

The Journal of Typographic Research
Volume II, Number 1, January 1968

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The Journal of Typographic Research, Volume II, Number 1, January 1968.
Published four times a year (January, April, July and October) for Dr. Merald
E. Wrolstad by The Press of Case Western Reserve University, 2029 Adelbert
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SIMPLE CHANGE IN ARRANGEMENT

Sir,—The letter from Frank Quelon (9 March) makes a good case for the introduction of dedecorated English. He points out that there would be a worthwhile saving in space, and that learning would be easier, but the system leaves out of account altogether the question of reading time. An obvious method of achieving a reduction in reading time is to eliminate the time required to return the centre of vision to the left hand margin of the text after reading each line and before reading the next. This can be readily and logically achieved by printing English in a left—right—left direction.

The saving in reading time which would in change simple this from result arrangement may be expected to be and .cent per one than more considerably in addition one gets the worthwhile bonus continuous more a .practice little a after .of perception of the text, uninterrupted by the beginning the to back gaze the swing to need of the line before reading the next. Possibly so and .place their lose may readers some read the lines one out of phase. The simple place to is problem this to solution brackets at the ends of lines where (problem Another .sequence in are they) (is the convention to be adopted when a) (In .line a of end the at occurs hyphen) (well set type however these are) (avoided be can probably and uncommon) (altogether. The ultimate extension of) (of use the course of is system this) (mirror writing in alternate lines but) (egatnavda eht si ereht hguoht neve) (that the reversed lines show up. They) (tbuod on era smelborp lacihpargopyt) (considerable.

Max Whisson

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SMELBORP ON ALL SIDES

Sir,—Your correspondent Max Whisson (“Letters”, 23 March) advocates an ingenious arrangement for economy in reading time. He has, however, been anticipated by some 25 centuries. In Greece, the method was used in the sixth century BC and before. In Athens, the Laws of Solon were inscribed in this manner, which was known as “boustrophedon”, or, as we might say, ploughwise. You wrote a line from left to right, and at the end turned like an ox drawing a plough, and wrote the next line backwards. As we know, the Greeks had a word for most things.

But Orestes, even when hunted by the Furies, never dreamt of “smelborp”. There you have a word which evokes the whole quintessence of the prestressed radioactive space age, including modern sculpture. Doubtless avant-garde poets, were they but likely to scan the pages of *New Scientist*, would avail themselves of its subtle atmospheric undertones to conjure up a whole nightmare of serial infinity. Fortunately they have no smelborp with semyhr.

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The Design of Egyptian 505

André Gürtler

In 1965 the Visual Graphics Corporation organized an international competition for new typeface designs. The author directed his typography class at the Kunstgewerbeschule, Basel, Switzerland, in designing a class-project entry: Egyptian 505. The students' training for type design is described together with the specific development of Egyptian 505 for photocomposition. Art school education for script and type design is discussed.

In the fall of 1965 the Visual Graphics Corporation of New York and Miami, Florida, organized an international competition for the design of new typefaces.¹ Since the vocational education offered in art and design schools is rarely practically oriented, I wanted to take advantage of the opportunity for our students at the Kunstgewerbeschule to participate in such a competition. The directors of the school agreed, and the students took up the project with great enthusiasm.

A student who has never had a brush in his hand and who has never given any thought to the shape of a letter would scarcely be able to cope with the design of a typeface. The students in the class who undertook the project were in their third semester of the graphic art course; the entire study takes five years or ten semesters. Script instruction had been a part of their first-year curriculum. In this earlier instruction the students experienced a strict training in the basic elements of lettering, which was to be continued on a higher level when they enter the classes designed specifically to train graphic artists. The studies are divided into

1. A booklet on the 1966 International Typeface Design Competition, “15 Award-winning Typeface Designs,” is available from Visual Graphics Corporation, 1398 NE 125th Street, North Miami, Florida 33161.

three parts: elements of letter design, penmanship, and the history of writing and lettering.

Our interests in the third-semester course concentrate on the design of different typefaces. For the novice it is very difficult to draw the shape of any letter correctly; one has to know them before one can draw them. He must, in the beginning, get the feel of the individual form of a letter. The student usually begins by designing the two lower-case letters n and o of a sans-serif style:



Figure 1.

We have found that this is the simplest and the most effective exercise in training the eye for the individual shape of a letter. There are neither serifs nor hairlines to confuse the issue, and the n and the o contain the important standard elements of any typeface. The n is the basic letter for the vertical line measure; with it the shape of the arch is determined. The o is the basic form for all round letters and with it the thickness of the horizontal line is determined; the vertical roundness must be tuned to the vertical part of the n; the shape of the arch must make a unit with the n. When the basic forms for n and o are in accordance with each other, all other letters can be developed.

Students are allowed only to do free-hand drawing from the very beginning. No mechanical expedients are permitted; only later in the education, the ruler can be used for measurements.

First come the other simple letters, then the more complicated ones:




Figure 2.

Finally, the alphabet is complete:



Figure 3.

The student is now so far advanced that the capital letters can be drawn in accordance with the minuscules without great trouble:



Figure 4.

It would be ideal if the student could develop a complete type series in his course of study—including the numerals and punctuation marks—but this is only possible if he works at it on his own time:

no 123.:)&

Figure 5.

Only the essentials of letterform design can be taught, as the students have to be introduced to other exercises in developing a total feeling for form. The program, therefore, also deals with the refinement and the boldness of typefaces. For example, when the letter gets changed from its standard form—either thinned out or thickened—it changes the proportions of stem, width, and the inner spaces:

g g g g

Figure 6.

Other important problems include differentiation between the horizontal spread and the boldness of letterforms:

o h c a n

Figure 7.

At a further stage the student must come to grips with problems other than those concerned only with form sensibility. In drawing his letters, he must also consider the meaning of the words his letterforms spell out. The individual letterform and the word structure often must visually convey the sense of a given word:

light

L i c h t

dark

dunkel

cold

k a l t

dead

tt

tube, pipe

r o h r

Figure 8.

Slowly the student's technical and formal skills develop, providing (in part) the basis for practical application.

The Competition

Because of the limitations in the background of the ten students and on account of the time limit—four months—I decided to make the design of the alphabet a project for the entire class. No single student could have done it in that period of time, and I

did not want to change the regular course of study. The students especially liked the challenge that, if successful, their design would be put into practice, plus the fact that the work would be their own and could be done by teamwork.

It was decided that an egyptian-style typeface would be attempted, primarily because few new egyptian faces have been done in recent years. The development of an egyptian typeface is also a more natural continuation of the previously-practiced sans-serif letterforms than would be an old-style or modern type style. We had, however, to determine which two principal kinds of the egyptian style to design: (a) with squared-off angular serifs, or (b) with serifs connected to the stroke of the letter with a bracket or fillet:

n n

Figure 9, a & b.

The students were divided into two groups and the respective designs compared (Fig. 10).

After some deliberation, it was decided to create an egyptian typeface of the second category. As before, the next step was the execution of finished drawings of the lower-case letters n and o (Fig. 11).

Ten photocopies were made of these original drawings for use by each student in developing his own work. The two basic letters did not give a complete picture of the alphabet. Only the addition of other letters and their composition into words could finally convince us that we were on the right track. With the designs for the letters a, g, h, m, n, o, and p we could compose some imaginary words. It would be possible then not only to judge the appearance of the contemplated type, but also to adjust the letter- and word-spacing for the entire projected alphabet:

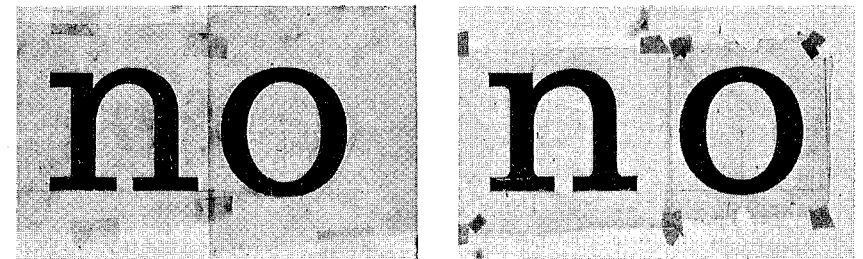
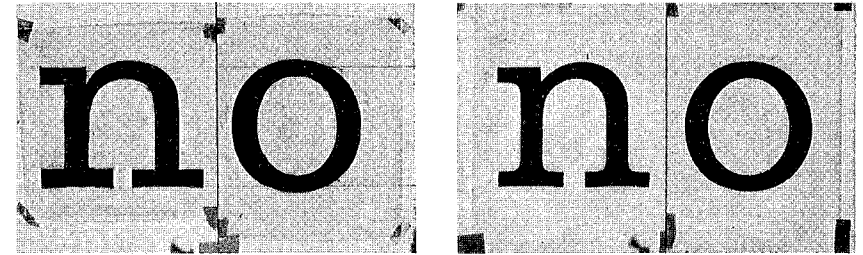
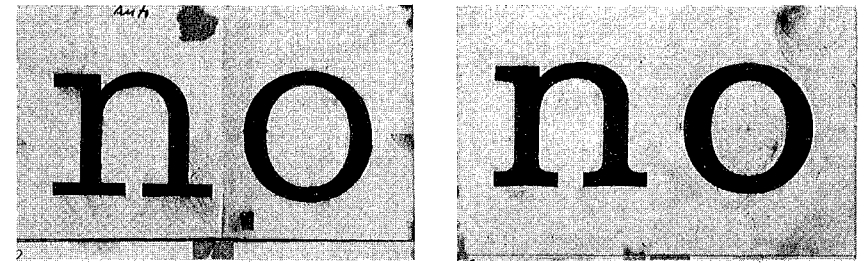


Figure 10.

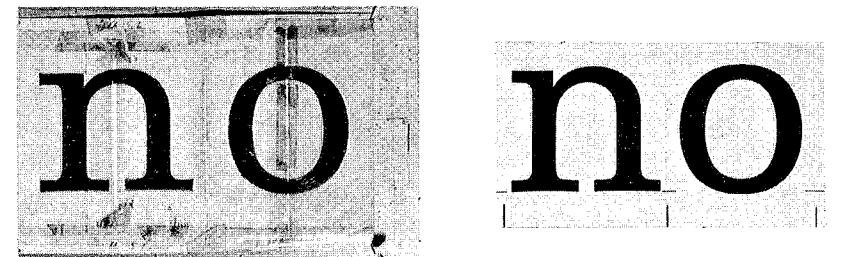


Figure 11.

Haven gehmn
 mwnev pegman
 poom hwwh

Figure 12.

Having now the preliminary work out of the way, we started to design the remainder of the alphabet. Each student was assigned a certain number of letters which he had to draw in relation to the basic letters already designed. This was done on tracing paper with a lead pencil:

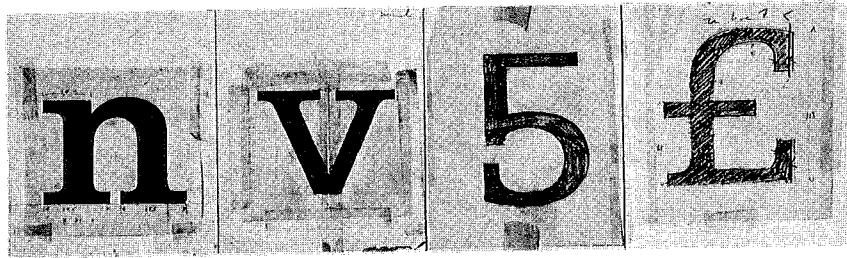


Figure 13.

When the individual form of each letter was considered finished, it was neatly executed. Teamwork was essential, as all participants were designing a single typeface. It was necessary for each student to confer with his fellow students and continually compare the individual designs, always bearing in mind that the entire alphabet had to be of an integrated uniformity. Nothing could be left to just one individual's decision. The entire class, for instance, worked on the capital Q and on the ampersand (Figs. 14 and 15). Much controversy arose around the lower-case g (see Fig. 6).

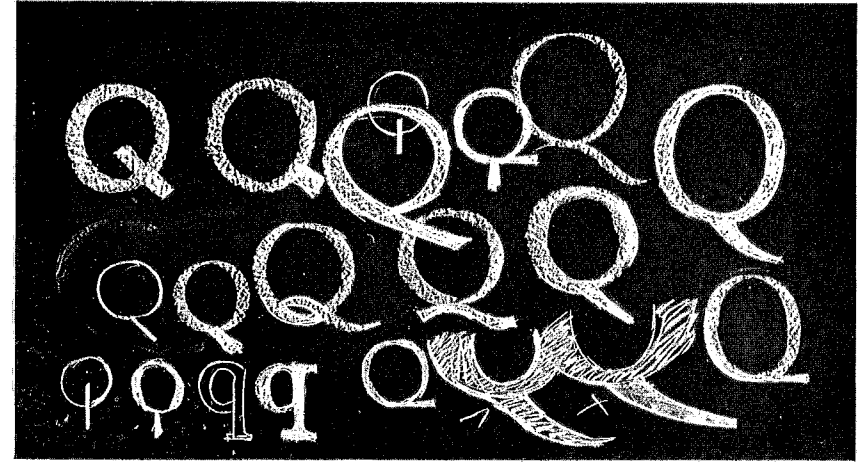


Figure 14.

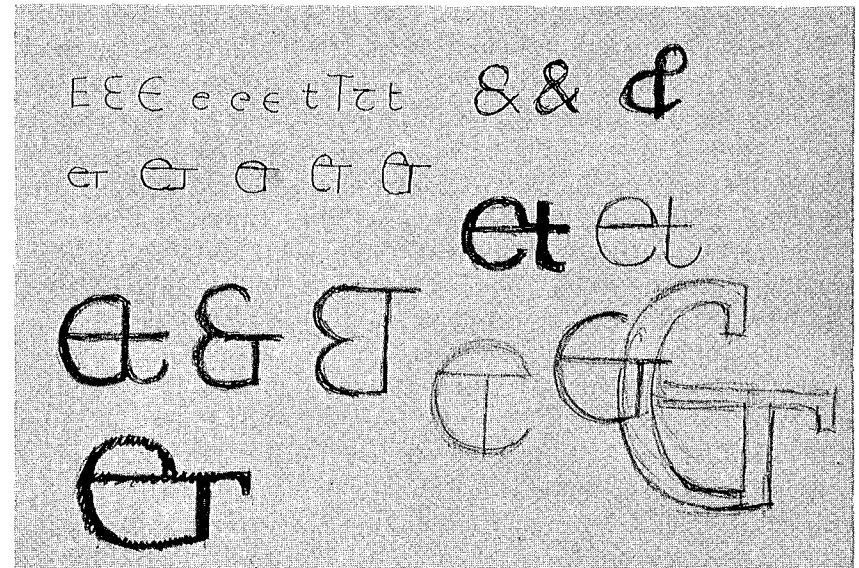


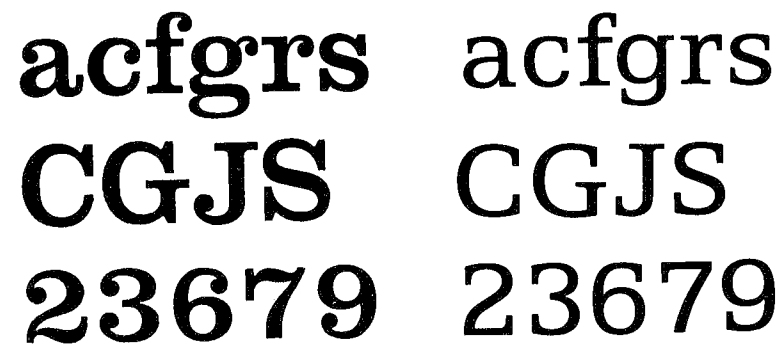
Figure 15.



Calligraphically, it is a good form; but its peculiar shape often causes a break in the appearance of the word. For this reason we changed the traditional form.

Slowly Egyptian 505 evolved. First we finished all of the lower-case letters; then we did the capitals, the numbers, and the punctuation marks.

Comparing Egyptian 505 with a Clarendon face (Fig. 16), one should particularly notice the uniform serif treatment in the former. The minuscule serifs correspond with those of the



acfgrs acfgrs
CGJS CGJS
23679 23679

Figure 16.

majuscules; the numerals, the question mark, and the ampersand all have similar elements. In the Clarendon round, drop-like serifs are mixed with rectangular ones. Capital letters have their origin in Roman inscriptions; the lower-case letters in Medieval handwriting. We tried to overcome this dualism by giving both the same kind of serif.

Having finished the design of the entire alphabet, we were still not quite convinced that we were absolutely right with regard to individual letters. Therefore, we reduced the letters photographically in order to compose sample words in reader-face size. Letters are originally designed on an enlarged scale for ease in design and for accuracy, but it is in their reduced form that many mistakes are discovered. We, too, had our surprises; for example, the graduation of thickness in the vertical strokes had to be straightened out, sizes had to be equalized, and spaces between letters had

to be adjusted. At the last minute we had to correct a major mistake: we had the impression that the horizontals of the serifs were overshadowed by the round shape of the minuscules. We cut the drawing apart and made the necessary corrections with brush and paint. Finally, we were ready to make the finished reproductions of our design (Figs. 17, 18, and 19). We named our typeface Egyptian 505 for our workshop: lettering classroom 505.

In the first week of July, 1966, the prize winners were announced; there were 777 entries from 35 countries. Naturally we were very proud to receive first prize. When we entered the competition we had decided that in case we should be given a prize, the money would be used jointly for a class project. We spent three-quarters of the money for a study trip and the other quarter on some furnishings in our lettering classroom.

Summarizing our experience, we come to these conclusions: From the beginning I definitely had in mind to design a typeface which could be used in all composition and printing processes. This meant it had to be extremely precise, which, in turn, required the combination of great discipline with aesthetic feeling. It would be impossible for each student to exercise all of the necessary skills and details for such precision in one script course. Although each student would not have been capable of designing a complete alphabet, he was made familiar with all of the problems confronted in such an undertaking. He was forced to find an individual solution as part of the team. As all questions were discussed with the entire class and since single design elements were executed by all students, each one shared equal responsibility for Egyptian 505 and each one, therefore, shared the satisfaction of having successfully accomplished the job.

OVERLEAF
Figures 17, 18, and 19.

Egyptian 505

abcdefghijklmnopqrstuvwxyz

ABCDEFGHIJKLMNOPQRSTUVWXYZ

1234567890

(.,:;'""...!/?/---*\$%&@)

The quick brown fox jumps over the lazy
dog. The quick brown fox jumps over the
lazy dog. The quick brown fox jumps over
the lazy dog the quick brown fox jumps
over the lazy dog. He stands still fixing

THE QUICK BROWN FOX JUMPS OVER
THE LAZY DOG. THE QUICK BROWN
FOX JUMPS OVER THE LAZY DOG. THE
QUICK BROWN FOX JUMPS OVER THE
LAZY DOG. HE STANDS STILL FIXING

Having the practical use of Egyptian 505 in mind, two students have also worked on an italic version, Egyptian 506, and on a bold version, Egyptian 507:

kanapee sack never
nimm pool bald goal

Figure 20.,
 Figure 21.

A typeface meets with better success when it is available in a variety of forms; therefore, the work will be continued. By the end of 1968 we will have available the roman, italic, and bold plus a bold-italic version—all for use in photocomposition.

A Look into the Future

Script is a very great field. Wherever we are, we meet it in different forms—as type, as sign, and as symbol; not only in book printing and advertising, but on the highways and in the streets, in airports, on merchandise, for the computer, on neon signs. The revolution in photocomposition is indeed a great blessing of technology; composition can be done in a minimum of time with relatively low expense. The reproduction of new type designs takes place directly on film without the intermediary steps needed in the hot-metal process. But this ease in facilities can also have its dangers. Photography permits exact reproduction of whatever is produced by the stroke of a brush. Where formerly the copper, steel, or lead plates restrained our possibilities, there are today few barriers to individual whims:



Figure 22.

The need for variety can be met much better by improvements in clarity and legibility of scripts. There are now commercial concerns offering up to 5,000 different alphabets in photocomposition. One enterprise which specializes in script design and typography has been asked to annually develop up to 300 new alphabets. Considering the fact that perhaps only 15 to 20 alphabets can meet proper aesthetic and economic standards and have any hope of survival during the next 50 years, present mass production of new typefaces is surely in adverse ratio to its artistic value.

A graphic art school which has as its primary goal the raising of a new generation of competent craftsmen should not be sidetracked by these new developments. To teach the basic fundamentals is still its most important task; only then will it make the student adaptable to later environmental needs.

Cooperation between art schools, industry, and craft unions is essential. No school can afford to ignore the developments in science and technology. Besides the educational purpose, a school must also serve as a place of research and experimentation. Our participation in this competition has demonstrated that a single class in a school of graphic art can do work of international importance. In this respect, one might also discuss the question of whether such a school should limit itself to local activities. All over the world people have to meet more or less the same prob-

lems. Today the resources for training, research, and production are fragmented. If it were somehow possible to concentrate these resources, schools and research institutes could move into key positions.

Instruction in lettering and typeface design in today's art schools is often insufficient and only skims the surface. There are still many unsolved problems. Plans are underway to establish a special advanced program for lettering at the Kunstgewerbeschule in Basel. A comprehensive study of all facets of script design would be offered; research and experiments would take up a major part of the training program. As today's script problems are of international importance, the special program in lettering is to become an internationally-oriented training center.

Words in Color: Two Experimental Studies

Lillian R. Hinds and William G. Dodds

Development of the use of color as an initial added dimension in beginning-level reading is discussed, including the exploratory studies of the Gattegno Words in Color approach. Two experimental studies tested Words in Color: the Dodds study with primary-school children describes significantly superior scores in vocabulary and spelling; the Hinds study reports superior vocabulary and comprehension gains with inner-city illiterate adults.

The use of color in teaching is not new. As early as 1900, Nellie Dale in England employed color to highlight the language sounds: "red for vowels—important people; blue for voice-less consonants; black for voiced consonants."¹ By the mid-fifties, Hay and Wingo had popularized color to identify vowel sounds in a phonics program designed for use as an adjunct to a basal reader approach.²

In 1965 Kenneth Jones described the results of an investigation into the value of color as an aid to the visual discrimination of words and letters.³ One hundred ten pre-school children were given four tests: (1) colored-letter test, (2) black-letter test, (3) colored-word test, and (4) black-word test. Half the children received the colored tests first then the black tests; the other half were first given the black tests and then the colored tests. All children were asked which they liked best, the colored or black

1. Morris, Ronald, *Success and Failure in Learning to Read* (London: Oldbourne Book Company, 1963), p. 47.

2. MacKintosh, Helen K., "Current Approaches to Teaching Reading," *NEA Journal*, LIV (December, 1965), 18.

3. Jones, Kenneth, "Colour As an Aid to Visual Perception in Early Reading," *British Journal of Educational Psychology*, xxxv (February, 1965), 21-27.