fact, even printing a single page at a time at the two-minute rate, it would have been possible to complete the whole job in three eight-hour days of continuous work—"a few days" by any standard. Phillips also challenges the idea that Innocence was printed in "conjunct pairs," which as far as I know nobody has proposed, rather than pairs of separate leaves, which Viscomi does mention as a possibility in discussing how efficient the process could have been; there was probably room in Blake's press to print two separate leaves side by side, and conjunct pairs were certainly used, for instance, in printing MHH; see Viscomi 107, 250.

9. Essick and Viscomi, "An Inquiry"; I have drastically shortened this review, originally written before I saw their piece, so as not to repeat their arguments.

10. These "pinholes" do not exist (as Phillips now acknowledges), and wouldn't mean very much if they did. See Essick and Viscomi "An Inquiry" 88-90 and "Blake's Method" and Phillips' response (and Martin Butlin's) in this issue. I do not believe that Phillips or Butlin have effectively answered any of Essick's and Viscomi's objections to the two-pull theory.

Nevertheless, before we can resolve these disputes decisively, several more rounds of careful experiments with Blakean media are due—someone will have to show that it is possible to make Blake-like plates from scratch (with something like his lettering) and print truly Blake-like impressions in color from them efficiently. Though Viscomi's experimental plates and the prints from them are very good and strongly indicate that he is on the right track, I hope we can eventually get even closer to Blake's methods. The stakes in the debate about printing are significant, for these technical questions affect virtually every aspect of Blake studies. We can't, for instance, edit illuminated books authoritatively without understanding how he made them, and we can't read them well without good texts. We will better understand the books when we know more about their projected audience, and, as Phillips cogently argues, understanding the ergonomics and economics of publishing illuminated books is essential to understanding his concept of audience (and to Blake's biography, dating and establishing the illuminated canon, restoring and preserving Blake's art, and much more).

Some of the new information about Blake's methods and media that Phillips has uncovered is both sound and important, especially the dramatic evidence of lead white and its deterioration in some copies of Experience and his reports of other new physical and chemical analyses conducted by several other researchers. The description of Blake's watercolor palette, with nicely reproduced samples, is likely to be a useful resource for anyone studying Blake works that include watercolor. Also compelling are Phillips' explanations of the ways in which the technical aspects of Blake's procedures intricately relate to contemporary historical and political circumstances and the metaphors and images in his poems and designs. All in all, this book represents a significant, albeit significantly flawed, contribution to our understanding of Blake's Songs and the processes that went into them.

Appendix: Phillips' Annotated Edition of Paradise Lost

In 1995 G. E. Bentley, Jr., accepted Phillips' copy of the 1732 edition of Paradise Lost edited by Richard Bentley as a probable "Blake Book," adding it to the carefully tended "Books Owned" section of his Blake Books Supplement; he judged that its two annotations are "persuasively signed 'W.B.,' probably by the poet" (322). Aside from its appearances in the Tate Britain/Metropolitan Museum Blake shows, the reproduction of the bottom of two pages in The Creation of the Songs is the first public appearance of this annotated Milton. Only one of the two annotated openings is actually reproduced, and the same pages were displayed in the London and New York exhibitions. The encircled,
slightly botched, monogram "WB" that appears there (Phillips 56-57, fig. 25) does indeed closely resemble the very distinctive one with which Blake sometimes signed his art. But this monogram is easily imitated, and I don't think Blake ever used it to sign a text—only visual art. Further, the rest of the lengthy annotation is definitely not in Blake's hand and its sentiments are at odds with his usual opinions, so the monogram must be either a forgery or an improbable coincidence, the work of some other "WB."  

The annotation's tone and content are not Blakean. It begins sarcastically: "I cannot enough admire the hardiness of Bentley, who would expunge these two last Lines, as proper and surely as beautiful as any in the whole Poem, and substitute cold expressions foreign to the Author's [Judgement del.] probable and natural meaning . . . " (56). Blake undoubtedly would have rejected Richard Bentley's editorial intervention if he were ever aware of it. But I don't expect to find Blake making an argument in which an appeal to what is "probable and natural" trumps all, and the icy contempt in the annotator's use of "hardiness" (i.e., audacity) is hardly consistent with Blake's thoughts about inspiration (or his vocabulary elsewhere). 

But the handwriting in the body of the annotation is the most powerful evidence that the annotator was not Blake. It shares some features with some of Blake's many hands, as does almost any eighteenth century roundhand. Blake occasionally used a very formal "copperplate" roundhand (as in the original title page of Vida), modulating into a variety of more or less informal hands that incorporate some of its characteristics—if it were Blake's, this handwriting would be one of the more formal ones. But this hand is much too tight (the bead-like minuscules, particularly), too metronomically rhythmic, and too consistent in its extreme rightward tilt to be like any of Blake's that I can remember seeing anywhere. Further, a damning cluster of improbabilities quickly becomes evident when one examines particular letterforms and common ligatures or quasi-ligatures. For example, in every one of Blake's hands from every period, in all but one instance 13 of the letters "ld" at the end of a word that I have found featuring a retrograde (uncial-style) "d," it crosses or is too short to reach the ascender of the "l," but the annotator's similar retrograde "d," occurring twice in the words "would" and "cold," loops carefully up, over and around the "l" that precedes it. Further, the annotator always used the same retrograde "d" in all positions, whereas Blake almost always used an upright "d" in initial positions, often used it medially (and if medial and retrograde it usually swoops forward again), and he sometimes used it in final position—Blake's most formal hand in The Four Zoas features an upright "d" in all three positions, though there are a few retrograde examples in final position.

Similarly, Blake rarely used the formal roundhand version of a Roman majuscule "A," almost always preferring a capital that looks like a large version of the minuscule "a," and when he did use the Roman-style "A" it invariably has a strong horizontal crossbar; the annotator's "A" has an elaborate curved crossbar, so obviously practiced that it must have been part of his usual "A." And so on. 14 Given all these uncharacteristic features of the annotator's hand, I see no reason to believe that the poet William Blake had anything to do with this book.

14. Bentley reviews some other features of Blake's hands in the course of refuting another mistaken Phillips attribution. See "William Blake and the Sophocles Enigma." The "Sophocles" manuscript features several un-Blakean hands, none of them anything like the one used in the Milton annotation.

Works Cited
