Autumn 1989

VISIBLE LANGUAGE

The quarterly journal concerned with all that is involved with our being literate

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DOCUMENTATION:

Time, Space and the Blackboard

I photographed the blackboards of the mathematics department of the University of Illinois in Urbana/Champaign. Daily, hourly, these boards are filled with symbols and diagrams: within that context, the hand-drawn symbols and diagrams need only point to corresponding mathematical concepts and their ordering; the visual properties of the marks that compose the symbols are not significant.

To this area, I applied a specific camera operation. By partially advancing the 120 film between exposures, the roll of film became not a series of distinct and isolated frames, but a series of multiple image strips which varied in length by the number of exposures that composed them.

This way of using film is not in itself an innovation but rather a stance on what a photographic image can picture. In the continuous field of the single image photograph, the visual cues that indicate form, depth and scale depend on the simultaneous recognition of camera perspective, size relationships of known objects and surfaces, and tonal rendering of those objects and surfaces. When the separate exposures are overlapped, as in these strips,

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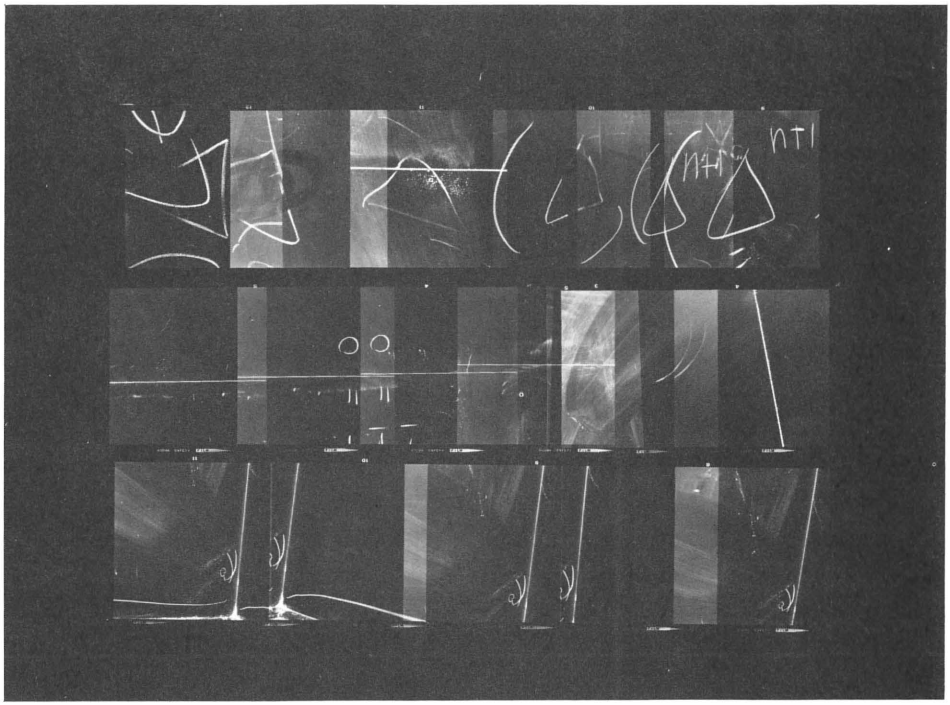
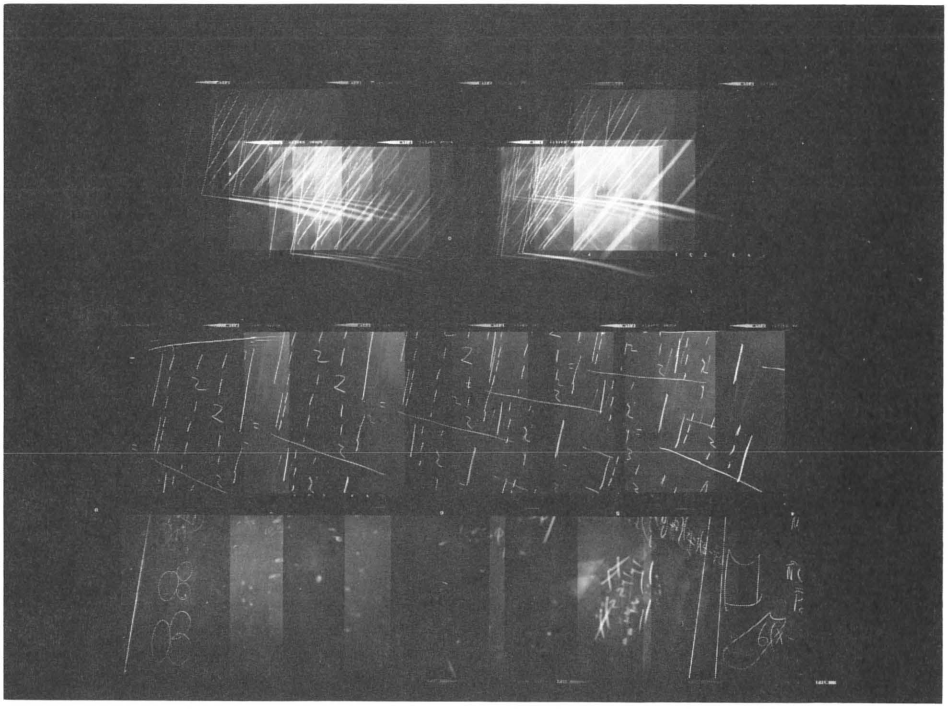
Paul Eric Berger's ***photographs have been widely exhibited in the United States and Canada, and his work has been added to the permanent collections of museums that include the Bibliothèque Nationale, the Art Institute of Chicago and the International Museum of Photography/George Eastman House, in Rochester, New York. He is associate professor of art at the University of Washington, in Seattle.***

the collision of perspectives, size relationships and tonal renderings within shared areas creates "illusions" of form, depth and scale that can extend, complement, run counter to, or depart from what is pictured within each individual frame. Thus the strip pictures what cannot be seen were we to isolate each frame but does so in the same terms as the single image photograph: perspective, scale, tone.

These strips were juxtaposed by contact printing and became the functional units of the final print. Through the overlap and/or adjacency of the strips, the final print can extend, complement, run counter to, or depart from what is pictured within each individual strip. Consequently, the strips function within the print as the frames function within the strip. The frame, the strip, the print and the sequence form the context of the work. Within this context, the visual properties of the blackboard marks become significant.



Mathematics #27, *1976*



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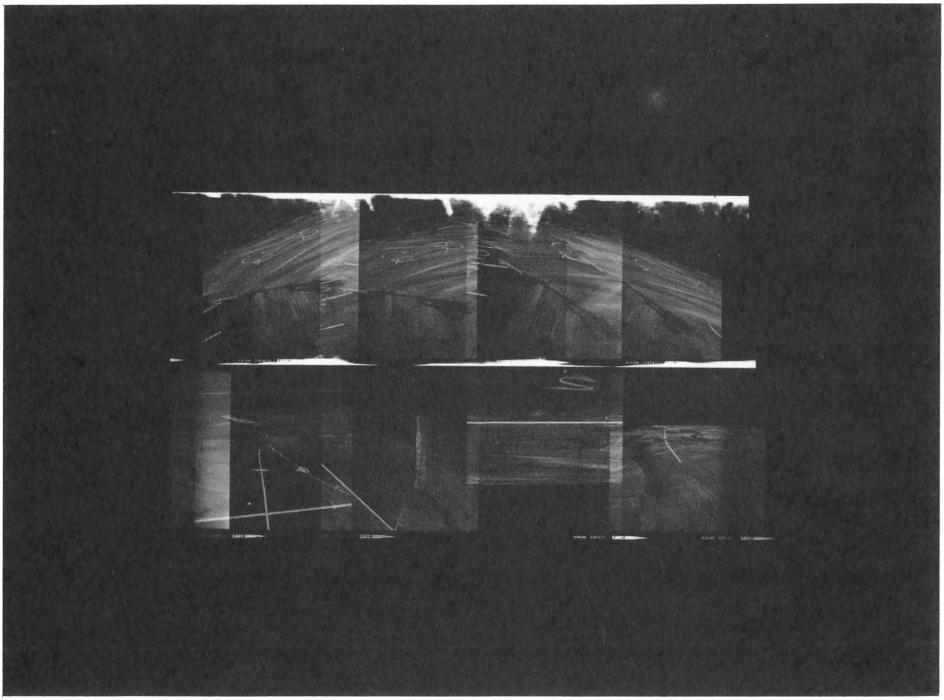

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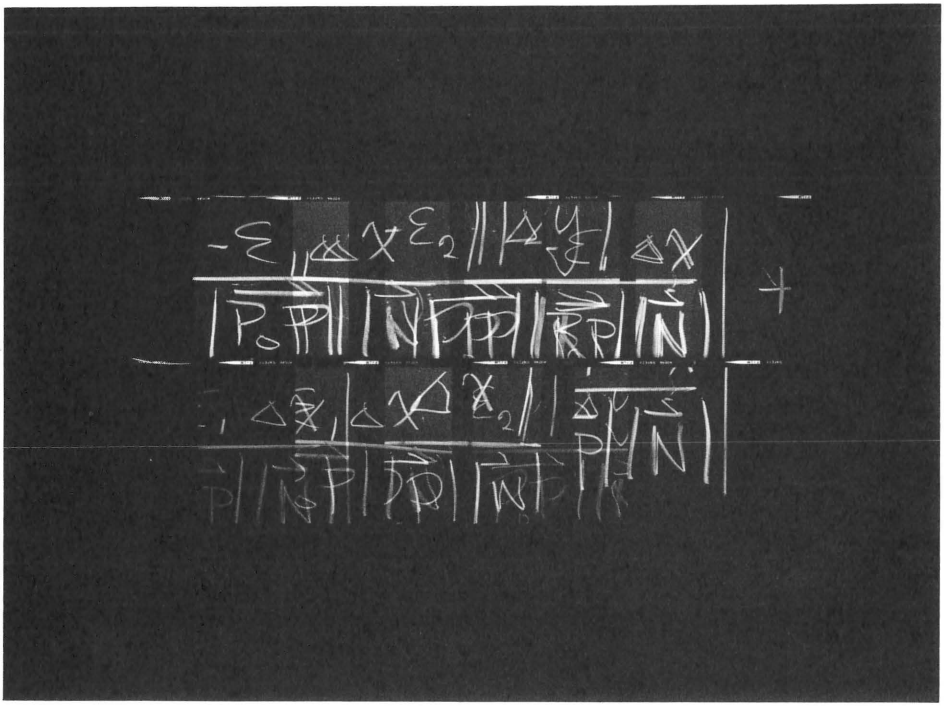

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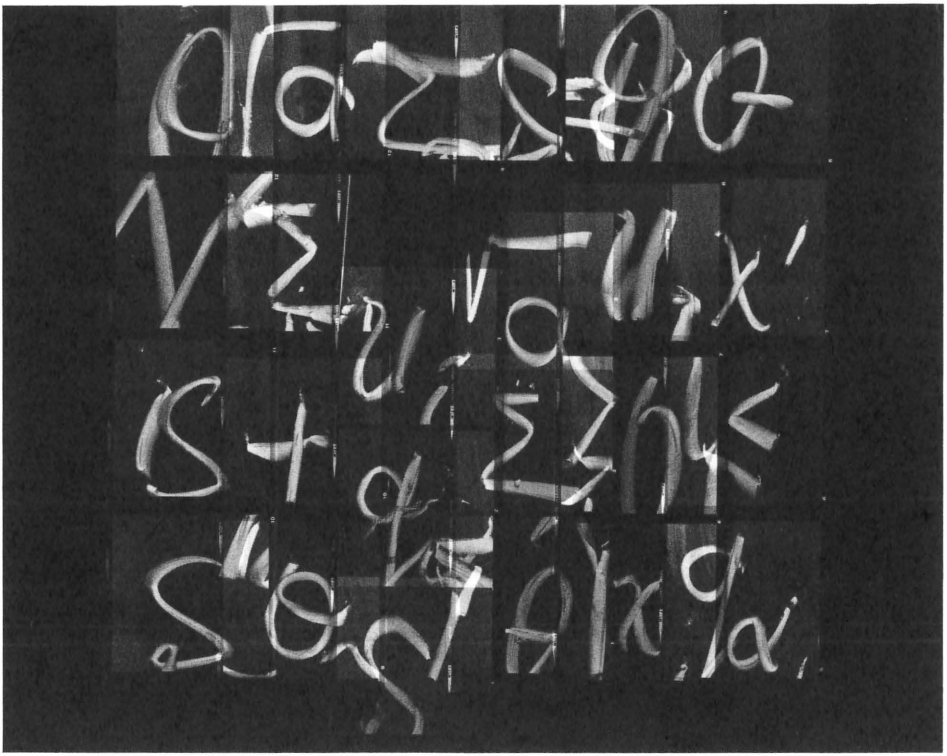

Mathematics #62, *1977*

by Carolyn Moilanen
and Charles Lehman

The Effects of Italic Handwriting on Legibility

The Methods and Findings of a Three-Year Study

The *Italic Handwriting Series*[1] emphasizes a continuous flow in handwriting development and instruction, and is designed to allow a more natural transition from print to cursive. Italic handwriting was first implemented in Portland Public Schools during the 1983-84 school year at grades K-4, with an additional grade-level implementation during successive years. A concurrent three-year evaluation study examined the effects of italic handwriting instruction upon students' handwriting legibility. During the first year, legibility ratings declined from fall to spring. During the second and third years, ratings typically increased from fall to spring, but when the ratings were examined across all three years of italic implementation, a pattern of overall decline emerged. Because many student papers were written in a non-italic cursive, the entire sample was separated into italic and non-italic categories. Even though italic papers received significantly higher

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ratings, legibility ratings declined over time. While teachers' impressions of the italic program are generally favorable, primary teachers typically respond more positively about italic than do intermediate-grade teachers.

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Charles Lehman *administers various programs for the public school district in Tigard, Oregon, and also works as an author, designer and calligrapher. A former guest editor of* Visible Language, *he designs and privately publishes limited-edition books and videotapes under the banner of The Alcuin Press. His work includes two videotapes,* Scribes in Motion *and* Scribes at Work, *and several books:* Handwriting Models for Schools *(a comparative study of italic, commercial cursive and manuscript models),* The Calligraphy of Lloyd J. Reynolds *and* R as in Chrrristopher *(in progress).*

Introduction

The Portland Public Schools adopted the *Italic Handwriting Series* as part of the 1983-1989 elementary language arts adoption, and the Curriculum Department requested the support of the Department of Research and Evaluation to design and conduct a three-year evaluation to assess the effects of italic instruction upon students' handwriting legibility. The first-year evaluation produced baseline data regarding the legibility of third-, fourth- and fifth-grade students' handwriting; and succeeding evaluations compared handwriting legibility against the baseline.

This paper presents a summary of all three years of the italic adoption implementation, together with evaluation findings.

Program Description

Conventional handwriting programs, including those used in Portland Public Schools, typically begin when five-year-old kindergarten children are taught to print upper and lowercase letters. While letterforms and models for print may differ from program to program, the instruction process is usually the same, and it continues as the children refine their printed forms during grades one and two. The instruction changes to cursive writing in grade three.

Figure 1 displays the conventional letterforms of the Noble & Noble handwriting adoption implemented prior to 1983. Figure 2 displays the letterforms of the Italic Handwriting Series.

The *Italic Handwriting Series* emphasizes a continuous flow in handwriting development and instruction, and is designed to allow a more natural transition from print to cursive. The transition is based on joins between letters rather than on the changes in letter formation which characterize more conventional handwriting programs.

The Portland Public School District recommends that 40 percent of primary grade instructional time and 35 percent of intermediate grade instructional time be devoted to language arts.[2] Within these recommendations, there are no specific grade-level standards for duration of handwriting instruction. Handwriting instruction is very important at the K-3 level, where daily practice is encouraged. At the intermediate level, when its practical im-

portance increases, handwriting instruction is typically provided for correction, adjustment or enrichment. The italic implementation is supported by the Curriculum Department (specifically by the District Language Arts specialist), by building-level instructional specialists and by teachers who strongly believe in the merits of the italic form of handwriting.

Implementation of the Handwriting Program

- During 1983-84 (the first year of implementation at K-4), the italic handwriting curricular scope and sequence was somewhat compressed. Basic italic was introduced at kindergarten, first and second grades and practiced all year at those levels, as prescribed by the program developers. Basic italic was also presented in grades three and four from the beginning of the school year, and children at those levels were also introduced to cursive italic at later periods during the school year. It is reasonable to assume that third and fourth graders had previously received instruction in, and had practiced, other forms of handwriting before receiving either form of italic. Therefore, the first year's instructional experiences for the third and fourth grade required a transition from non-italic handwriting to italic, and within italic, from basic to cursive forms.
- Instruction in italic during the second and third years of implementation more closely followed the curricular scope and sequence recommended by the program developers. During 1984-85, italic handwriting was implemented district-wide at K-5, and at K-6 during 1985-86. For grade levels K-4, 1985-86 was the third year of program implementation.
- The Portland Public Schools Teacher Support Services provided continuing teacher in-service training in the *Italic Handwriting Series* during all three years. Six hours of training were offered in two-day workshops held during the summers; a four-part session provided eight hours of instruction in italic during the fall of each year. A series of instructional videotapes was available in the central audio-visual library for teacher use; and the program authors, upon request, conducted training workshops at grade-level meetings within various clusters.

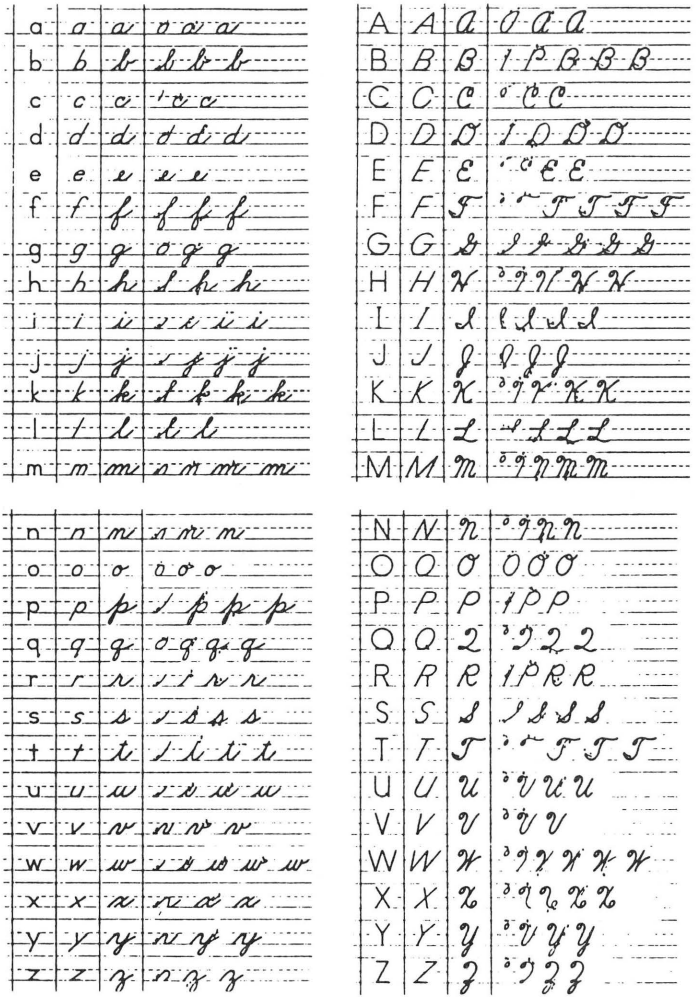


Figure 1.
Letterforms of Noble & Noble Handwriting Program. Copyright 1981 by Bowmar/ Noble Publishers, Inc. Reproduced by permission of the McGraw-Hill School Division.

Evaluation

The Purpose of the Study The principal reason for conducting an evaluation of a program of instruction is to help make an educational decision by providing information; the selection of the evaluation model properly follows upon the nature of the information needed. The purpose of this evaluation in the Portland Public Schools was to assess in general terms the merit of the handwriting produced by a randomly selected group of students in order to evaluate the impact of a new instructional program, the *Italic Handwriting Series.*

Figure 2. ***Letterforms of Italic Handwriting Series. Copyright 1986 by Getty and Dubay. Published and distributed by Continuing Education Publications, Portland State University, Portland, Oregon. Reproduced by permission.***

Description of the Holistic Rating Process[3] The procedure selected to evaluate the handwriting of students was adapted from an evaluation model used in the subject of written composition. The distinctive element of the process is the use of what is commonly called holistic (i.e. whole) judgments, in which trained raters review a sample of handwriting for an overall or "whole" impression.

While untrained raters approach the task of handwriting evaluation with some specific traits in mind, they usually have only a general, undefined notion of standards; in a holistic evaluation, specific traits such as slope, size and letter shapes are not addressed directly although they certainly affect a judge's opinion. In the training sessions conducted before the work of evaluation, raters are presented a rationale of handwriting and specific definitions of standards for each trait. The purpose is to provide an intellectual framework for the ratings of each kind of letter model they are expected to evaluate. Ratings are made in rapid reactions to each paper, with separate traits kept in the background of the thought process. Through practicing with a variety of samples, the raters internalize and rapidly use the various criteria in one comprehensive judgment about each sample. Raters typically form judgments in approximately fifteen seconds and then mark the paper.

The process of handwriting is expressive movement in various manifestations possessing symbolic power and significance in addition to the verbalized message. It is complicated by emotional states and subliminal mental activity. However, the act of writing is also closely prescribed in meaningful graphic patterns of letter design. Limited to the minimum number of strokes for each letter, thus distinguishing it from lettering which uses additional finishing strokes, the act of handwriting is best defined as a system of movement involving touch and non-touch. The late Professor Lloyd Reynolds called it "a dialectic of inked movement and designed letterforms." The visible writing is a vestige of the movement that made it; traditional characteristics of the system of movement-made-visible include sloping letter angle, compressed spacing and fusion of strokes (joins, ligatures and branching strokes). To see writing is to feel again the movement that

made it—a phenomenon called synesthesia. The ultimate goal of handwriting is not limited to the reproduction of designed lettershapes. The goal of handwriting, the ideal, is the performance of the lettershapes with disciplined freedom of movement that is expressive of the intellectual and emotional life of the writer.

Because of these human complexities, objective analysis based on quantitative analysis cannot in itself report the expressive visual value of a given piece of writing. This can be done only through a system of holistic judgment. Time-honored methods of handwriting evaluation involve the construction of a scale of samples. Comparing a student's handwriting to a sample on a scale is a search for a matchup on the basis of specific structural characteristics (e.g., slope, space, size, shape) and as such, as scoring of well-defined, fixed values with carefully delineated criteria which are exemplified in a matrix of composite samples—in short, an analytical evaluation that may also address some undefined element called "general merit" but entirely misses the point: *writing must be judged according to its rhythmic nature as patterned movement.* By observing the patterns of the writing, the rater can draw inferences about the system of movement used to make them as well as the competence of the particular piece of writing.

The holistic model of evaluation was selected for the italic project in Portland Public Schools because, first, it served the intent of the project: a general evaluation of merit. The general evaluation is reported in ranking student performances according to four levels of quality.

Secondly, through careful preparation of raters, the holistic approach was able to accommodate a variety of letter models in the student writing. At the time of the first and second assessments which are reported in this paper, students produced handwriting for the samples in manuscript, commercial cursive or italic models, depending on the instructional program and handwriting requirements at their school; it was the first year of the phase-in process designed to implement italic handwriting in all schools in Portland.

Lastly, the holistic approach provided the integrated judgment that is suited to the nature of handwriting, a virtually indivisible "system of movement."

Student Handwriting: Baseline Data After determining that the evaluation would follow a holistic process, the assessment strategy was to obtain a sample of writing from each student and to submit this to raters. Instead of using a fixed sample sentence for all students to copy to create the handwriting samples, the students were assigned the task of writing a short composition in response to a prompt. The topic prompts were: fall 1983, "A Visit to the Zoo"; spring 1984, "Reasons I Would Give for Wanting a Pet"; fall/spring 1984-85 and 1985-86, "The Person I would Most Like to Meet."

Papers were gathered for baseline data through a scientific random sampling process from students in eight selected schools. The baseline data served for the three years of the study. It is important to remember that a methodological disadvantage of the evaluation study was that specific differences between students' handwriting learning experiences, both before and during the italic implementation, were unknown.

Third-, fourth- and fifth-grade classes in the sample schools were given a prompt for the pre-treatment handwriting exercise and directed to write on a specific subject in the handwriting style most comfortable for them at that time. For both ratings, fall and spring, there was no distinction made regarding student handwriting in terms of print or cursive letter forms. The raters formed a general impression of excellence based on sensitivity to specifications prescribed for each of three major handwriting styles: manuscript, commercial cursive and italic. Students did not gain or lose points because of printing instead of cursive. The pre-treatment handwriting was produced in October 1983. The same classes were sampled in May 1984, near the end of the school year. For all except the fifth graders, the post-treatment handwriting was produced after several months of instruction in italic handwriting. Fifth-grade students were instructed in the conventional handwriting program rather than the new italic program.

Even though they did not receive instruction in italic, a sample of their writing was collected in order to provide a baseline of quality against which to compare the handwriting of future fifth graders.

Table 1 displays the numbers of handwriting sample papers by grade level which were included in the fall and spring legibility ratings.

Table 1.

Pre- and Post-Treatment Handwriting Sample Papers by Grade

Grade	Fall sample	Spring sample	Total
3	369	274	643
4	348	303	651
5	311	293	604

The entire set of papers was delivered to the evaluation referee, Charles Lehman, a handwriting specialist and Coordinator for Tigard Schools. The referee sorted the papers according to the three grades sampled. Each of the papers from each grade was then considered in an effort to select multiple samples representing four quality levels within each grade. After representative samples were selected to use in training the raters, all four stacks were reunited into one by weaving together approximately ten papers from each stack. The samples selected in this way were coded and copied to use for practice with raters. The first grade to be rated in the training exercise, grade three, had six sample sets of four papers each to be used for practice. Each page of each set was marked with a code letter to facilitate handling, and the score assigned to the paper was entered on a key for release to the raters after they had made judgments about each set of practice papers.

The first two sets of practice papers for the third grade start simply by challenging the raters to distinguish, in each set, two papers of high quality from two papers of low quality. The second two sets require that the raters distinguish four levels of quality, with only one paper to be graded for each level in each set. The final two sets require that the rater distinguish four levels of

quality, with more than one paper per level in each set. After completing each sample grading set and on several other occasions during the practice sessions, the raters discussed reasons why the papers deserved the marks they gave them and were asked to identify the specific criteria of production that separate the levels of quality. Then they were told the scores, which had been determined in advance by the referee.

Before they began practicing the rating of papers, the raters were given the following general guidelines: The quality of handwriting movement is a personal reflection of the whole human being—personality, physique, emotional state, energy level—and all these factors must be considered in reading the papers. The writing ranges from small and shy to large and bold, and from well made to poorly made, depending on the development of the student as a person and as a learner. The quality is also dependent on the characteristics of the tools and materials used to perform a given design of writing; some tools (e.g., a soft pencil) can detract from the quality of an alphabet originally designed with a fine-line tool. The raters must focus only on the quality of the writing, not on spelling or literary merit, and form a general impression of excellence based on sensitivity to specific qualities and individual designs prescribed for each of the major handwriting styles under consideration.

Figure 3 displays four samples of third-grade student writing used in training raters to evaluate the work of that particular group of students. The samples, known as "range finders," are ranked from one (lowest) to four (highest), representing four levels in the range of competence for that particular group of students. The raters were trained to focus only on the quality of writing by forming a *general impression* of excellence based on specific qualities and individual designs prescribed for the handwriting style under consideration. The specific traits of the handwriting style refer to the letter slope, space, size and shape required by the design as well as format details, quality of line and cleanliness. Handwriting here includes what some might call "printing." The act of printing is, by design, an assembling of multiple strokes to form letterforms and, while not a rhythmic activity,

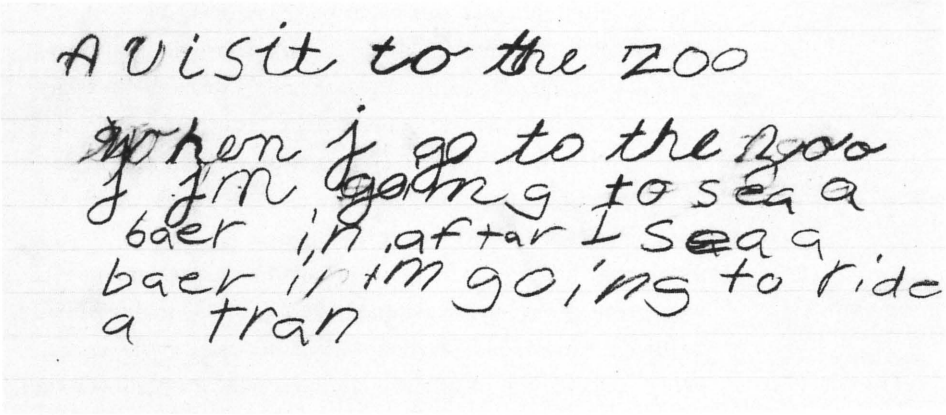


Figure 3. One

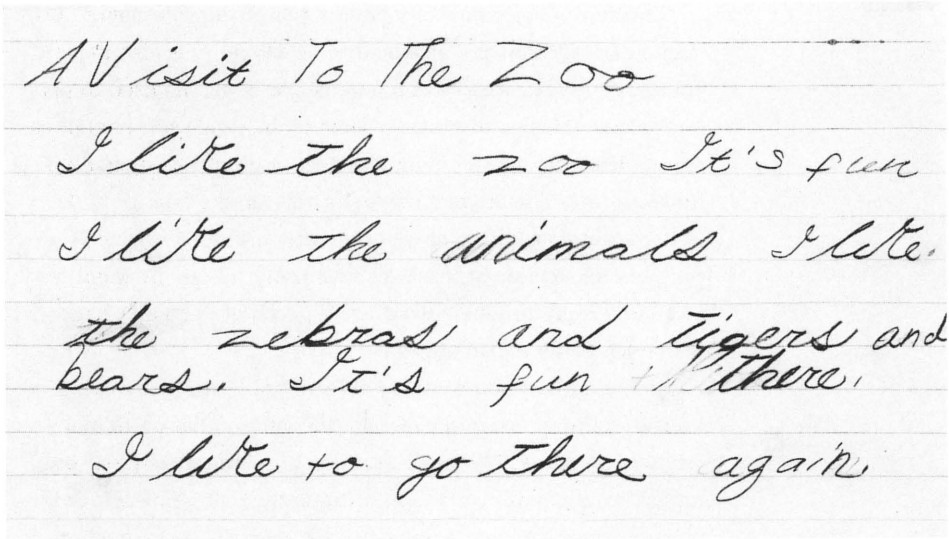


Figure 3. Two

Figure 3.
Sample of third grade "rangefinders" ranked from one (lowest) to four (highest).

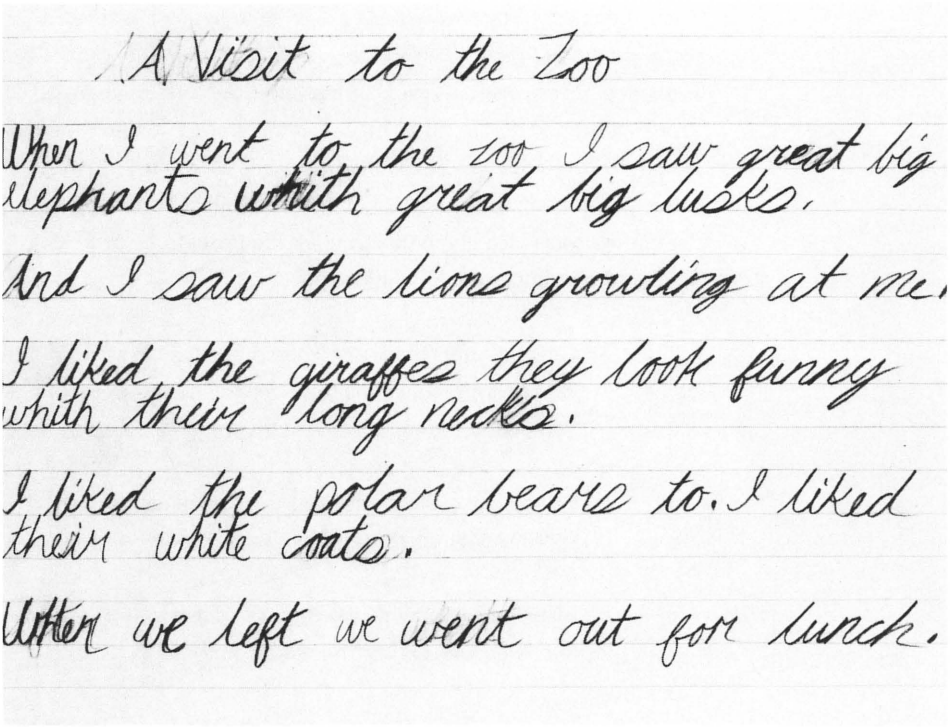


Figure 3. Three

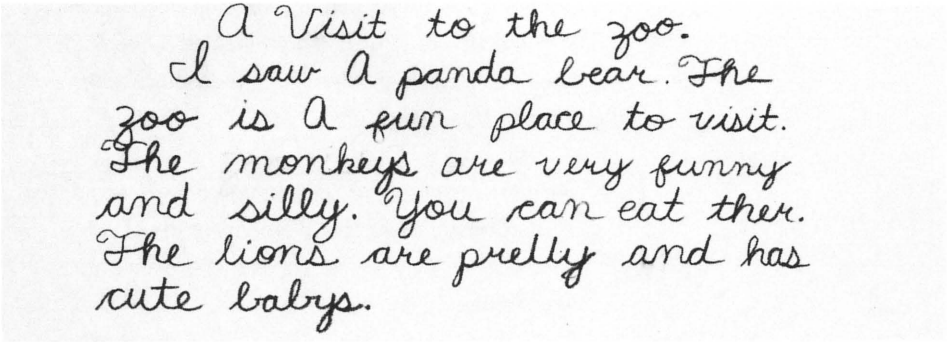


Figure 3. Four

should be judged by its own criteria of excellence. However, the requirements of prescribed designs, like any other specific trait of a handwriting system, are subordinate to the holistic judgment of worth, which is made generally and immediately; while founded on familiarity with specific traits that serve as a point of reference, the holistic judgment is not analytical in nature.

The raters were also given certain specific traits to be used as points of reference with any style of writing.

a. **Letter slope:** The letter slope prescribed in each of the various systems varies from vertical to approximately 30 degrees to the right. No system prescribes a back slope.

b. **Space:** All systems desire the appearance of even spacing between letters, words and lines.

c. **Size:** All systems desire regularly sized letters at a scale that is convenient for the reader to read.

d. **Shape:** All systems prescribe specific forms for each letter of the alphabet and for each number. Not only are the forms prescribed, but the number, sequence and direction of strokes are prescribed. Letterform becomes illegible when minimum essentials are missing from forms.

e. **Format:** Alignment of lines, length of lines and space of margins are all integral elements in the act of handwriting. They are as real as the strokes of the letterforms.

f. **Quality of line:** All systems promote smooth-flowing, rhythmic writing based on confident control of shape-making gestures.

g. **Cleanliness:** The readability of any writing depends on clarity of form. Incomplete erasing, writing over, and smudging or marking are discouraged.

- All the criteria together make up a network. No one aspect of it can be violated without violating the entire network.
- In summary, the raters were instructed to keep in mind the *person* who created the writing (the development and vitality of the student writer), the *prescription* (the design and instruments that the writer must use to create the letterforms) and the *performance* of the writing (the correspondence of form with the models).
- After the eight raters (who were recruited from the community and school district) were trained so that a high degree of consensus among ratings was achieved, the sample papers were put away and the members of the group divided into two teams for rating. The student papers were divided equally between them and the rating began. As each paper was judged, the rater marked a single score to represent an overall or "whole" impression of the merit of the paper—either a 1 (lowest), 2, 3 or 4 (highest) in the top left corner of the paper—folded the corner down and slipped on a paper clip to keep the score hidden. Each rating took less than thirty seconds. After completing the rating of its stack of papers, the team handed the papers over to the other team for a second reading. The second team rated each paper and marked a second score on the outside of the folded corner, removed the paper clip and returned the paper to the referee.
- The referee examined the scores given each paper and reconciled by independent judgment any score that was more than one number apart on the range of 1-4. For example, if one rater gave the paper a score of 2 and the second rater gave it a 4, the referee made a judgment to determine what the paper deserved and then changed the one score in error.
- As the scoring proceeded through a grade level, the referee took the raters through a new practice exercise with sample papers taken from the upcoming grade to be rated. In the same way, the referee from time to time stopped the rating of papers for a refresher exercise if it was evident that the raters were not making appropriate judgments.

- **Teacher Survey of Italic Handwriting** Representatives of the Departments of Curriculum and of Research and Evaluation cooperated in the design of a teacher survey to assess teacher opinions of the ease and legibility of their students' italic handwriting.

Additional items asked teachers how much time they spent on italic handwriting instruction each week, what their italic training experiences had been and whether they would participate in future italic training sessions.

Findings

Because the italic evaluation was a three-year study, it was important to compare legibility ratings and gains across all three years of the implementation. During each evaluation, differences between the fall and spring ratings were compared for each grade level and from year to year for the whole group. A high degree of consensus among raters was achieved during all three years of evaluation. Differences of two points or more occurred in 3.6 percent of the 1983-84 papers, in 2.8 percent of the 1984-85 papers and in fewer than 1 percent of the 1985-86 papers. To ensure reliability between ratings across all three years, approximately a hundred 1983-84 papers from all three grade levels were rescored during the spring 1985 rating session, and 346 of the 1984-85 papers were rescored during the spring 1986 rating session. Fewer than 5 percent of the rescored papers were refereed.

Handwriting Legibility Over Time Table 2 displays total grade-level group means for each sampling period and presents the duration of participation in the italic handwriting program. While the grade-level groups were selected from the same set of schools each year, the student sample was not necessarily the same across all three years.

Three ways to examine these data are as grade-level ratings from fall to spring within years, as total group ratings across years, and in terms of a cohort group of 1983-84 third graders who are represented as fourth and fifth graders in 1984-85 and 1985-86.

During 1983-84 from fall to spring, legibility ratings declined in all three grade levels. One explanation for the decline in third and fourth grades is that during the first implementation year, students were required not only to transition from non-italic handwriting, but also to learn both basic and cursive italic.

Table 2.

Grade-Level Group Means and Standard Deviations, 1983-84, 1984-85, 1985-86 and Number of Years of Italic Instruction

Grade Level	Fall 1983 Mean (S.D.)	Spring 1984 Mean (S.D.)	Fall 1984 Mean (S.D.)	Spring 1985 Mean (S.D.)	Fall 1985 Mean (S.D.)	Spring 1986 Mean (S.D.)
3	5.17 (1.49)	5.02 (1.58)	4.85 (1.63)	5.12 (1.48)	4.30 (1.27)	4.24 (1.33)
4	5.09 (1.57)	4.85 (1.51)	4.54 (1.48)	5.09 (1.40)	4.18 (1.24)	4.21 (1.20)
5	5.19 (1.32)	5.12 (1.52)	4.56 (1.46)	4.63 (1.46)	4.21 (1.32)	4.27 (1.22)
Whole Group Total	5.15 (1.47)	5.00 (1.55)	4.56 (1.53)	4.99 (1.46)	4.23 (1.28)	4.25 (1.25)
No Italic Instruction		1 Year Italic		2 Years Italic		3 Years Italic

The fifth-grade ratings (both fall and spring) were made on non-italic handwriting forms because grade five was not part of the first year implementation. During the second and third years, grade-level ratings typically increased from fall to spring; 1984-85 increases were greater than those of 1985-86. The only exception to the general increase was at third grade during 1985-86, where ratings declined from fall to spring. The total group ratings present the same pattern: a decline during the first year, large fall to spring increases during the second year and a small increase during the third year.

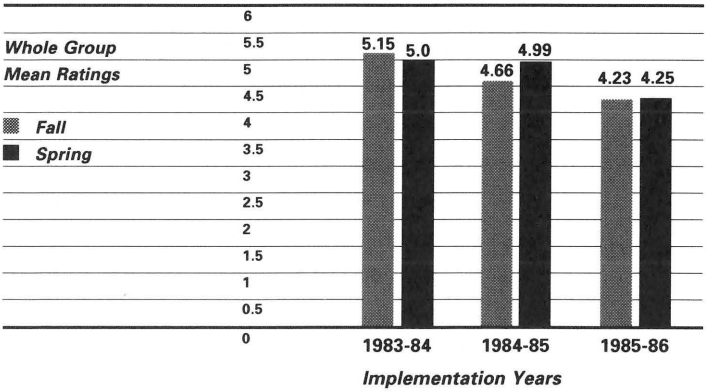
If the fall 1983 figures could be interpreted as a rating based on the previous three (for grade three) or four (for grade four) years of traditional handwriting instruction and practice, and if one purpose of the italic adoption was to improve handwriting legibility, one would reasonably expect that the 1985-86 ratings for third and fourth graders would be higher than those of fall 1983 and spring 1984. A similar expectation may be less reasonable for the fifth-grade group because, though they had three years of italic instruction by the end of 1985-86, they began italic after

having developed other forms of handwriting. Figure 4 shows that the group ratings overall have declined since the 1983-84 baseline year.

In order to determine whether the difference between the whole group means was statistically significant, a T-test was conducted for 1983-84, 1984-85 and 1985-86. The results indicated that the difference between the fall 1983 and spring 1984 means was statistically significant; that is, it is a difference unlikely to be produced merely by chance (t=2.89, df=631, p=.004). Similarly, the difference between the fall 1984 and spring 1985 means was statistically significant (t=4.88, df=769, p=.000). For 1985-86 there was no statistically significant difference between the fall and spring means.

Figure 4.

Whole Group Italic Ratings, Fall and Spring 1983-84 through 1985-86



A separate analysis was conducted for those students who submitted handwriting samples as third, fourth and fifth graders. Table 3 displays three years of mean ratings and standard deviations for the clear group whose papers were rated as third graders in 1983-84, as fourth graders in 1984-85 and as fifth graders in 1985-86. The fall to spring pattern for this group is similar to

those presented earlier; fall to spring ratings declined during the first year of implementation, a large increase occurred from fall to spring during the second year and a slight increase occurred from fall to spring during the second year and a slight increase occurred between fall and spring in 1985-86. The 1985-86 ratings are lower overall when compared with those of the previous two years. T-tests were conducted to determine the statistical significance of the means. Fall 1984 to spring 1985 means were statistically significant (t=4.75, df=88, p=.000).

Table 3.

Mean Ratings for Clear Group in Grades 3, 4, 5 from 1983-84 to 1985-86

Year	Grade	N	Fall Mean (S.D.)	Spring Mean (S.D.)
1983-84	3	89	5.66 (1.65)	5.44 (1.60)
1984-85	4	89	4.47 (1.60)	5.26 (1.28)
1985-86	5	89	4.24 (1.15)	4.30 (1.18)

Comparison of Italic and Non-Italic Ratings

During all three evaluation years, there was evidence that italic handwriting was not universally taught. Each year, some of the rated papers were written in standard cursive forms instead of italic. Scores did not reflect which handwriting model was used by the student—manuscript, commercial cursive or italic—and, therefore, a further analysis was made to find out if there were differences in ratings between italic and non-italic handwriting samples.

A panel of expert judges was assembled to separate each year's sample into italic and non-italic categories. Judges included representatives of the italic handwriting community, teachers and administrators. Group grade-level means were calculated for italic and non-italic categories for students who had both fall and spring ratings in a single year. Table 4, displays the data.

Table 4.

Comparison of Italic and Non-Italic Clear Group Means Within Years 1983-84, 1984-85, 1985-86

	Italic Means and Standard Deviations			Non-Italic Means and Standard Deviations		
Year	N	Fall Mean (S.D.)	Spring Mean (S.D.)	N	Fall Mean (S.D.)	Spring Mean (S.D.)
1983-84	323	5.39 (1.51)	5.14 (1.54)	320	5.12 (1.48)	4.98 (1.48)
1984-85	574	4.65 (1.62)	5.06 (1.46)	185	4.36 (1.68)	4.66 (1.48)
1985-86	414	4.37 (1.24)	4.48 (1.31)	292	4.09 (1.22)	3.99 (1.17)

T-tests were conducted to determine the significance of the differences between italic and non-italic means, and between the italic and non-italic fall to spring gains. Italic means were significantly higher than non-italic means during the second and third years of implementation, and italic gains were significantly higher than non-italic gains in 1985-86; statistical significance was at the .05 level.

But even though italic papers were rated higher than non-italic papers, legibility ratings of italic papers declined in the same way non-italic legibility ratings declined over the three years of the *Italic Handwriting Series* implementation.

The italic/non-italic analysis provided information from which to make inferences about the extent of the implementation for the sample students; during the first year of data collection, approximately half the papers were judged to be italic; the proportion increased to 75 percent in the second year but declined to just 60 percent in the third year. One might reasonably conclude that some of the sample students did not receive italic instruction. It is noteworthy that about half of the papers were categorized as italic in fall 1983. One explanation is that the first sample was collected late in the fall after the implementation had begun.

Teacher Survey of Italic Handwriting

All Portland Public School teachers K-5 and language arts teachers in grade six were surveyed in May 1986. Approximately a thousand copies of the "Teacher Survey of Italic Handwriting"

were distributed and 63 percent were returned. Table 5 displays the number of respondents by grade level. Teachers who did not identify their grade were described as "other."

Table 6 presents total teacher responses to the survey items. (Respondents did not necessarily answer all survey items; therefore, the response totals in Table 6 are not equal to the total in Table 5.)

Table 5.

Teacher Survey of Italic Handwriting: Grade Level of Responding Teachers

K	1	2	3	4	5	6	Other	Total
65	127	103	104	89	82	39	23	632
(10%)	(20%)	(16%)	(16%)	(14%)	(13%)	(6%)	(4%)	(100%)

Overall, responding teachers more often agreed that their students were able to write the italic letter forms easily. Sixty-seven percent of all responses to question one (N=380) fell in the "Strongly Agree" or "Generally Agree" categories. Twenty-three percent disagreed (N=129) and 10 percent (N=57) were undecided. Teachers overall similarly agreed that their students' handwriting was easy to read; 72 percent of all responses (N=403) to question two fell in the "Strongly" to "Generally Agree" categories while 10 percent (N=56) were undecided and 18 percent (N=103) disagreed.

When responses were considered in terms of grade levels, K-5 teachers were more positive than grade-six teachers about the ease of student writing, and teachers' ease in reading their students' italic. For ease of student writing, K-5 responses ranged from 56 percent positive at grade five to 82 percent positive at grade one; for ease of teacher reading, responses ranged from 64 percent positive at grade three to 87 percent positive at grade one. Forty-nine percent of the sixth-grade teachers (n=19) disagreed that their students were able to write italic letter forms easily; 31 percent (n=12) agreed and 21 percent (n=8) were undecided. Forty-one percent of the sixth-grade teacher respondents (n=16) agreed that their students' handwriting was easy to read; 39 percent (n=15) disagreed and 21 percent (n=8) were undecided.

Table 6.

Responses to Teacher Survey of Italic Handwriting. Number of respondents with percentage in parenthesis

Question / Response

	Strongly Agree	Generally Agree	Undecided	Generally Disagree	Strongly Disagree	TOTAL
1. My students are able to write the italic letterforms easily.						
N	59	321	57	91	38	566
%	(10)	(57)	(10)	(16)	(7)	(100)
2. My students' handwriting is easy to read.						
N	60	343	56	75	28	562
%	(11)	(61)	(10)	(13)	(5)	(100)

Minutes for Italic Instruction

3. How many minutes per week do your spend on italic instruction?

	20	30	40	50	60	TOTAL
N	92	123	130	87	122	554
%	(17)	(22)	(23)	(16)	(22)	(100)

Respondents' Italic Training

4. Which category best describes your italic training experience?

	Self-taught	District Workshop	College Classes	TOTAL
N	201	240	78	519
%	(39)	(46)	(15)	(100)

Respondents' Interest in Future Italic Training

5. If future training classes were offered, would you participate?

	Yes	No	TOTAL
N	160	384	544
%	(29)	(71)	(100)

- While the percentage of teacher responses in the instructional time categories was similar, K-4 teachers reported more time spent on italic instruction than fifth- and sixth-grade teachers. Second- and third-grade teachers reported a high of 60 minutes per week; kindergarten, first- and fourth-grade teachers reported spending 30-40 minutes per week on italic instruction. Fifth- and sixth-grade teachers reported spending 20 minutes per week on handwriting instruction.
- Forty-six percent of all respondents reported that they learned italic in district-sponsored workshops; 15 percent studied italic handwriting in college or university classes and 39 percent were self-taught. A larger percentage of teachers at grades five and six reported that they were self-taught. Seventy percent of the respondents overall indicated that they would not participate in future italic training if it were offered; the largest number of teachers who responded positively about participation in future training were 22 kindergarten teachers and 14 sixth-grade teachers.

- **Teacher Comments** Two hundred eighty-nine responding teachers (46 percent of the total number of respondents) included comments which were summarized and tallied in order to determine trends among responses. Comments pertained to specific curriculum and instructional concerns. K-3 teachers more often noted that learning certain letters was difficult for young students; 12 teachers across all grade levels mentioned problems with transitioning from italic handwriting instruction to the world of work-books and other curricular materials which use models of standard cursive writing; 15 teachers across all grades mentioned that children already practiced in traditional cursive had difficulty changing to italic handwriting. K-2 teachers expressed a need for additional support materials. Some comments dealt with teachers' personal like or dislike of the adoption; 77 comments were positive statements in favor of the italic handwriting, and 41 comments were negative statements reporting dislike of italic.

- All three years of teacher comments were reviewed, and the evaluator sorted the comments into four categories: those reflecting personal feelings about italic, specific instructional concerns, materials shortage and "other." Table 7 presents the percentage of comments organized by topic under categories related to feelings, instructional concerns and materials. "Other" comments were excluded from the summary and are not reflected in the percentage calculations.
- Each year, the largest percentage of comments were positive statements about italic, but over time, the percentage of teachers desiring a change has increased. Comments about instructional concerns are declining; the 1985-86 percentages are not surprising given the number of positive responses to survey items one and two. "My students are able to write the italic letter forms easily," and "My students' handwriting is easy to read." Concerns about materials have similarly declined over the three years of the italic implementation. One explanation for the decline in instructional concerns is that the Curriculum Department has responded to meet specific needs reported in earlier evaluations.

Conclusions

- In 1985-86, the whole group mean legibility ratings for fourth- and fifth-grade students increased from fall to spring; third-grade ratings declined. During the first three years of italic implementation, the general legibility of sample students' handwriting declined. Though there were fall to spring gains during the second two years of the italic implementation, the ratings have never equaled those of the baseline year. The same pattern of decline was noted for clear groups; the third graders who were sampled during 1983-84 received lower legibility ratings as fourth and fifth graders. When each year's sample was separated into categories judged as italic and non-italic, the same decline was noted, though the set of papers judged to be italic typically received higher mean ratings than the non-italic set.
- In general, teacher responses to the Italic Handwriting Survey indicated that the adoption was favorably received. Teachers over-

Table 7.

Percentage of Teacher Responses by Topic and Year

Topics	1983-84 n=217	1984-85 n=244	1985-86 n=223
Personal Feelings			
Positive statements, e.g."I like italic."	40%	39%	35%
Negative statements, e.g., "I don't like the italic adoption."	2%	15%	18%
Desire for change from italic	—	3%	11%
Instructional Concerns			
Difficult for students to write some letters, e.g., "e"	3%	17%	13%
Mismatch between italic and traditional handwriting models in other curriculum materials	16%	11%	10%
Transition from traditional handwriting difficult	12%	9%	8%
Materials			
Supplementary materials are needed	27%	7%	5%

all reported that students were able to write italic letter forms easily, and teachers typically found student handwriting easy to read.

Instructional and materials concerns were commented upon less frequently as the implementation continued. The percentage of negative statements about the adoption and the percentage of comments indicating desire for a change increased over time. Instructional time for handwriting was found to vary; primary teachers spent two to three times longer on handwriting instruction (averaging 40 to 60 minutes per week) than did intermediate

grade teachers. Though the majority of teacher respondents received formal italic training in either district or university classes, 70 percent indicated they were not interested in participating in future training.

The adoption did not appear to harm children's handwriting development; it did consistently produce better legibility than more traditional handwriting forms, and it enjoyed substantial teacher suppport. In the absence of other compelling reasons not addressed by this study, it was recommended that the *Italic Handwriting Series* be maintained.

Notes

1 Getty and Dubay. 1986. *The Italic Handwriting Series,* Second Edition: K-8. Continuing Education. Portland State University. Portland, Oregon.

2 This recommendation reflects state guidelines as presented in "Suggested K-8 Curriculum Balance," page 5 of the *Elementary/ Secondary Guide for Oregon Schools.* Oregon Department of Education, 1980.

3 Lehman, Charles L., ed. 1976. *Handwriting Models for Schools.* Portland, Oregon: The Alcuin Press.

by Donald R. Bear

Why Beginning Reading Must Be Word-By-Word:

Disfluent Oral Reading and Orthographic Development

The development of reading fluency is a gradual process which often entails strategies that make for a disfluent oral presentation. Disfluent oral reading, fingerpointing and reading aloud to oneself are the most characteristic behaviors of beginning readers. In this paper, research related to these reading behaviors and the corresponding spelling behaviors is presented. Based on an integrated theory of literacy proficiency, the synchrony between stages of reading and spelling development and the reasons why these stages are related are discussed.

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Visible Language Volume XXIII Four
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It is an observable fact that beginning readers are disfluent in their first excursions. Their reading is almost invariably word-by-word: they usually read aloud to themselves, and they often fingerpoint to each word. While acknowledging this phenomenon, teachers are often anxious to help beginners discard these behaviors and become more efficient readers. Recent theory and research suggest, however, that the disfluency, fingerpointing and reading aloud of beginning readers are natural phenomena along a developmental continuum and are part of a necessary stage of reading development.

To account for these behaviors, an integrated theory of literacy development proposes a synchrony between developmental stages of reading and word knowledge as reflected in spelling. After establishing the context of this integrated theory, this paper explores the reasons why beginning readers read disfluently, fingerpoint and read aloud and discusses supporting research which has found orthographic correlates to these behaviors of beginning readers. This research suggests that fluent reading must wait until a certain power in word knowledge is achieved. The pedagogical implications which follow from this integrated theory of literacy development are presented in the final section.

An Integrated Theory of Literacy Development

The intergrated theory discussed here draws on a theory of reading proposed by Brown, which is based on real time and acknowledges a 'biological-neurological matrix" (Brown 1981, 443). Brown proposes that the act of reading is differentiated from concious reflection on the meaning of the text. According to Brown, once the icon or visual image is obtained, attention is directed to dividing the visual stream into words. The more efficiently the reader can divide the icon into words, the more rapidly the reader can monitor higher levels of linguistic organization (Perfetti 1985). The ability to divide the icon into words is related to word knowledge and orthographic awareness. If word recognition is not relatively automatic, the reader can hold the information and gain more processing time (up to 20 seconds) through subvocalization or, in the case of the beginning reader, reading aloud. Conversely, the quicker the reader taps word knowledge, the more easily higher levels of analysis are obtained (Cutler et al. 1987) and the student can plan the reading in larger units (Huey 1968, 116). A bottleneck occurs in rapid processing, however, when word recognition is slow or inaccurate.

The question then becomes: What type of word knowledge is necessary to prevent this bottleneck? A variety of research has described developmental patterns in orthographic awareness which underlie reading, word identification and spelling. A clear relationship has been found between word knowledge in reading and specific stages of spelling development (Ehri 1987; Henderson and Beers 1980; Henderson 1981,1985; Invernizzi 1985; Morris and Perney 1984). Spelling errors or invented spellings reflect underlying orthographic awareness, and based on an analysis of correct and incorrect spellings, a stage of orthographic development can be determined. Thus, a time schedule to gauge progress and plan reading, writing and spelling instruction is created (Henderson 1985).

The research discussed briefly in this paper aims to advance this integrated theory of literacy development by relating the stages of spelling to three reading behaviors characteristic of the beginning

reader. The specific parallels between reading and spelling development are presented in figure 1.

It can be seen that the developmental model begins with prereading and the preliterate stage of spelling (A) and that point B represents the onset of beginning reading. The key difference between A and B is that at B the student has acquired a concept of word in print; the student is most likely in the prephonetic stage of spell-

Figure 1.

Stages of Reading and Spelling

Reading			
A →	B →	C →	D →
Prereading	Beginning Reading		Functional Reading
No Concept of Word	Disfluent Oral Reading		Approaching Fluency and Expression
Pretend Reading	Oral Reading		Silent Reading

Spelling			
A →	B →	C →	D →
Preliterate	Prephonetic	Letter Name	Within-Word Pattern
sq4R (bed)	bd	bad	bed
mdam (time)	tm	tim	tiem, time
//)0 (lake)	lk	lak	laik, laek, lake

ing. In the prephonetic stage of spelling, the beginning and often the ending sounds of words are represented: i.e., BD for "bed." (The transition from A to B, and the synchrony between reading and spelling at these points, is based on research by Ehri [1987], Morris [1981], and Morris and Perney [1984].) In the next section, concept of word in print is discussed as the hallmark of beginning reading.

A Prerequisite to Beginning Reading—Concept of Word

While it may appear that a miracle has taken place when a student moves from prereading to beginning reading (Henderson 1981), it is possible to follow this progress by assessing students'

tacit knowledge of concept of word. Concept of word may be defined as the ability to make the spatial-temporal match between what is seen and what is said in a line of text. This ability to track has been defined operationally as the ability to point to the words of a memorized text (Morris 1981). Even with teacher modeling immediately prior to pointing, the student without a concept of word will not be able to point accurately. Concept of word may be thought of as a type of metalinguistic awareness which is learned tacitly, implicitly or without conscious reflection through numerous interactions with familiar texts. In terms of providing opportunities to practice tracking, there is little difference between the Puritans' use of the familiar prayers on the horn books and the modern use of dictations as part of the language-experience approach (Henderson 1981; Stauffer 1980).

This ability to track a line of text is related to phonemic segmentation and beginning spelling (Morris 1980). The student who has attained a concept of word is a beginning reader who can learn a great deal about the orthography by reading. According to Morris (1981), the student at point B has a rudimentary concept of word and will develop a modest sight vocabulary.

Once this stage of beginning reading is achieved, the child becomes a word-by-word reader, tends to point to the words as he reads and will tend to read aloud to himself. In figure 1, it can be seen that the reader at point C is in a more advanced stage of beginning reading. A difference between points C and B is that the reader at point C has a more stable concept of word. In addition, the reader at point C enters into the letter name stage of spelling. In letter name spelling,[1] the vowels in stressed syllables are represented. At both points B and C, beginning reading and disfluent oral reading run parallel to specific stages of spelling.

Now that it is clear when beginning reading begins, the reading behaviors of beginning readers can be discussed. Then, in the following section, the synchrony between these behaviors and stages of spelling will be described in fuller detail.

Why would a student choose to read aloud, fingerpoint and read in a word-by-word fashion? It can be argued that methods of instruction may cause, or at least encourage, these behaviors; yet it can also be argued that developmental readers would not uniformly adopt inefficient behaviors. While the effects of instructional techniques make it difficult to know whether or not these behaviors are inherent to beginning reading (Allington 1984), recent research suggests that levels of efficiency are tempered by development.

To determine that these behaviors are, indeed, related to development, Bear (1982, 1985) examined the reading and orthographic awareness of first through third graders. In two separate studies, the reading fluency, reading achievement, teacher ratings and observations, and spelling development were analyzed. It was found that first-grade beginning readers from a variety of instructional orientations tended to read aloud to themselves during quiet reading time. Teachers observed that when students began to read fluently, they tended to stop reading aloud to themselves. In these studies, fluency and expression were evaluated broadly and also narrowly in terms of reading rate, the frequency of pauses and specific emphases for expression. These fluency measures, measures of reading achievement, fingerpointing and reading aloud were related. For example, the raters' general evaluation of expression of 40 first graders who read familiar materials was significantly related to reading rate and pause frequency (Bear 1982). And among 60 second and third graders, reading achievement scores were related to teacher ratings of fluency (Bear 1985). It was also found that reading aloud, fingerpointing and word-by-word reading were both interrelated and related to standardized measures of reading achievement and teachers' ratings of fluency and achievement.

Reading Aloud To Oneself Why do beginners read aloud to themselves? Danks and Fear (1979) suggest that oral reading promotes the conjoining of syntactic junctures. Schrieber (1980) and Chomsky (1970) have described the development of reading fluency as a move away from a linear graphic read-out to a greater

dependence on morphological and syntactic information. Reading aloud may buy the beginning reader more processing time, promoting an easier passage throught the text. The time that reading aloud provides may be enough to hold text together syntactically and semantically. Oral reading is an aid to the beginning reader. When difficulties arise, the mature reader buys time in a similar fashion by running through the subvocalization more slowly than usual (Brown 1981).

Fingerpointing The finger is used by beginning readers to hold a place in the text. Some beginning readers point to each word as they read; others mark the general spot, with the finger pointed a few words ahead or behind focused vision. As a general policy, many teachers have discouraged fingerpointing; however, it may be considered an appropriate behavior for the disfluent beginning reader. Gradually, as oral reading becomes more fluent, finger-pointing subsides, and the reader may place a finger in the left margin on the next line in order to mark a place for return sweeps.

Even the mature reader may resort to fingerpointing when there are special demands placed on verbal planning during oral reading, demands in terms of the difficulty of the text or in terms of sociolinguistic factors. For example, using the eye-voice span,[2] performers may mark their place with a finger before making eye contact with the audience.

Word-by-Word Reading Clay (1979) has said that in word-by-word reading there are slight breaks between each word. What seems more accurate to say is that the oral reading of beginning readers is often disfluent and unexpressive. Although there may be many phrases read in a word-by-word fashion with one-second pauses between words, there are times when the relative length and placement of pauses follow syntactic structures, with pauses at the end of sentences or at the end of introductory clauses, and there are times when phrases are read as a group. Disfluent oral reading may sound monotonic, "staccatoish" and lacking in expression or emphasis. The rate for this type of disfluent oral reading is well below 100 words per minute, even in

familiar materials. The most disfluent, frustration-type reading may be no faster than 35 words per minute.

Eye movement research has shown that the beginning reader's eye-voice span is shorter than the mature reader's and that movement through text is haltingly slow (Levin and Addis 1979). The beginning reader is generally unable to hold phrase or sentence units together; without this broader picture, it is difficult to read fluently and with good expression. Some beginning readers try to read expressively but are unable to do so. It may sound as if they are emphasizing particular words without a cohesive phrasal structure to support the expression.

In most cases, the problem with the disfluent oral reading of the beginner is not one of comprehension but rather one of verbal planning and efficiency (Deese 1984; Perfetti 1985). To be efficient in word recognition, the beginning reader is distracted more than momentarily from the verbal task of planning and predicting text structures. Like the child who tunes out the rest of the world while struggling to put on an overcoat, the disfluent beginning reader is too busy reading words to plan for an oral presentation of phrases and sentences.

Letter Name Spelling and Reading Disfluency

The verbal planning and linear read-out of the disfluent beginning reader appear to be similar to the spelling strategy of the letter name speller. In letter name spelling, each letter represents a distinct sound, and there are no abstract markers for long vowels: e.g., "time" will be spelled TIM. In both cases, the student's word knowledge and orthographic awareness preclude chunking at higher levels both in terms of accuracy and fluency.

This synchrony between reading and spelling is based on the finding that spelling predicted a variety of reading measures, including reading rate and expression (Bear 1982, 1985). In one study, the reading rate among 40 first graders was inversely related to letter name spelling, and letter name spelling predicted a number of measures of reading fluency (Bear 1982). In a second study, with 96 first-through-third graders, spelling by stage predicted reading achievement (Bear 1985). For the 60 second and

third graders, spelling by stage assessments accounted for 77 percent of the variance of standardized test scores and was related to fingerpointing and fluency.

The relationships found between letter name spelling and reading disfluency suggest that until a qualitative change in word knowledge occurs, the beginning reader will not forge a visual perceptual span and will not be able to make a steady and fluent movement through text which would permit an acceptable oral rendering. In the following section, the qualitative changes in word knowledge are discussed as they relate to reading fluency.

The Onset of Fluency and Within-Word Pattern Spelling

When a student reads relatively easy texts with good fluency (90-100 words per minute) and with moderate expression (sentential pauses and occasional falling, end-phrase intonation contours), the fingerpointing and reading aloud largely disappear. (See figure 1, point D.) During the corresponding stage of spelling, the within-word pattern stage, the student is approaching reading fluency (Bear 1987). In the studies with first graders, this stage of spelling was never related to reading disfluency and was weakly related to fluency and expression. In the study with the first-through-third graders, students in the within-word pattern stage were apt to be more fluent and expressive oral readers. They tended not to fingerpoint, and they had adopted silent reading as the mode of choice during independent reading (point D).

The verbal planning which is so necessary to a fluent and expressive oral presentation is similar to the spelling strategy used by the student in the within-word pattern stage. The base, CVC,[3] short-vowel patterns have been mastered, and the student has moved away from a strict, linear match between graphemes and phonemes. For example, "time" may be spelled correctly or as TIEM; in either case there are more letters than sounds. The ability to use multiple graphemes to represent one sound signifies a more complex, cognitive manipulation of the orthography. While further research is needed, there does seem to be a relationship between these qualitative changes in word knowledge and reading fluency.

A steady hum of voices can be heard during sustained silent reading in the first-grade classroom, and it appears that silent reading, free of head movement and lip movement, is impossible for beginning readers. The type of reading instruction one chooses to offer is tempered by the student's development, and in this paper, a frame for thinking about the development of reading fluency has been presented. A number of implications for instruction follow from this view of development.

1. Disfluent oral readers may point as they read; silent readers (excluding heavy subvocalizers) do not need to point. Teachers can now look at both reading and spelling behaviors to predict when it is likely that a student will read disfluently, read aloud and fingerpoint. It is inappropriate to ask students to stop these behaviors during the letter name stage of spelling.

2. The reading in groups should be oral for beginning readers. The intermittent oral reading in round-robin reading is unsatisfactory as it disrupts fluency and does not allow the same dynamic feedback as when children are engaged in support reading activities. Support reading techniques—like choral, echo and partner reading of small group and individual dictations, rhymes, pattern stories and the increasingly popular big books—provide rich support in promoting fluency (Head-Taylor 1988; Henderson 1981; Holdaway 1983; Stauffer 1980). When students begin to read silently on their own and when they are no longer in the letter name stage of spelling, the reading in reading groups can be done silently. Reading aloud is then reserved for occasions when there is a clear purpose; i.e., reading aloud to confirm a prediction or reading a piece which has been practiced.

3. While it is important to analyze oral reading errors for insights into syntactic and semantic processing, the oral reading rate provides a global look at the efficiency of a student's verbal planning. It was for good reason that

Gray (1967) included a measure of rate in his tests. Now that the role of automaticity in word recognition has been established (Perfetti 1985), more emphasis should be given to the roles of reading fluency and expression in reading research and instruction.

4. Diagnostic teaching should include a sampling of invented spellings and an analysis of the synchrony between stages of reading and spelling. In most cases, there is a match between reading and spelling development, and it is unnecessary to take direct steps to extinguish reading aloud and fingerpointing. When a teacher observes reading development falling behind spelling development, the relative difficulty of the reading material needs to be considered. For example, if a student is solidly in the within-word pattern stage of spelling and still reads disfluently, the student is probably not reading enough material in which word recognition is highly accurate and conceptual difficulty is appropriate. This student is no longer a beginning reader and is in danger of becoming a word caller. In difficult materials, reading fluency is lost in the mire of miscalled words. Fluency and expression can be promoted by using relatively easy materials. The movement across stages of reading and orthographic development is gradual, and therefore, support materials and techniques (dictations, pattern books and choral reading) should be phased out gradually. On the other hand, in the less frequent cases where spelling falls behind reading development, word study activities should be pursued (Henderson 1985).

In this paper, the synchrony between beginning stages of reading and spelling has been described. It has been proposed that beginning readers and spellers are likely to invoke the articulatory loop[4] for extra support in holding the text together at a phrasal level as they work through a text. Oral reading taps the prosodic system, which provides cues for pauses and intonation contours.

These prosodic cues assist the reader in making syntactic transformations and help the reader hold the sense of the text together when word recognition is relatively slow. (Here, the prosodic system may be considered linguistic [Deese 1984].) On the other hand, the student no longer in the letter name stage of spelling has acquired a knowledge of English orthography which disambiguates words sufficiently to allow for a visual perceptual span which promotes verbal planning at a phrasal level.

Notes

1 Letter Name spelling represents a distinct stage of spelling as described by Henderson (1981). Students in this stage spell in a linear fashion, and they work off of the actual names of the letters; e.g., *lake* would be spelled LAK.

2 Eye-voice span is the distance between the visual scan and the voice in oral reading.

3 CVC = consonant-vowel-consonant patterns; e.g., *bed.*

4 The articulatory loop is described in detail by Brown (1981). A reader goes through an articulatory loop when the short term recognition buffer is overloaded. In the articulatory loop vocal and subvocal routines which tap auditory and motor plans in long term memory are engaged.

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THE TALES TYPOGRAPHY TELLS

The skillful control of typographical elements is so powerful that it can determine a reader's perception of the nature of a literary masterpiece. The impact of typography becomes especially apparent when the same work is printed by two fine press publishers with differing views of it. This article examines the manipulation of typographical elements by the Allen Press and by publisher John Henry Nash in their editions of John Dryden's *All for Love*—and how this manipulation significantly changes one's perception of the focus and historical environments of this play.

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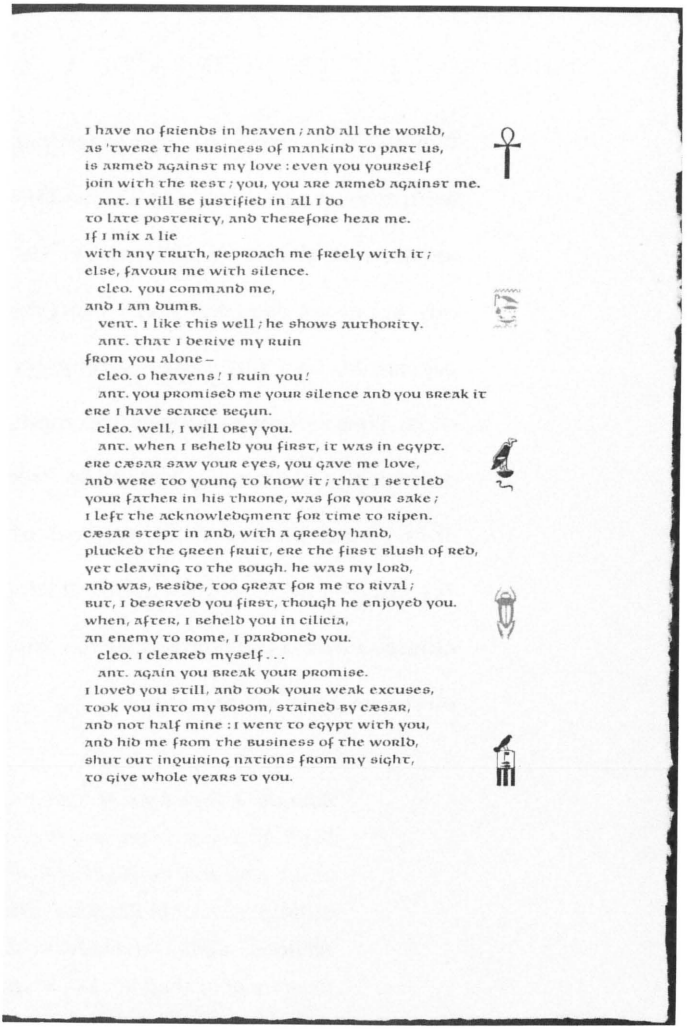

I have no friends in heaven; and all the world,
as 'twere the business of mankind to part us,
is armed against my love: even you yourself
join with the rest; you, you are armed against me.
  ant. I will be justified in all I do
to late posterity, and therefore hear me.
If I mix a lie
with any truth, reproach me freely with it;
else, favour me with silence.
  cleo. you command me,
and I am dumb.
  vent. I like this well; he shows authority.
  ant. that I derive my ruin
from you alone –
  cleo. o heavens! I ruin you!
  ant. you promised me your silence and you break it
ere I have scarce begun.
  cleo. well, I will obey you.
  ant. when I beheld you first, it was in egypt.
ere cæsar saw your eyes, you gave me love,
and were too young to know it; that I settled
your father in his throne, was for your sake;
I left the acknowledgment for time to ripen.
cæsar stept in and, with a greedy hand,
plucked the green fruit, ere the first blush of red,
yet cleaving to the bough. he was my lord,
and was, beside, too great for me to rival;
but, I deserved you first, though he enjoyed you.
when, after, I beheld you in cilicia,
an enemy to rome, I pardoned you.
  cleo. I cleared myself...
  ant. again you break your promise.
I loved you still, and took your weak excuses,
took you into my bosom, stained by cæsar,
and not half mine: I went to egypt with you,
and hid me from the business of the world,
shut out inquiring nations from my sight,
to give whole years to you.

Figure 1.
Text in uncial manuscript for Allen Press **All for Love.** ***By permission of The Bancroft Library, Univeristy of California, Berkeley.***

I Can the same dramatic masterpiece of John Dryden seem two different tales when set by two different fine press masters? *All for Love: Antony, Cleopatra, a Romantic Tragedy* (Kentfield, California: Allen Press, 1976) and *All for Love: or, the World Well Lost* (San Francisco: John Henry Nash, 1929) significantly demonstrate how distinct typographical styles create different environments in books.[1] In these two works, typographical style creates and accompanies differing focuses for the drama. The Allen Press edition concentrates on Cleopatra and creates an environment of ancient Egypt. The Nash edition concentrates on Dryden and represents the environment of neoclassical, Restoration England.

Figure 2.

***Text in classical columns in Nash* All for Love.**

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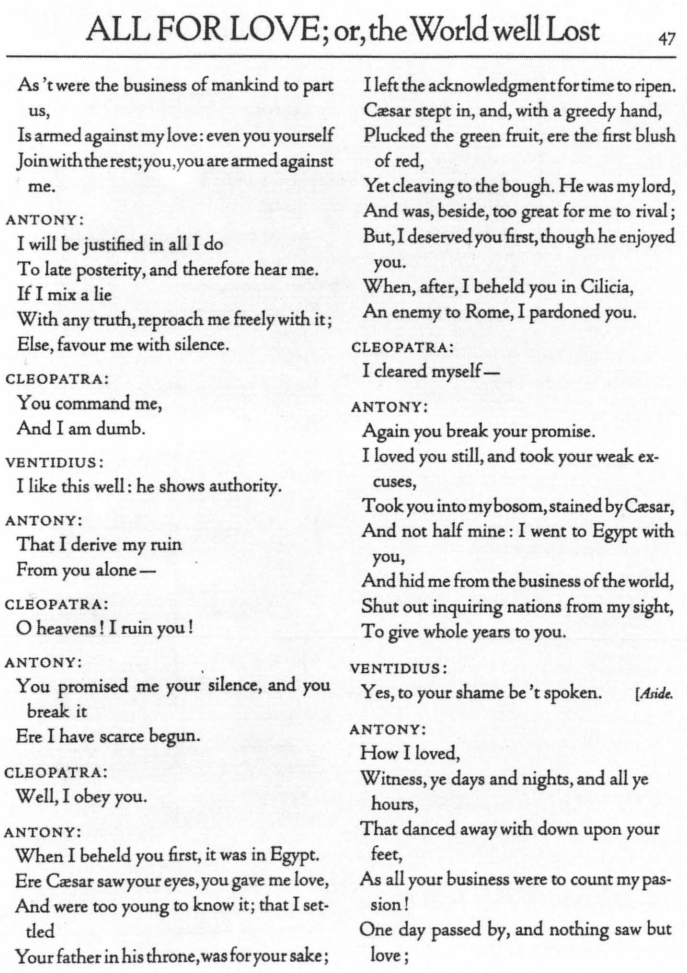

ALL FOR LOVE; or, the World well Lost 47

As 't were the business of mankind to part us,
Is armed against my love: even you yourself
Join with the rest; you, you are armed against me.

ANTONY:
I will be justified in all I do
To late posterity, and therefore hear me.
If I mix a lie
With any truth, reproach me freely with it;
Else, favour me with silence.

CLEOPATRA:
You command me,
And I am dumb.

VENTIDIUS:
I like this well: he shows authority.

ANTONY:
That I derive my ruin
From you alone—

CLEOPATRA:
O heavens! I ruin you!

ANTONY:
You promised me your silence, and you break it
Ere I have scarce begun.

CLEOPATRA:
Well, I obey you.

ANTONY:
When I beheld you first, it was in Egypt.
Ere Cæsar saw your eyes, you gave me love,
And were too young to know it; that I settled
Your father in his throne, was for your sake;
I left the acknowledgment for time to ripen.
Cæsar stept in, and, with a greedy hand,
Plucked the green fruit, ere the first blush of red,
Yet cleaving to the bough. He was my lord,
And was, beside, too great for me to rival;
But, I deserved you first, though he enjoyed you.
When, after, I beheld you in Cilicia,
An enemy to Rome, I pardoned you.

CLEOPATRA:
I cleared myself—

ANTONY:
Again you break your promise.
I loved you still, and took your weak excuses,
Took you into my bosom, stained by Cæsar,
And not half mine: I went to Egypt with you,
And hid me from the business of the world,
Shut out inquiring nations from my sight,
To give whole years to you.

VENTIDIUS:
Yes, to your shame be 't spoken. [*Aside.*

ANTONY:
How I loved,
Witness, ye days and nights, and all ye hours,
That danced away with down upon your feet,
As all your business were to count my passion!
One day passed by, and nothing saw but love;

Each typographical element in the two works reinforces these differing environments. The paper of the Allen edition is handmade, of rag content and deckle-edged, giving a heavy, aged appearance reminiscent of an ancient writing texture. The use of papyrus for the frontispiece illustration further emphasizes this character. The Nash edition uses laid paper, with gilt edging along the top, bearing watermarks (the initials of Nash and his

patron, William A. Clark, Jr.). Paper of such an elegant nature reflects the classical taste of Dryden's time.

The Allen Press type is an uncial (Menhart) for the text, in closely spaced, running lines as of a manuscript. (The abbreviation of characters' names and the lack of separation between speaking

Figure 3.
***Frontispiece with painting on papyrus of Cleopatra for Allen Press edition of* All for Love.**
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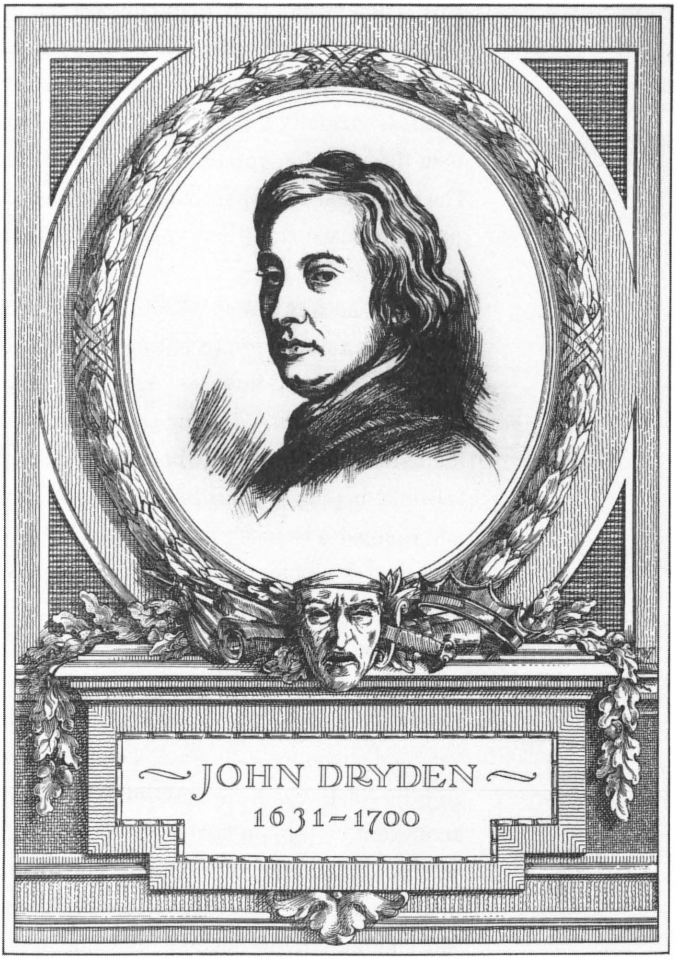

Figure 4. ***Frontispiece with engraving of John Dryden for Nash edition of* All for Love.** ***By permission of The Bancroft Library, University of Califonia, Berkeley.***

parts may present confusion for some readers.) The Nash type is Cloister light face, roman and italic, which is clear and dignified.

The page format of the Allen edition treats each sheet separately, as almost an individual product in a sequence from scribes, without numbering of pages. Opened pages thus do not form two framed parts. Rather, each page, with its text accompanied along the right margin by a column of Egyptian hieroglyphics and symbols for deities, seems a separately designed sheet. (See figure 1.)

The Nash pages are assembled in orderly columns, and two pages facing across the opened book present a balanced frame. The speaking parts of characters are presented in a clear, orderly manner, lines separating each part, the speaker identified on a different line in small caps. (See figure 2.)

- Illustration particularly distinguishes the typographical styles and focuses of the two books. The Allen edition is richly illustrated; and the frontispiece, a hand-painted portrait of Cleopatra on papyrus, is virtually the culmination of the romantic (approaching even the erotic) Egyptian character of the book. (See figure 3.) The elaborate, hand-painted illustrations accompanying the beginning of each act (titled in Latin) continue the illuminated manuscript character.
- The Nash edition opens with full-page illustrations, reminiscent of steel engravings, representing Shakespeare and Dryden. (See figure 4.) The text, however, except for an opening headpiece, has no illustration, allowing a concentration, almost chaste, on the body of the work. The book does culminate, however, in a fulsome display of color plates, recounting the story of Antony and Cleopatra from reproductions of classical style paintings. (This lavish element in the book originated from the patron, who requested production of the work as a Christmas present for his family and friends, the color plates reproducing murals in his library.)
- The binding of the Allen work is a fine-ribbed grain cloth, with a subdued sheen, in a dark tan, somewhat sand color. The Allen and the Nash works are both folio size. The binding of the latter is an elegant vellum on boards, having wallet edges with spare-lined gold bordering and ribbed spine. The Nash edition is accompanied by an octavo facsimile of the Bridgewater-Clark first edition. The smaller volume accompanies the larger in a curious "kangaroo" slipcase. That the Nash edition is accompanied by a facsimile first edition of Dryden's work reinforces, through a scholarly, rare book connotation, the refined character of the edition.
- Comparison of two editions of the most renowned work of a noted dramatist reveals the power of typography over text. In the Allen edition, *All for Love* is a romantic tragedy from legend, about an exotic queen in ancient Egypt. In the Nash edition, *All for Love* is a refined tragedy by Dryden, representing the neoclassical tradition in Restoration England.

[1] In the preparation of this article, the author is grateful for the interest and assistance of Professor Robert Harlan, a specialist in San Francisco Bay Area publishing, at the School of Library and Information Studies of the University of California, Berkeley.

by Emma Kafalenos

IMAGE AND NARRATIVITY:

Robbe-Grillet's *La Belle Captive*

A novel by Alain Robbe-Grillet and René Magritte, containing more than seventy-five of Magritte's paintings and a text by Robbe-Grillet, *La Belle Captive* (1975) illustrates the procedure Jacques Derrida describes in reading photographs: the story does not precede the telling. Magritte's paintings have no syntagmatic or diachronic element, no chronology. Paintings cut an event from the temporal continuum, removing it from any prior or sequential events which might imply causality. For Robbe-Grillet, to engender a narrative from paintings allows him to replace the "generative idea of chronology that is continuous and leading to an end"—permitting him to create a narrative without prior referent.

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A novel (*roman*) by Alain Robbe-Grillet and René Magritte, *La Belle Captive* includes more than 75 paintings by Magritte, reproduced with their titles, alongside a text by Robbe-Grillet covering an approximately equivalent space, the text and the paintings more or less evenly distributed among the 141 pages that contain painting or text or both.[1] Published in 1975, this conjunction of verbal narrative and atemporal paintings that proclaims itself a novel is one of more than half a dozen *picto-romans* (pictorial novels) that Robbe-Grillet produced in the early 1970s; all of them include texts by Robbe-Grillet and the photographs, lithographs, engravings or paintings from which the texts were generated.[2]

Although in the other instances Robbe-Grillet worked in collaboration with a living artist, in the production of *La Belle Captive* the contribution of Magritte, who died in 1967, was to make the paintings and to give them titles. The creation of the text, the selection of paintings and the layout of paintings and text, the choice of title and the decision to print the word "roman" on the cover are all by Robbe-Grillet, who offers this explanation of his procedure on the back cover of *La Belle Captive:*

> **Traversant l'exposition rétrospective d'un peintre qu'il aime entre tous, l'écrivain aussitôt y choisit des objets, des histoires. Les figures s'animent, la répétition d'un thème devient développement diachronique, le titre d'un tableau surgit comme un mot de passe...**
>
> (Walking through a retrospective exhibition of a painter he loves the most of all, the writer immediately chooses objects, stories. The figures come to life, the repetition of a theme becomes diachronic development, the title of a painting looms like a password...)

The development of the diachronic (the text) from the atemporal and merely adjacent (the paintings), and the resultant effect of the method for this narrative, and for narrative theory, is the focus of this study. But to be able to confront the general issue of narrativity, certain local relationships between painting and text must first be established.

| *La Belle Captive* is the title not only of the novel we are discussing, and of a film Robbe-Grillet made in 1983, but also of at least four paintings by Magritte, the last of which (from 1966-67) is included in this novel (pp. 54-55). It is a seascape showing beach, water, and sky, with a curtain on each side extending from the beach up to the top margin of the painting. The curtain on the left covers perhaps an eighth of the width of the canvas; the one on the right reaches almost to the middle of the painting. On the beach, somewhat to the left of the center, there is a spherical object, perhaps a ball, and on the right side there is an easel holding a painting. The painting on the easel covers much of the right curtain and extends beyond it to cover a portion of the seascape which the partly opened curtains reveal. The inner painting depicts, in the same proportions as in the rest of the painting, the sea and sky that presumably are behind it and behind the curtain.

| Generally translated as "The Fair Captive," in French *La Belle Captive* indicates that what is imprisoned is feminine—or denoted in French by a feminine noun. For Magritte, the title in every case is given to a seascape or landscape that contains within it a painting placed on an easel; the interior painting depicts what we perhaps too facilely assume we would see if it were not there—or in this instance if the painting and the curtain behind it were removed.[3] What is imprisoned, for Magritte, is a painting (*la peinture*): a painting that the exterior painting contains but that does not alter landscape or seascape. In effect the framing of a portion of a painting, the formula calls attention to the status of the painting as painting, to the painting as an opaque thing-in-itself instead of a transparent sign pointing to an external reality.

| Like Magritte's paintings titled *La Belle Captive*, the book *La Belle Captive* draws attention to its status as thing-in-itself, without external referent. What we note initially is the emphatic shift such a structure produces in the relationship between the word and its referent. The book opens with a full-page reproduction (figure 1) of Magritte's *Chateau des Pyrénées (Castle of the Pyrenees)* and on the facing page a text that begins: "Ça commence par une pierre qui tombe, dans le silence verticalement, immobile." ("It starts with a stone falling, in silence, vertically, motionless.")[4] The image of Magritte's deftly painted stone imposes itself between the word and anything outside the book to which the

word might refer. Just as the interior painting in Magritte's *La Belle Captive* informs us that the exterior painting is no representation of a real place where we could vacation, similarly, Magritte's painted image interferes with a correlation between Robbe-Grillet's word for "stone" ("une pierre") and the real object we might stumble over as we walk.

The substitution of a painted image for an external referent, however, is only the first step in a complex process by which Robbe-Grillet achieves the creation of a text in which both individual words and the narrative itself escape prior reference. Analyzing the procedure first for the word, let us read on: "Elle tombe de très haut, aérolithe...." ("It is falling from a great height, an aerolith....") An aerolith (or aerolite) is a meteorite; the new word shifts our perception of Magritte's image from unexplained stone to a substance identifiable both in its chemical composition and its origin. The entire second sentence reads:

> **Elle tombe de très haut, aérolithe, bloc rocheux aux formes massives, compact, oblong, comme une sorte d'oeuf géant à la surface cabossée.**
>
> (It is falling from a great height, an aerolith, a massive block of rock, compact, elongated, like a kind of giant egg with a lumpy surface. [Trans. by Underwood, p.128])

Stone, aerolith or giant egg: the words alter our interpretation of the painted image. Robbe-Grillet's text has already demonstrated that to name a thing—object or painted image—is to interpret it. To give it only one name, however, is to limit its significance.

In an essay published in 1981, as a preface to a *roman-photo* (a collection of captioned photographs arranged in a narrative sequence), Robbe-Grillet proposes that the degree of interpretation is what distinguishes "realism" from the "real." Defining realism as a form of interpretation, a "totalitarian code" that imposes "a coherent and univocal totality of meanings," he describes the real—what we see and what we hear—as the not-yet-interpreted, as "made up of signs that are multiple and open, unceasingly

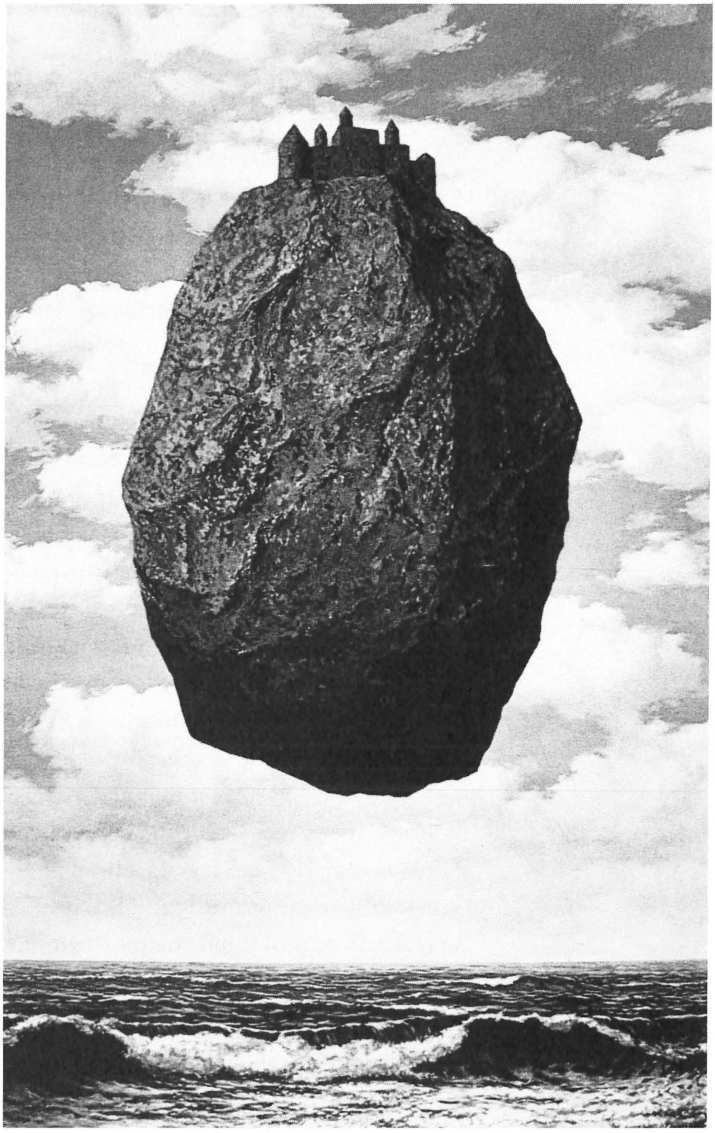


Figure 1.

René Magritte,* Castle of the Pyrenees (Le Chateau des Pyrénées, *1926). Collection of the Israel Museum, Jerusalem. Gift of Mr. Harry Torczyner. Courtesy Mr. I. Herschkovici.

shifting and problematic."[5] Next, he draws a parallel between the real and the photographic image. The real object and "the effect of the real produced by the photographic image" both invite "a mobile universe of meanings that are multiple, contradictory, and shifting, ever provisional and ambiguous."[6]

Clarifying that this is a theoretical position—that in an ideal world both the real and the effect of the real in photography invite multiple and shifting meanings—Robbe-Grillet then distinguishes between them in practice, proposing that the photographic image offers greater freedom of interpretation than the real, because the real has been interpreted by society to the point of being "*réduit au réalisme*" (reduced to realism, p. II); we perceive it as determinate and univocal. Thus the photographic image invites interpretation to a degree that the real no longer does.

Such a position suggests one reason why Robbe-Grillet turned to art works (paintings as well as photographs) in the 1970s as sources from which to generate texts. Magritte's paintings, we can assume, offer an even greater freedom of interpretation than photographs. Even in the first two sentences of *La Belle Captive*, we have seen the shifting signification of the image at the center of Magritte's *The Castle of the Pyrenees* from stone to aerolith to egg. By proposing several interpretations of Magritte's image, Robbe-Grillet's text avoids the univocal and determinate interpretation that marks (and mars) realism.

In addition to proposing multiple names for Magritte's images, to retain their provisional nature, their openness to interpretation, Robbe-Grillet's text also at times contradicts the painted scene. In the essay on the *roman-photo*, Robbe-Grillet expands the discussion to include the cinema, in particular Einsenstein, who in his manifesto of October 1928 expresses his presentiment of "*la catastrophe imminente*" (the imminent catastrophe) contained in the new invention of sound. Robbe-Grillet discussing Eisenstein says:

> **Renforçant l'effet de réel, l'image qui parle va, écrivait-il, sombrer dans l'illusionisme, alors que les expériences sur le son devraient "être dirigées vers sa non-coïncidence avec les images visuelles." (p. II)**

(Reinforcing the effect of the real, the speaking image, he wrote, will sink into illusionism, at a time when experiments with sound should "be directed toward its non-coincidence with the visual images.")

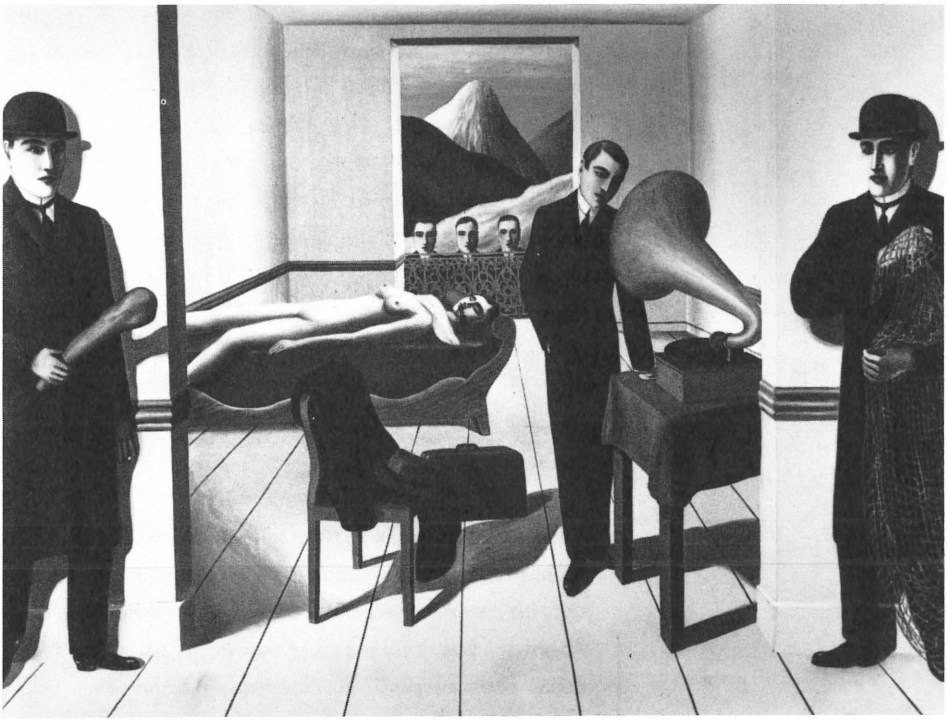
Eisenstein's "non-coincidence" between image and word, which can liberate both, is also Magritte's method; the titles of Magritte's paintings expand, rather than limit, the signification of the assembled icons on his canvas. Most famous in this respect is his *Ceci n'est pas une pipe* (1928-29), the representation of a pipe with the words that declare "This is not a pipe" painted on the canvas itself. Although this particular painting is not included in *La Belle Captive*, the non-coincidence of image and text, and even the contradiction of image by text, is reflected in the book. For example, compare the fourth Magritte painting in *La Belle Captive*, *L'Assassin menacé* (*The Threatened Assassin*) of 1926 (figure 2) with the text on the facing page. (In the painting, which in the book is reproduced in color, the woman's hair is much too dark to be considered blond.)

...touchant presque la tête *blonde, à demi renversée,* de la jeune fille couchée sur le dos *dont la chevelure défaite pend jusqu'au sol* en algues onduleuses, un homme à peine plus âgé (n'ayant pas atteint la trentaine, sans aucun doute) s'appuie d'une main distraite *au dossier de la chaise* en bois laqué; tout vêtu de noir—chaussures vernies, complet *croisé* très strict et cravate de soirée—, *ganté, portant sur la tète un chapeau melon,* il a l'air de rêver debout.... Il s'agit peut-être de l'assassin, bien que le personnage ressemble à s'y méprendre, par son visage comme par son costume, aux deux policiers en civil qui l'attendent *derrière la porte,* dans le couloir. (pp. 14-17; my italics)

(... almost touching the half-flung-back, *blond* head of the supine girl *whose hair has come loose and hangs to the floor* in rippling, seaweedy strands, a man who is not much older (being definitely under thirty) is leaning

Figure 2.

René Magritte,* The Threatened Assassin (L'Assassin menacé, *1926). Oil on canvas, 59 1/4" x 6' 4 7/8" (150.4 x 195.2 cm). By permission of The Museum of Modern Art, New York. Kay Sage Tanguy Fund.



with one negligent hand *on the back of the painted wooden chair;* dressed entirely in black—patent-leather shoes, extremely formal *double-breasted* suit, and evening-dress tie--*gloved* and *wearing a bowler hat*, he appears to be dreaming on his feet....This may be the murderer, although he bears a bewildering resemblance, both facially and in terms of dress, to the two plain-clothes policemen waiting for him *behind the door*, out in the corridor. [Trans. by Underwood, p.130; my italics])

The result of the contradictory, as well as the multiple signifiers generated from the paintings is a text as inherently provisional and ambiguous as the uninterpreted image from which it is gen-

erated. The text, like the image, is "unceasingly shifting and problematic." It is also non-referential. Although we can trace the generative procedure from the image to each of several different words, the reverse does not hold. Whereas the individual name, generated from and juxtaposed against the painted image, appears to have that image as its referent—and certainly not to have a referent in the external world—the effect of multiple and contradictory nouns is to remove even the image as referent. The multiplicity and the contradictions in the words generated from the image undermine the referential relationship from word to image, leaving the word nearly as open to interpretation as the image, a sign without a prior referent.

The degree to which the text separates itself from the images that generate it is described by Robbe-Grillet himself. His comments on the back cover of *La Belle Captive* conclude:

> **...ayant d'abord accepté les images comme impulsion génératrice, c'est bientôt l'écart variable entre elles et le texte—quelquefois aussi le rapport métonymique ou même l'opposition—qui devient le principal paramètre du jeu. Ainsi le lecteur-spectateur est-il convié à prendre part (créateur à son tour d'un itinéraire) à cette circulation du sens parmi les organisations mouvantes de la phrase qui donne à voir et du tableau qui raconte.**
>
> (...having at first accepted the images as a generative impulse, before long the variable divergence between the images and the text—sometimes also the metonymic relationship or even the opposition—becomes the principal parameter of the game.Thus the reader-spectator is invited to take part [as creator in turn of an itinerary] in this interchange of meaning amid the mobile organizations of the phrase that makes visible and the picture that narrates.)

Although our discussion thus far has focused primarily on the relationships between images and words, largely nouns and adjectives, *La Belle Captive* is called a novel; Robbe-Grillet refers to "the picture that narrates." If we look at Magritte's paintings in the sequence in which Robbe-Grillet has arranged them in *La Belle Captive*, while remembering Robbe-Grillet's explanation (in the passage cited earlier from the back cover) that when he walks through an exhibition "the repetition of a theme becomes diachronic development," we find that an image or several images in each painting tend to recur, in the next painting or in the one following it. In the first eight paintings in the book, for example, there are five seascapes, three that depict stones (and a mountain scene in another), five that show an opening from inside to outside or to a painting of an exterior scene. Women or parts of women are in four; men wearing bowler hats in two. Roses appear twice, and the parallel lines of a wooden floor three times.

Much like Robbe-Grillet himself, Magritte draws his imagery and thematics from a seemingly finite set, elements of which recur from work to work, even in works painted (or written) decades apart. Nonetheless, mere adjacency, or juxtaposition, does not constitute diachrony. Narration requires temporality, which is not inherent to painting. It is in fact the atemporal and nonchronological nature of painting, as we shall see, that is exactly what makes it ideal as a generator for the narratives Robbe-Grillet proposes to write.

Already in the opening paragraphs the text establishes its temporality, in contradistinction to the static scene in *Le Chateau des Pyrénées* (figure 1). The initial event takes place "in silence" and is "motionless." Nonetheless, in the first sentence, there is an event; the stone is falling. In the shift in signifier in the second sentence, from *pierre* (stone) to *aérolithe* (meteorite), a past origin is implied, introducing casuality; we see the object here because it is falling to earth. The future comes into existence in the second paragraph, in which a question is raised about whether the object will land on the ground or in the water; in either case, apparently, a landing is expected to occur. When in the third paragraph of the text a woman's cry shatters the silence, the painting's

silence and immobility have been broken by motion and sound. Robbe-Grillet's text creates a temporal dimension that the paintings do not have.

The fact that it is possible to generate a temporal narrative from static paintings, however, does not explain why a writer might choose this method of generating texts. For Robbe-Grillet, a part of the answer, we may assume, is that to move from an event, any event, to a verbal account of it raises the same problems that naming a real object does. The painted image, as we have seen, is more open to interpretations than the real object or, similarly, the real event.

Additionally, because of the temporal dimension in which the event is situated, to move from event to text demands making decisions that interpret it: to cut the event from the temporal continuum requires defining a moment when it begins and a moment when it ends; to include prior events implies causality. If in response to a question about what I had for breakfast, for example, I reply that I drank some orange juice, consider what I have *not* said. I have not talked about selecting Temple oranges of exactly the perfect ripeness, crushing them lightly before slicing them with a knife reserved only for oranges, squeezing them directly into a chilled glass and drinking the juice immediately to savor its freshness. Nor have I said that what I drank came from a bottle of frozen orange juice, mixed days before. My account includes no prior past, no future, no casual dimension. Nonetheless, there is no zero-degree account. Even my simple statement about having drunk orange juice expresses an ideological position; a listener is apt to understand, from what my response does not include, that for me orange juice is not a very important topic. My point is to show that if a single event is unavoidably interpreted and limited in a verbal account of it, then the result of transferring more complex actions to words is to interpret and limit further.

Another reason for selecting paintings to generate a narrative is suggested in an article Robbe-Grillet published in 1970, apparently immediately before he began the procedures which resulted in the *picto-romans* produced during the 1970's. Appearing first

in *Le Nouvel Observateur*,[7] the article was revised and included as an insert in the French edition of *Projet pour une révolution à New York*.[8] Proposing in the article a correlation between the social orders that have developed at different times and the novels each of those societies produced, Robbe-Grillet identifies the form of the novel that remains most popular even today as a construct comparable to the bourgeois society of the first half of the nineteenth century in France:

> **Continu, unilinéaire, objectif, ce discours est engendré par une force organisatrice: la chronologie. Il est garanti par une valeur: la vérité. Le récit, sous son empire, est définitif comme un jugement.**
>
> (Continuous, unilinear, objective, this discourse is generated by one organizing force: chronology. It is guaranteed by one value: truth. Narrative, under its empire, is final like a sentence in a court of law.)

I We recognize Robbe-Grillet's preference for works that provoke interpretations that are shifting and provisional, rather than the univocal and universal that is sometimes called "truth." In this article, pairing "truth" with the generation of discourse from chronology, he discusses the need to replace "cette idée génératrice de chronologie continue et tendue vers une fin" ("this generative idea of chronology that is continuous and leading toward an end").

I When we remember the questions we hear our children ask, or that we ask ourselves—"and what happened next?" or "and then?"—we know that Robbe-Gillet is not overestimating the power of chronology in generating narrative. Studies in narratology have taught us, however, to distinguish between two different types of sequence in narrative. The *syujet* is the sequence of the telling, the order in which the events are told in the narrative. The *fabula* is a hypothetical chronological sequence, the order in which the events would have occured if they had taken place outside the story: a sequence we construct ourselves as readers from clues in the narrative. Although I choose to use the terms introduced by the Russian formalists, because they have not been

adopted for other purposes, the French terms *récit* and *histoire* are comparable to what I am calling *syujet* and *fabula*. To illustrate the importance of the distinction, let me use as an example a children's story, *Goldilocks and the Three Bears*.

The *fabula*—the hypothetical reconstruction of the events in the order in which they take place—begins with two more or less simultaneous events: a little girl named Goldilocks goes out to explore; the bear family leaves its home to take a walk. While the bears are away, Goldilocks finds their home, goes in and discovers their chairs, their porridge and their beds; then the bears return.

Let us construct from this *fabula* two different *syujets* and notice how they alter our interpretation of the *fabula*. In one *syujet* we follow Goldilocks, who goes exploring, finds a delightful little house and goes in. She sits in each of the three chairs at the table and finds one that just fits. She tastes the porridge on the table in front of her and finds it so good that she eats every bite of it. And after all the excitement and the exercise and the food, she is tired, so she tries the three beds she sees and, finding one that is just the right size, she lies down and goes to sleep. Having found the house so perfectly suited to her needs, when the bears return she will be delighted to see them, and they will become friends forever.

A second *syujet*, which is the one some readers will remember, begins with the bears who, having gone for a walk, come home for supper. Discovering that their house has been broken into, their chairs disturbed and their food eaten, they search the premises until the baby bear calls out, "Somebody's been sleeping in my bed, and there she is now!" With this *syujet* we have a story about the invasion of privacy.

In the first part of this century, the Russian formalists recognized that a *fabula* could be expressed in more than one *syujet*, and that our response to a narrative is governed both by its *syujet* and its *fabula*. Although in some narratives *fabula* sequence and *syujet* sequence are identical, nonetheless it was assumed that every narrative could be analyzed to determine both a *syujet* and a *fabula*. By definition, the sequence of the telling is the *syujet*; it is a transparent sequence through which the *fabula* can be discerned.

The relationship between the *syujet* and its *fabula* is comparable to that between the word and its referent. A *syujet* has a *fabula* as its referent.

In this context, if we reconsider the statement Robbe-Grillet made in 1970 about the need to replace chronology as a generator, it is clear that what chronology generates is a *fabula*. The question that generates the *syujet* is the very different one of what is going to be revealed in the next chapter. When we ask what *happens* next we are asking the question that generates the *fabula*.

When the formalist Vladimir Propp analyzed the Russian folk tale as consisting of a total of seven "spheres of action" and thirty-one "functions,"[9] it was in fact the elements of the *fabula* that he discovered. The "spheres of action" are abstractions of character (hero, villain, etc.); the "functions" are what the "spheres of action" do. Together they form a set, a paradigm, from which the elements of an individual *fabula* can be constructed. In addition to these elements, what is needed to create a *fabula* is a syntagm: a chronological sequence.

Paintings offer a set or paradigm that is equivalent to Propp's "spheres of action" and "functions"; what paintings do not bring to the construction of a *fabula* is the syntagmatic or diachronic element: a chronology. The words to conclude the argument I am constructing have been proposed by Jacques Derrida, but in another context, and much later than *La Belle Captive*. Writing in 1985, in a so-called "reading" (*lecture*) published at the end of another *roman-photo* (a sequence of photographs, in this case without captions), Derrida writes that in the situation of sequentially ordered photographs without text, "l'histoire ici ne précède pas le récit," the *fabula* does not precede the *syujet*.[10]

The similarity between sequentially ordered photographs and sequentially ordered paintings is clear. To generate a text from paintings is to establish the paintings as the source of the paradigmatic elements of a *fabula* but not to complete the *fabula* by introducing the syntagmatic element of chronology. The result of the procedure, as Derrida suggests, is a *syujet* without a prior *fabula*. But even Derrida in this instance is not proposing the construction of a *syujet* from which one cannot reconstruct a *fabula*. In *La Belle Captive*, just as the individual images in Magritte's paintings generate multiple and sometimes contradictory words,

which as a result of their multiplicity lose their transparency and cannot return back to the image as referent, similarly the multiple and contradictory events in the *syujet* obstruct its transparency. The *syujet* has no *fabula* as its referent, nor can a *fabula* be reconstructed from it. The text of *La Belle Captive* is not only a *syujet* without a prior *fabula*; it is a *syujet* without any *fabula* at all.

Nor is *La Belle Captive* the first of Robbe-Grillet's works in which there is a *syujet* for which there can be no *fabula*. From our present perspective, consider Robbe-Grillet's description of the way he wrote his novel *La Jalousie*, published in 1957. I am quoting Robbe-Grillet's text, and inserting the terms *fabula* and *syujet* where appropriate:

> **Il était absurde de croire que dans le roman *La Jalousie*...existait un ordre des événements, clair et univoque [*fabula*], et qui n' était pas celui des phrases du livre [*syujet*], comme si je m'étais amusé à brouiller moi-même un calendrier préétabli [a prior *fabula*]. Le récit était au contraire fait de telle façon que tout essai de reconstitution d'une chronologie extérieure [*fabula*] aboutissait tôt ou tard à une série de contradictions, donc à une impasse.**[11]
>
> (It was absurd to suppose that in the novel Jealousy. . . there existed a clear and unambiguous order of events [*fabula*], one which was not that of the sentences of the book [*syujet*], as if I had diverted myself by mixing up a pre-established calendar [prior *fabula*]. The narrative was on the contrary made in such a way that any attempt to reconstruct an external chronology [*fabula*] would lead, sooner or later, to a series of contradictions, hence to an impasse.)

Thus, as early as 1957, Robbe-Grillet reports, he was creating both a *syujet* that has no prior *fabula*, and a *syujet* that cannot refer to a *fabula* because no *fabula*—no chronological arrangement of the events—can be discerned in or through the *syujet*.

If one considers Robbe-Grillet's novels from *Le Voyeur* (1955) at least through *Djinn* (1981), as different as they are, one can dis-

cern that what they have in common is that there is no *fabula* to which their *syujets* refer and that it is probably this aspect that most clearly makes us cognizant of their autonomy. The emphasis on things—on the object—in *La Jalousie* was recognized when the novel was first published. *Projet pour une révolution a New York* (1970), the novel accompanied by Robbe-Grillet's call for a substitute for chronology as a generator, takes its themes from visual images in the world: posters, advertisements in magazines, the covers of cheap novels: atemporal visual generators. The experiment of *La Belle Captive* (and the other *picto-romans*) serves to help us understand the earlier works in which its origins lie.

In 1976, Robbe-Grillet published the novel *Topologie d'une cité fantôme*, which is composed of all or part of the texts from seven of his *picto-romans*, including the first section of *La Belle Captive*, and five pages of previously unpublished text. His next novel, *Souvenirs du triangle d'or* (1978), contains the rest of the text of *La Belle Captive*, other previously published works and a greater proportion than in the preceding novel of previously unpublished text.[12] Neither of these novels includes any of the paintings, photographs, engravings or lithographs which generated the previously published material. The existence of these novels can serve as proof of the texts' freedom from a referent. Generated from images, but with no prior *fabula* and no discernible *fabula*, the *syujets* can stand alone, without the paintings that were their source.

The two novels that are the result of the assemblage are not without meaning, because they are made of words—of what Jean Ricardou calls "signifying material"[13]—through which readers continue to find referents. But as a result of the procedures by which they were created, these novels remain as "multiple and open, unceasingly shifting and problematic" as Robbe-Grillet teaches us the real should be.*

Notes

1 Alain Robbe-Grillet and René Magritte. 1975, *La Belle Captive: roman*. Brussels: Cosmos Textes.

2 Bruce Morrissette presents a detailed description of these works in *Intertextual Assemblage in Robbe-Grillet from Topology to the Golden Triangle*. 1979. Fredericton, N. B., Canada: York Press.

3 Magritte's earliest *La Belle Captive*, from 1931, depicts a landscape with a road that traverses both paintings; in the exterior painting a man appears to be walk-ing away from the interior painting, in which a man and a horse pulling a cart are facing in the opposite direction. In seascapes from 1947 and 1949, a fire in which a musical instrument is burning in the exterior painting is reflected on the surface of the interior painting, which otherwise depicts precisely the view the perceiver assumes the interior painting blocks.

4 Translated by J.A. Underwood, p. 128. All English translations of citations from *La Belle Captive* are by Underwood and are quoted from *Topology of a Phantom City*, 1977. New York: Grove—his translation of Robbe-Grillet's *Topologie d'une cite fantôme*. 1976. Paris: Editions de Minuit. Although *La Belle Captive* has not appeared in English translation, the text of the first of its four sections is included in *Topologie*. Translations by Underwood will be indicated hereafter by his name, followed by a page number referring to *Topology of a Phantom City*.

5 "Le réalisme est une idéologie, c'est-à-dire un code totalitaire... Le réel enregistré par mon oeil, ou mon oreille, est constitué de signes, multiples, ouverts, sans cesse mouvants et problématiques. Le réalisme en revanche est un ensemble cohérent et univoque de significations." Alain Robbe-Grillet. 1981. Preface to *Chausse-trappes*, by Edward Lachman and Elieba Levine. Paris: Editions de Minuit, p. I. My translation, here and wherever a translator is not named.

6 "Dans les deux cas—le réel ou l'effet de réel—les choses ne vont certes pas m'apparaître comme le *n'importe quoi* du non-sens, mais comme un appel au sens sans cesse déçu, un univers mobile de significations multiples, contradictoires, glissantes, toujours provisoires et ambiguës, univers qui est justement le lieu de ma liberté." *Chausse-trappes*, p. I.

7 June 26, 1970.

8 Paris: Editions de Minuit, 1970; translated by Richard Howard as *Project for a Revolution in New York*. 1972. New York: Grove. The English translation does not include this essay.

9 Vladimir Propp. 1928. *The Morphology of the Folktale*. Translated by Laurence Scott. 1958. Austin, Texas: University of Texas Press.

10 Jacques Derrida. 1985. "Lecture." In *Droit de regards*, by Marie-Françoise Plissart and Benoît Peeters. Paris: Editions de Minuit, p. v.

11 *Pour un nouveau roman*. 1963. Paris: Editions de Minuit, 132. Translated by Richard Howard as *For a New Novel*. 1965. New York: Grove, 154.

12 For a full account of the construction of these two novels, see Morrissette, *Intertextual Assemblage in Robbe-Grillet...*

13 Jean Ricardou. 1978. *Nouveaux problèmes du roman*. Paris: Editions du Seuil, 16. Ricardou is writing about "production," the generation of text from signifiers (without reference to signifieds), which is another procedure by which a *syujet* can be created without a prior *fabula*.

* *Note: An earlier version of this paper was presented at an interdisciplinary colloquium on Alain Robbe-Grillet's writings and films, organized by Professor Michel Rybalka and held at Washington University in St. Louis, fall 1988.*

Hermann Zapf & His Design Philosophy

Chicago: Society of Typographic Arts, 1987.
254 pages, large format, generously illustrated, many in color.

By any standards, Hermann Zapf has to be regarded as one of the major type designers of the second half of this century; what is more, he is unusual among type designers in that he has written a great deal on and around the subject. So when a good selection of his writings is brought together in one volume, we must take note and ask ourselves what they tell us about the man and what they contribute to our understanding of letterforms. The articles chosen for this volume cover the period 1959 to 1986. They are put into a broader context which includes lists of Zapf's own publications and of publications about him, chronological and alphabetic lists of his type designs, and numerous illustrations of his lettering, type design and typography, including almost one hundred full-page plates.

It is tempting to concentrate on Hermann Zapf rather than on his articles and lectures which form the basis of the book—indeed, it is difficult to separate the two—but this is first and foremost a review of what one of the most influential type designers of this century has written about his subject. What makes what he has had to say over the years so valuable is that his working life as a type designer has now spanned fifty years and, perhaps more importantly, these years have seen changes in the technologies associated with the making of types on a scale and of a kind that are unlikely to be repeated.

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Visible Language Volume XXIII Four
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Though only one of these essays can, strictly speaking, be described as autobiographical, taken together they provide us with a clear view of Zapf's beginnings in lettering and type design. He tells us—with some pride, one suspects—how he never went to art school but was largely self taught; that he learned about letterforms through reading Rudolf Koch's *Das Schreiben als Kunstfertigkeit* and Edward Johnston's *Writing and Illuminating and Lettering*; that he began working with fraktur letters and that he made good use of historical models by studying copies of books by the great writing masters in his native Nuremberg.

Zapf's professional connection with printing began just before World War II when he entered Paul Koch's printing house in Frankfurt. In this period he also began working for the Stempel foundry and had his first typeface, a fraktur called Gilgengart, accepted for production; its appearance was delayed by the war though the first trial size, handcut by August Rosenberger, was ready in 1940. He returned to type design immediately after the war, and by 1949 his first well-known typeface, Palatino, was in use.

From then on the story is one of unremitting energy and industry, unbounded enthusiasm for letterforms and consummate artistry in their production. The result has been the typographical household names of Melior, Optima, Orion, ITC Zapf Book, ITC Zapf Chancery, the URW sanserif range, a host of script, decorated, and non-latin fonts, and ranges of special sorts. All this is well enough known to specialists in the field of typography and is impeccably documented in the listings in this volume. Though the precise definition of what constitutes a separate design is always difficult to establish, the chronological list of his types, which includes design variants, runs to 175 entries. Of these—it may be worth noting—he picked out Optima as his favorite type design in 1982: ("Personally I especially like Optima of all my various typefaces.") He repeated this observation in different words in a talk given to the Wynkyn de Worde Society in 1989, and his preference is reflected in the choice of this typeface for the publication under discussion. I have to admit that it would not have been my choice from his many notable typefaces, particularly for book work, which often requires a distinctive italic.

Zapf's career as a type designer covers in very broad terms the history of type manufacture, from the days of handcutting at Stempel through the various manual and optical developments of designing for photocomposition to the latest digital techniques. These articles are of particular interest, therefore, for what they reveal about the relationship between design and the means of production. Though they cannot be said to go at all deeply into technicalities, a continuing thread running through them is the need for designers to become familiar with the available technologies so that they can work within their limitations and take advantage of their possibilities.

This issue is referred to in the earliest article printed here, which dates from 1959, and is picked up with growing fervor the more type manufacture embraced computing; it finds its fullest expression here in three essays: "The Changes in Letterforms due to Technical Developments" (1967), "The End of Classic Typography?" (1969) and "The Designer in the World of Metafont" (1983). These articles declare Zapf's position in relation to technology in no uncertain terms. In retrospect, some of his observations may appear a little farfetched. For example, in "Type Designing for Tomorrow" (1964), he wrote, "In about 1957, a new development in typography almost coincided with the launching of the first space satellite. Lead, which is heavy and earthbound, was challenged by photocomposition—a phenomenon similar to the victory over gravity. The coincidence is striking and deserves some reflection. After some reflection, I have to say that I still cannot see that there is any real relationship between satellites and photocomposition, not even, as it happens, a chronological one. But despite such flights of fancy, these articles record the enthusiasm with which Zapf, more than any other established type designer, accepted the challenge of working with new technologies.

Zapf's enthusiasm for the latest technology has to be set beside another thread that runs through these articles: the significance of history and, in particular, the importance that should be attached to letterforms of the past. He is no less enthusiastic about history than he is about technical advancements, and these articles make numerous references to historical examples in support of the issues he discusses. In strictly historical terms, some of these obser-

vations are a little dubious; for example, to describe Aldus' edition of *Hyperotomachia Poliphili* as "a typical book of the Renaissance period" is surely straining credulity. What is more, when brought together within a single volume, the articles reveal a tendency to call up revered names from the past in ways which do not always do much to advance the particular argument being developed.

One of the most interesting issues that arises from a reading of these articles is the potential for conflict between Zapf's respect for the best letterforms of the past—which he makes clear on numerous occasions—and his desire to move with the times and reflect the spirit of the age in which we live. The issue is not addressed directly, except with regard to the question of typographic revivals (which he vehemently rejects) and specific problems, such as kerning, which have been effectively resolved by changes in technology. Nevertheless, it is difficult to reconcile this care-fully considered passage—"Our historic faces in Europe developed in the past 500 years are still the base for new forms.... for all you can do is to modify classic forms, their proportions, and to make the different characters more suitable for today's composition machines or special printing processes"—with such emotive comments as, "Let us hope that the new designs will liberate us from the dust of the past." What dust, one wonders, other than that from old type cases?

Zapf dwells on the question of revivals mostly in connection with Nicholas Kis' Janson: he believed that this was not an appropriate candidate for reviving in digitized form and urged that "we should have more respect for the work of the past centuries, and not copy every masterpiece of the past." But he makes a clear distinction between copying and reinterpreting, and demonstrates the value of the latter by pointing to the success of Times New Roman.

The position Zapf takes is that of a traditionalist who sees type design as rooted in calligraphy and specifically, the broad pen; but he is decidedly not a revivalist. The excitement he reveals for changes in composition technology can surely be explained in part by the fact that they have enabled him to develop ideas within the range of traditionally acceptable forms without having to resort to pastiche. In an age of more stable techniques, he

would surely not have had the same opportunities. And in this respect, it may be worth noting that sanserif types—what some might see as characteristic of typographic modernism—seem to have had little attraction for him until recently. Zapf saw them as belonging to the nineteenth century and may, therefore, have regarded popular twentieth-century sanserif types as in some senses revivals. In 1964 he wrote that "the sanserif drum has been beaten too long in the various areas of typography and created some kind of uniformity," and his lack of sympathy for this aspect of twentieth-century typography may explain why it was a further twenty years before he was to design his first truly sanserif types (the URW range).

The historical influences on Zapf are clear from what he has written. In addition to Koch, Johnston and the writing masters, he refers to a visit to Rome and Florence in 1950 when he "studied and sketched Renaissance manuscripts and inscriptions from the time of the Roman emperors in the Vatican and the Laurentian libraries." This period of study seems to have been highly influential and, in the short term, gave him inspiration for his titling fonts Michelangelo and Sistina. It is not at all clear what inscriptions Zapf would have seen in the Vatican and Laurentian libraries. (As far as I know, there are none of any great significance in the latter.) But there are, of course, striking resemblances between some of Zapf's types and mid-fifteenth-century Florentine inscriptions: one thinks particularly of the inscription on the tomb of the Cardinal of Portugal in S. Miniato. There is the same delicacy of form and unmistakable sense of rhythm in Zapf's more traditional types as we see in many such inscriptions. And it is hard to believe that in designing Optima he was not influenced, consciously or otherwise, by the infilled letters on some of the mid-fifteenth-century floor slabs in S. Croce, which have modulated strokes and wedge-shaped terminals.

Though the publication contains articles on "The Electronic Screen and The Book" (1971) and "Public Lettering and Visual Pollution" (1986), its emphasis is clearly on letterforms and their relation to type design. Thoroughout, Zapf displays a passionate concern for the effect that lettering and type design have on the community at large, and, he repeatedly points to the need for ty-

pography that does not get between the message and its readers. This is another aspect of the traditionalism referred to above and is very much in the Morisonian tradition; but he takes the argument much further in the direction of the social responsibility of the designer than Morison ever did.

- Two articles are concerned with typeface protection: "New Typeface Designs in the Shadow of Protection" (1974) and "A Plea for Authorized Type Designs" (1977); and this issue is also picked up elsewhere. These are among the most impassioned and fiercely argued of Zapf's writings and reveal something of the tension that exists in a field in which there was—and still is—little effective protection for type designers should anyone choose to ignore their claims. Allied to this theme is the question of the dreadful things that can be done to type designs, and therefore to their designer's reputation, through insensitive adaptation from one system to another or through perverse use at the composition stage, such as particularly tight letter spacing.
- Another controversial issue which Zapf discusses concerns standardization, metrication and the whole question of what should be measured in a type face. The relevant passage appears in "The End of Classic Typography?" (1969), where he reveals himself as a supporter of the idea of measuring the visible aspects of letterforms rather than what has come to be called the "ghostly body": "We have to evolve a new system" he writes, "which indicates the true measurable data of characters and lines; and not on metal type bodies which do not correspond to the visible image of the letter." On this issue, and in his support of a metric system for the measurement of such visible images, he can be seen as aligning himself with a small group of clear-thinking pioneers. How little things have changed since 1969!
- Inevitably, on reading a collection of articles that have previously been published separately, not much comes across that is altogether new. This is partly because the technological world has moved on since these contributions were originally conceived and partly because some of yesterday's innovatory ideas have become today's orthodoxies. All the same, a couple of points struck me that I thought worth noting, even though they were made only in passing. One is a historical interpretation which—whether right or wrong—was new to me; the other relates to the design

stage in typography and attracted my attention because I happen to be very much in sympathy with it.

The historical point concerns Gutenberg's contribution to printing. Zapf makes the seemingly outrageous statement, "I am no more of the opinion that Gutenberg intended to copy the handwriting process" and then pauses, provocatively, to continue, "He intended an improvement." No one is likely to be able to prove or disprove Zapf's claim, but it is a fascinating observation. What we can be sure of, however, is that this is the interpretation of a man who has faith in technology and believes that, properly handled, technological developments should lead to design improvements.

The other aside he made that caught my eye is rather less original but probably much more significant. In "The Designer in the World of Metafont" (1983), he discusses the possibility of software taking over some of the more routine aspects of typography and refers to the speeds of modern composition systems. "I think," he writes, "we should find a compromise whereby part of the time saved in one hour by the extreme speed of our composing machines is given back to the typographer to invest in typographic layout." The point is well made—and the proposal that only part of the time should be so invested reveals a degree of commercial realism, too. But how often do we hear it discussed, let alone acted upon?

One sad omission from these articles is a discussion of the evolution of particular typeface designs. There is nothing here about how Zapf develops an idea for a type or works it up, nor is there anything about how he makes refinements to designs or about his relationship to the manufacturing process. It may be that Zapf has written about such things; but, if not, it is to be hoped that he does so in the future. Though they may be boring for practitioners to describe, they make interesting reading for others and are likely to be lapped up by historians in later years. The changes in the period through which Zapf has worked, coupled with his distinction as a designer, make it all the more desirable that the practical aspects of his involvement with types should be well recorded.

Many articles in this publication originally took the form of lectures or contributions to conferences, neither of which normally allow time for argument to be fully developed or for detailed documentation. And, inevitably, given the fact that most speakers

have their own particular hobby horses, there is a fair amount of repetition. But what we have here essentially is the work of a highly perceptive practitioner acting as an effective publicist for good letterforms and typography in general and for type design in particular. These collected articles are the product of someone who is able to write knowledgeably about many aspects of letterforms—visual, technical, historical and social—and who does so with enthusiasm and a good deal of charm and wit.

The book itself has been lovingly edited and designed and, for these days, splendidly produced. Nevertheless, it has some peculiarities. The placing of the descriptions of the plates in a separate section at the back of the book suggests rather too much concern for the images and not enough for the readers; and, since the importance of indexes is referred to in at least two of the articles, one is bound to ask why the book does not have one. But these are points of detail which do no more than qualify enthusiasm for a book which offers us a happy blend of inspiration, documentation and visual satisfaction.

by Barbara Cunliffe Singleton

MARGIN ARTIST

Praise of the margin artist is long overdue. How far-reaching his influence may be is hard to assess because he is rarely given credit.

The white borderlands surrounding a mass of print are his formal limits. Within these quiet rectangles, he speculates in ways unanticipated by the printed author. He expands, clarifies, obscures or retires into subjectivity.

A margin artist is known for his generosity and exuberance. Following his impulse to be helpful, he translates foreign quotes likely to be skipped or misunderstood by a hurried reader. Upon occasion, sheer grandness of thought will send him expatiating around corners of margins, up and down his hospitable quadrangle. His penciled spindrift is the natural excess of his powerful feeling.

The value of margin marking for the artist is that it permits him to continue reading. If the artist disagrees sharply, the author might be dropped into the book return slot—whereas after writing a thoughtful objection, the artist may take up the argument and continue through to the last chapter.

Among the most influential margin artists are the professors. Their spindrift, tacitly valued by years of readers, is preserved long after drier stuff has crumbled into erasure. These artists, whose marginalia have stood the test of time, have honed their style on the edges of student papers. The welcoming borders of

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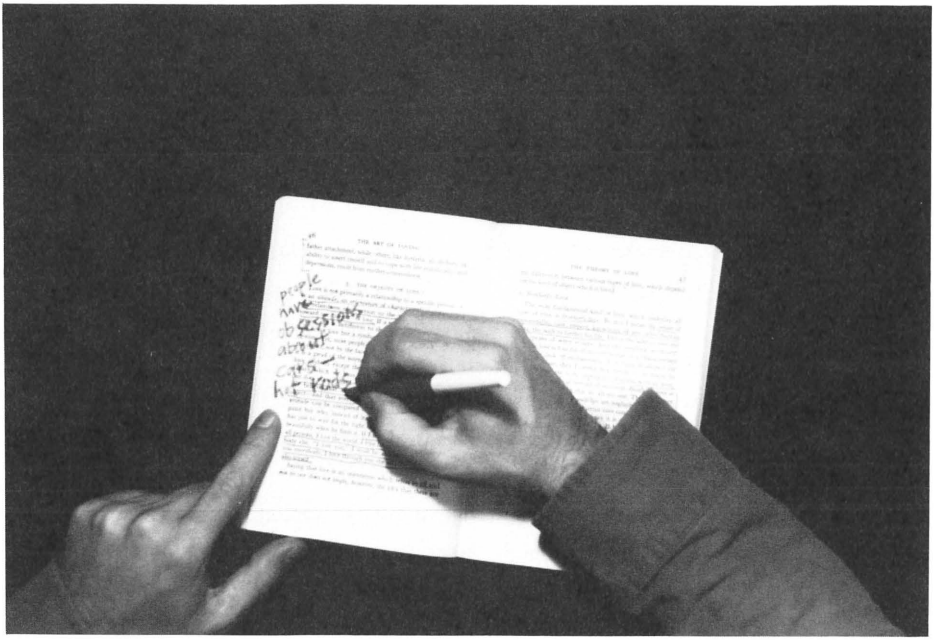
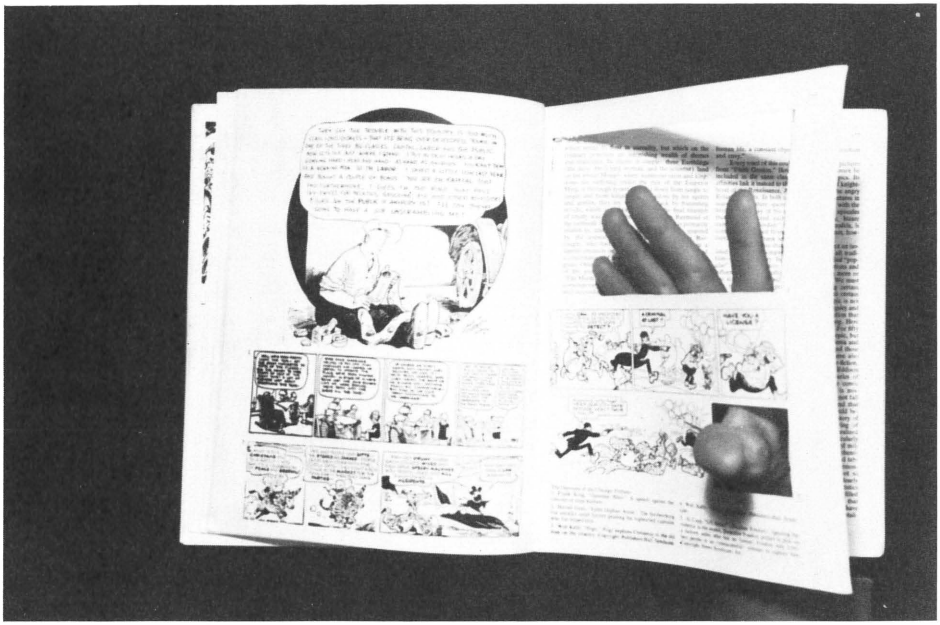
term papers are resonant arcades for any extravagance of idea or feeling. (Following a dramatic law governing the meeting of professors' ideas with student thought, the richest gleanings are flung centrifugally and may be gathered in the margins.)

I Giving space to an opposing view, I include the instance of a sensitive writer who dreamed of glossectomy. Wide awake, he made an agreement with his publisher to print each page solidly edge



to edge, completely covering the page, limiting the vandalism, good and bad, of wavy and dotty lines, arrows, spirals and curlicues.

I The arch enemy of the margin artist is, of course, the person with the apotropaic gum—the librarian. Like wind shear to carefree spirits is the warning on the placard and the grim fine. A margin artist who works under this restraint is driven undercover. For him, the only place welcoming his subversive response is the cool card pocket, where librarians seldom intrude.



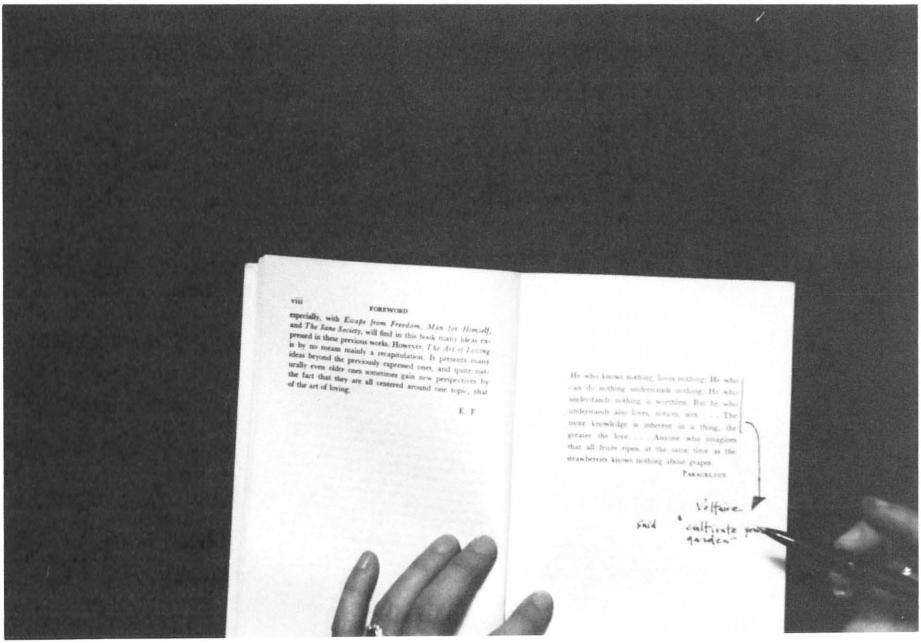
| An instance of the beneficial effect of margin marking was discovered by a writer who lives in a nearby community. He went one day to check out a book he himself had written. Scarce was the book off the shelf, but he found that hundreds of his favorite paragraphs were striped yellow. Overjoyed by this discerning reading, he saw his jokes had been greeted with exclamation marks; his arguments had been acknowledged with an appreciative "GOOD POINT!"; his footnotes supported by a penciled reminder, "Must read." Elated, he began a new book, and the first margin note he wrote was about the dedication, a memo to "Dedicate to my encouraging reader, an unknown margin artist, with the unbounded thanks of the author."

| With the dedication, the margin artist, heartened, cleared the margins to be centered in the field of print.

| But he scorns the artist who writes over the print about things that distract his mind while reading, and the one who cuts windows in the page or looks for blank pages for testing his paint colors. Condemning those who loot whole pages, the margin artist

remembers that Mark Anthony stole an entire library from Pergamum (present-day Turkey) as a gift for Cleopatra in Cairo. Knowing what can happen, he guards his own copy to prevent further damage to V S BLE GUAGE.

[While the author of this article writes about the engagement between author and reader there is a dark side to the destruction of shared texts. What we do in our private collection is not at issue but what is done to library materials is another. The accompanying photographs are simulations of what happens to both marginal space and live space in library resources. The photos were taken by Sarah Self, a graduate student at the Rhode Island School of Design following a discussion with Carol Terry, the Director of the Library at the same school.]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FOREWORD
especially, with *Escape from Freedom*, *Man for Himself*, and *The Sane Society*, will find in this book many ideas expressed in these previous works. However, *The Art of Loving* is by no means mainly a recapitulation. It presents many ideas beyond the previously expressed ones, and quite naturally even older ones sometimes gain new perspectives by the fact that they are all centered around one topic, that of the art of loving.
E. F.
He who knows nothing, loves nothing. He who can do nothing understands nothing. He who understands nothing is worthless. But he who understands also loves, notices, sees. . . . The more knowledge is inherent in a thing, the greater the love. . . . Anyone who imagines that all fruits ripen at the same time as the strawberries knows nothing about grapes.
PARACELSUS
Voltaire
said "cultivate your garden"

by James Hartley

Spatial and Typographic Cues in Text:

A Response to Garofalo

I much enjoyed reading Karen Garofalo's article "Typographic Cues as an Aid to Learning from Textbooks" (*Visible Language,* 23 [1988] 273-297), and I hope the following comments will not be taken amiss. My aim is to suggest that Garofalo's results are not as convincing as she appears to think, and to indicate how work in this area might progress.

What Garofalo did was to present eighty students with eight pages from an American history textbook. The textual information was categorized in terms of four levels of importance, and each level was signified by a different typeface (Table 1).

Table 1.

Levels of Text and the Typographic Cues Used in Garofalo's Experiment.

Level 1	Cause-effect relationships	Univers 75
Level 2	Major trends and developments	Univers 65
Level 3	Localized geography	Univers 55
Level 4	All remaining information	Goudy Old Style

The students first read pairs of pages (in different sequences) printed with varying numbers of these typographic cues, and then their immediate recall was tested with a twelve-item multiple choice test. The results obtained are shown in Table 2. (Note that

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in the graph of these results, and also in the text, the mean or average for the two-cues condition is given as 2.10).

Garofalo reports that a randomized block analysis of variance produced an F ratio of 316.15 (df = 4,316) and that this ratio was statistically significant at well beyond the .01 probability level. She concludes that adding-in each successive typographic cue resulted in an increase in learning until the third cue was added, and then the mean recall fell below that obtained for the no-cue condition. Her main conclusion, therefore, is that typographic cues can affect learning but that too many cues (three or more) are distracting.

Table 2.

The Results from Garofalo's Experiment:
The Mean Number of Items Correctly Recalled out of Twelve in the Four Conditions (and Standard Deviations)

	Number of Cues			
	0	1	2	3
Mean	1.53	1.79	2.06	1.36
Standard Deviation	0.81	0.80	0.88	0.93

Let me make just three points about these data:

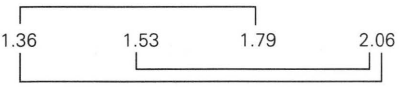
1. The students did not learn very much. The highest average score is 2 out of 12. It might have been useful to run a control group to answer the test questions *without reading the passage.* Maybe students could score as high as this by guessing?

2. The influence of the typographic cues is not very great: the range of the average scores being from 1.53 to 2.06 (or 2.10) out of 12. More detailed subtests need to be conducted following an F test to show where the reported significance lies. Table 3 shows the results from Tukey's test for comparisons between means. The table shows (1) no significant difference between the recall from text with no cues

($\bar{x}$ = 1.53) and one cue ($\bar{x}$=1.79); (2) no significant difference between the recall from text with no cues ($\bar{x}$=1.53) and three cues ($\bar{x}$=1.36); and (3) no significant difference between the recall from text with one cue ($\bar{x}$=1.79) and two cues ($\bar{x}$=2.06 or 2.10). The significant differences in the data lie between the recall from text with one or two cues ($\bar{x}$=1.79 and 2.06 or 2.10) and the text with three cues ($\bar{x}$=1. 36). In other words, two cues were not significantly better than one, but three cues reduced the performance level to that which was not significantly different from none.

Table 3.

Significant Differences in Garofalo's Data (Tukey Test)



The connecting lines indicate significant differences between the means shown in ascending order.

3. Finally, there is a rule of thumb in the psychotherapeutic literature that suggests that differences between means have to be at least as large as one standard deviation of the average data for the results to be of clinical as well as statistical significance. In educational terms, too, investigators distinguish between practical and statistical significance. In short, the statistically significant differences discussed by Garofalo are so small in practical terms that they are not likely to convince editors and printers of the value of marking up text in terms of categories of importance.

Now let me be more positive. One strength of Garofalo's article lies in the way she ascertained and verified the levels of importance for the history article. The basic idea that one can use typo-

graphical cues to show hierarchical structure is a valuable one (and it has been discussed before: e.g., Foster, 1977; Hartley, 1979; Hartley, Trueman and Burnhill, 1977; Hershberger, 1964; Hershberger and Terry, 1965; Shebilske and Rotondo, 1981). My own feeling is that such structure (say a three-level one in an expository text) can probably be best conveyed by spatial means rather than by typographic cues. Thus, as Jewett (1981) has argued, one could indent levels of text to display substructure. Main points could use full width text; secondary points could use text indented by, say, five letter spaces; and tertiary points could be indented by further five spaces.

What is now needed is a combination of the approaches of Jewett and Garofalo. One could combine typographic and spatial cuing so that each different level of text is conveyed by two cues—a typographical and a spatial one. Tests could be run with four groups of readers: (1) control (no cues); (2) typographic cues; (3) spatial cues, and (4) a combination of spatial and typographic cues. I would place my bet that recall tests would show a steady improvement from groups 1 to 4. I also would argue that students would score more than 2 out of 12 with such a combined system. But to test this, further research needs to be done.

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Garofalo Responds to James Hartley

I appreciate Mr. Hartley's comments and suggestions. As with much research, this thesis was intended to foster just such discussion as he has brought forward and to lay the groundwork for further study. I agree with Hartley that a study which would combine the technique of typographic cues with that of spatial cues (Jewett) would be a valuable next step.

Nicholas Kis: A Critical Response

| May I submit my reactions to your readers concerning [Fernand Baudin's] review of the book, *Nicholas Kis, A Hungarian Punchcutter and Printer, 1650-1702* [by Gyorgy Haiman, see volume XXII: 2/3]. My first question is: Where and by whom was Kis known as the "outstanding punchcutter of the day"? Also, why is a complete supposition about the offer of Cosimo III, the Grand Duke of Florence, inserted at this point?

| The origin of the Janson types had long been suspected; and no one has seen fit to quarrel with the attribution of these types to Kis. However, one must ask, what then makes him the greatest punchcutter of the last half of the seventeenth century? He is not mentioned, for instance, in the exhaustive book, *Fonderies de Characteres et leur material dans le Pays-Bas du XVe au XIXe siecle*, by Charles Enschede, although he is presumed to have worked in Amsterdam.

| What the Turks or the political situation in Transylvania have to do with typographic history is questionable. And the whole story of John Amos Comenius and his teaching methods has no pertinence. Out of all this comes the flat statement that "he (Kis) ranks in a category with Garamont, Granjon, and van den Keere as a punchcutter and a printer." Garamont was not much as a printer, Granjon was a brilliant cutter, well documented, van den Keere supplied Plantin with type material: all of them preceded Kis by a century. Also, it may be pointed out that Amsterdam is not in Belgium, nor was it ever. If Kis worked for the Elseviers and for Blau, it does not appear in the everyday records of these establishments. We are rushed through a production schedule of a "new Hungarian Bible, two Psalters, and a New Testament" by 1687. It is suggested that all these abilities he may have learned from Dirk Voskens of Amsterdam.

| Despite all his repeated successes, he left Amsterdam in 1689, and we are told that his life was "tragic until the bitter end in 1702." We are returned to the single achievement of the Janson type and again assured that this places Kis in the company of Garamont, Grandjon, Caslon, Fourier—a spread of more than 200 years. It seems to me that [the reviewer] should have seen through all this

and given us a good critical estimate of this entire melange. That he did not do so reflects on the basic integrity of *Visible Language.*

Alexander Nesbitt
Advisory Board Member, Visible Language
Newport, Rhode Island

Fernand Baudin Replies

Clearly, Alexander Nesbitt did not like my review. He was so upset by my enthusiasm that he felt compelled to quench it right away—cutting Kis and a score of admiring scholars to diminished size in the process. No one would be served by a quarrel between Nesbitt and this reviewer, least of all the basic integrity of *Visible Language.* Therefore, and in order to bring to Kis and his biographer as many students and readers as they amply deserve, I shall briefly answer Nesbitt's only question with his own words and with the words of one of Kis' contemporaries.

Who said that "Kis' designs are more regular in setting and of a more precise cut than the Fell types"? A Nesbitt, p. 128, in his book on *Lettering* (first published in 1950). He must be forgiven for not knowing in 1950 what Harry Carter and Gyorgy Buday only published in 1954: namely, that the type advertised as Janson Antique and Kursiv by Stempel in 1924 was in point of fact cut by Kis. He must be excused for not knowing then what Stanley Morison only published in 1967—the names of the artists responsible for the designs of the Fell types: to Garamond, Granjon, Haultin and Van Dyck (S. Morison, John Fell, Oxford 1967, p. 68). This needs no further comment.

It is true that Kis is not mentioned in Charles Enschede's *Fonderies de characteres* (Haarlem, 1908), any more than Janson for that matter. But it is also true that he has a full section of his own in Harry Carter's revised, augmented and annotated translation as *Type Foundries in the Netherlands* (Haarlem, 1978, pp. 131-133). There Harry Carter cites a Dutch professor who wrote to Kis saying: "They used to say that you excelled all the Dutch in the art of cutting letters." And Carter goes on to say: "Kis says that in his days Amsterdam was the world center of typography, as indeed it was, France being excepted."

According to Nesbitt, the offer of the Grand Duke of Tuscany is a complete supposition. Whose supposition? And on what ground

does Nesbitt make such an allegation? H. Carter (ibid., p.131) is content (and so am I) to take Kis' word that "the Grand Duke sent agents to the chief centers of printing in search of men and material. Kis says that they came to him in Amsterdam and bought matrices from him for 11,000 guilders."

In spite of all that has been written by the cream of typographic scholarship to settle definitely the Kis vs. Janson debate in favor of Kis, Nesbitt persists in describing Kis' types as "the single achievement of the Janson type"—as if to say: and that is all what it comes down to! In the 450 pages which G. Haiman devotes to his hero, the Transylvanian Phoenix, there is a substantial chapter on the changes in type design during the baroque period. There Kis' achievement is assessed as follows: "The innovations of the baroque type are summarized in a comprehensive, consistent system of forms by Kis. In all its details, his alphabet is fully harmonic and consistent, a rarely found synthesis of the 17 series of roman type.... No other punchcutter of the baroque period is known, apart from Kis, who has left behind such a complete family of type." (Something which, incidentally, Jack Stauffacher celebrated even under the name of Janson as early as 1954 in *Janson: A Definitive Collection*, i.e., nearly 30 years before publishing the English version of G. Haiman's study.)

This is enough, I believe, to show that my enthusiasm was less misleading than Nesbitt's ill temper. I do not intend to drag him....to read Kis' *Mentseg* alias confession, as a penance. But I am eagerly looking forward to the English translation (with the assistance of N. Barker and J. Mosley) which is currently being set with Kis types and beautifully printed in Zurich by Edition Seefeld. Why? Because: imagine having anything like the confession of a punchcutter of the caliber of any one of the Fell type designers, who is on top of that a printer, publisher, theologian, linguist and philologist, and whose adventurous life in Transylvania, the Netherlands and England met with a tragic end in 1702,... and with the universal recognition in afterlife (1989) of all the readers but one of "the quarterly concerned with all that is involved with our being literate."

Fernand Baudin
Advisory Board Member, Visible Language
Bonlez, Belgium

Commentary: A Call for "Scriptology"

I The readership of *Visible Language* is a diverse lot, including amateurs and professionals, academics, and craftspersons, and involved in such fields as child development, education, art, history, design, graphics, psychology, linguistics, archaeology, calligraphy, studies of particular cultures and languages, etc. Interestingly, there is no name for this group, no term which can describe the interdisciplinary interest in the two-dimensional representation of language. I propose the term "scriptology," derived from the Latin word root for writing.

I "Graphology," from the Greek word root, has already been utilized to refer to the study of handwriting, especially as it reflects the personality of the writer. The word "writing" itself is ambiguous, referring more often to the challenge of composition, style, and the literary content of the material being written.

I There is value in having a term to describe an area of interest, a single word which communicates at least some of the qualities of the activity. Scriptology, with its "-ology" suffix, suggests that it is a circumscribed field of study. I think that having a term like this may facilitate another challenge, that of networking, of letting those who would like to contact others with a similar interest identify each other. There may even be the possibility of someday having this term included as a category of classification in library files, which could make it easier to find related materials that are now distributed under a variety of other headings (i.e., linguistics, printing, semiotics, lettering...).

I I would be happy to discuss this further with readers who might like to write to me.

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General Information

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RIDT-91: the second international workshop on raster imaging and digital typography

| Papers must be submitted by January 15, 1991. This workshop is sponsored by the University of Massachusetts at Boston. Tentative conference date: October 15-16, 1991.

| Submissions will be refereed by the program committee. Accepted papers will be published in a proceedings. The RIDT-89 proceedings were published by the Cambridge University Press, and the organizers expect to make similar arrangements. Papers are invited on any of the following or related topics:

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measuring type quality
shape acquisition and manipulation
character design, representation and transformation
fast rasterization hardware
applications of human vision science to type design
character generation and recognition
page description languages
font representations for automatic scan conversion
digital halftone processing
rasterization algorithms
anti-aliasing

| Individuals who wish to receive electronic or paper mail about the conference may contact the general chair, Prof. Robert A. Morris, RIDT-91, Department of Mathematics and Computer