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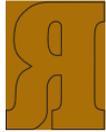
18 Positive
and Negative
Auto-Pressure
Prints

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Daniel Mellis
Chicago • MMX

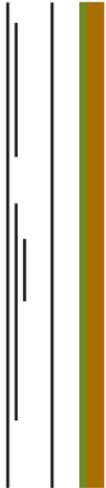


Ars Combinatoria is an exploration of the graphic possibilities of a single piece of wood type—a thirty pica Clarendon R—and a restricted set of operations—positive and negative auto-pressure printing with only one inked impression.



PRESSURE PRINTING

Pressure printing uses variation in pressure between paper and an inked printing surface to create an image with a range of tonal values. Greater pressure results in greater ink transfer and a darker image. Pressure prints are soft and indistinct, quite unlike the sharply defined lines of most relief processes. In letterpress printing, variation in pressure is most often achieved by placing a low-relief paper collage behind the paper to be printed on. Taking an impression of an inked printing surface with this combination translates the design of the paper collage to the printed page.



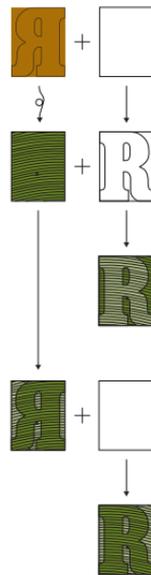
After a pressure print, a latent image remains on the printing surface. If a new sheet of paper is then run through the press with uniform pressure, it will pick up the ink that the first print left behind. Dark areas on the second print correspond to low-pressure areas of the first impression. This second print is an example of negative pressure printing. By analogy, positive pressure printing is just the pressure printing described in the previous paragraph. Makeready is the positive pressure prints used to create negative ones.

The variable pressure between the paper and the printing surface does not have to be created by a low-relief paper collage. It can also be generated by a relief surface on the paper itself. In *Ars Combinatoria*, blind impressions of the top and bottom of the wood type R are the relief surfaces for pressure printing. The forms of the top and bottom of the block can thus interact with each other and themselves. This method of pressure printing converts

the surface of the wood type from relief to planographic. I call the technique of using one block both for the printing surface and to create the low-relief paper collage, auto-pressure printing.

FIRST EXAMPLES

The following describes the production of the prints labeled R(V) and R[V]. A blind impression is taken of the R. The block is then flipped over, inked and another impression is taken with the same sheet of paper. This is R[V]. The first impression compressed the paper in the shape of the R, which resulted in less pressure and hence less ink in those places in the second impression. Without reinking the block, another impression is taken with a new sheet of paper. This print is R(V). The ink left on the block by the second impression, in the shape of the R, is taken up by this third impression. R[V] is a positive auto-pressure print and R(V) is a negative one.



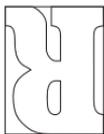


$R[V]$ is also the makeready for $R(V)$. $(R_2R)[V]$ is the only other positive auto-pressure print in the portfolio.

THE NOTATION



I developed a notation to be systematic in my experimentation and to encode the production of each print in its title. In this notation, R represents the top or recto of the block and V the bottom or verso. A ' means the paper was flipped about the vertical axis and a subscript 2 means that the block was rotated 180° . A \emptyset means no makeready was used.



In a print's title, the V or R inside the parentheses or brackets shows which side of the block received ink and the final impression. Parentheses indicate negative auto-pressure printing and brackets positive. The letters and symbols to the left of the brackets or parentheses identify the makeready used to create the print. If these letters are in parentheses

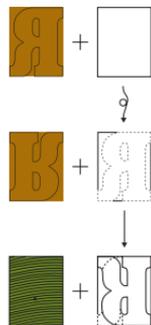


that means that those impressions were on a single sheet of makeready. The title of a print does not contain information about printing order.

ADDITIONAL EXAMPLES

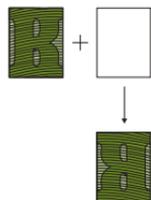
$(R_2R')(V)$

An impression was taken of the R . The R was rotated 180° and another impression was taken with the same sheet of paper, but flipped over. The bottom of the block was inked and an impression taken with the sheet, leaving a latent image. A fourth impression transferred this latent image to a second sheet of paper.



$R'R_2R(V)$

An impression was taken of the R . The R was rotated 180° and another impression taken on a second sheet of paper. The block was then flipped over and inked. Three impressions were then taken to create a latent image:

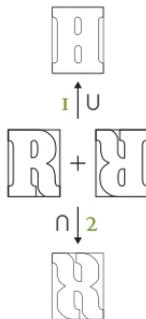




the first sheet of paper, the first sheet flipped over and the second sheet. A final impression transferred the latent image to a third sheet of paper.

OBSERVATION

With two impressions on one sheet of make-ready, the final image is related to their union, but on two sheets the final image is related to their intersection.



SELECTION CRITERIA

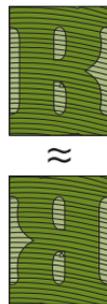
There are only eighteen prints in the portfolio. This is small compared to the number of all possible combinations of my restricted set of procedures. Sixty-four negative pressure prints are possible without having multiple impressions on a single sheet of makeready. Allowing for this, the number increases to 134. Including positive pressure prints puts the number in the hundreds. However, I excluded all of these unrealized possibilities for

reasons both technical and æsthetic.

The primary criterion for exclusion was symmetry. Many unrealized prints would be, in essence, reflections or rotations of one of the eighteen prints. Each print serves just as well to represent its symmetric brothers. I made only one exception; I included both $R(V)$ and $R'(V)$ because, unlike other shapes, the R is not innocent of its orientation.

The second criterion of exclusion was technical. The prints $R_2(R)$, $V(R)$, $R'(R)$, and $R'_2(R)$ have less contrast than other prints in the portfolio. An acceptable amount of contrast could not be maintained for prints such as $R'R_2(R)$ and $R_2V(R)$. Similarly, the verso of the block could not be made to act on itself; $V_2(V)$ was nearly identical to $\emptyset(V)$.

The number of positive prints was limited by æsthetic concerns. Only positive pressure prints with impressions on the front of the sheet and contained within the inked





impression were acceptable. This eliminated prints like $R'[V]$ or $R_2[R]$.

A subtler kind of positive pressure print was also eliminated. For example, impressions were taken of the R and the rotated R on separate sheets. An impression was taken of the inked bottom of the block with the latter. Then a final impression was taken with the former. It could be denoted $R[R_2[V]]$. Although interesting, these prints were excluded because they lacked the strong figure ground relationship of the rest of the series.

One last limiting criterion was that all impressions be in register, i.e. each had to be located in the same rectangular space on every sheet. This limited the set of all prints to the outcomes of combinatorial procedures. Without this criterion, there is almost no limit to their number, even with the other restrictions.

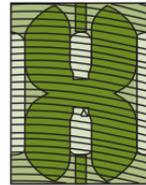
CHECKLIST OF PRINTS

$\emptyset(R)$	$R_2R(V)$
$\emptyset(V)$	$R'R(V)$
$R(V)$	$R'R_2(V)$
$R[V]$	$R_2R(V)$
$R'(V)$	$[R_2R](V)$
$R_2(R)$	$[R_2R][V]$
$R'(R)$	$R'R_2R(V)$
$R'_2(V)$	$R'_2R'_2R(V)$
$V(R)$	$(R'R_2)(R'_2R)(V)$

The prints of *Ars Combinatoria* were printed on a Vandercook Universal I at Columbia College Chicago's Center for Book & Paper Arts. The paper is Crane's Lettra, used for its excellent ability to take an impression.

This booklet was printed on the Center's Heidelberg GTO, except for the wood type on the cover and the title page, which were printed on the aforementioned Universal I; and except for the endpapers which were laser-printed.

in memoriam



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