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Records, Writing, and Decipherment

I. J. Gelb

Written records together with material remains derived from excavations form the main bases for our understanding of past civilizations and their underlying language systems. There is no systematic treatment of written records, and little attention has been paid to the interrelationship between ancient writing and language. Full systems of writing express language at two levels—morphological and phonetic—which give rise to three basic writing system types—logo-syllabic, syllabic, and alphabetic. Four categories of decipherment—based on our relative knowledge of the writing system and the language—are discussed: known writing/known language; unknown writing/known language; known writing/unknown language; and unknown writing/unknown language. From a cryptanalytic point of view there are two general decipherment methods: (1) utilization of external information to determine probable contents (e.g., bilingual texts), and (2) internal information from an analysis of the text itself (structure and typology). The assumption of the underlying language is critical for deciphering procedures and provides the test of successful decipherment.

1. *Written Sources*

Under written remains, sources, or records we understand texts, inscriptions, manuscripts, books, etc., which represent the written output of an individual, a nation, or any larger human configuration.

Knowledge about these written records either has been passed on traditionally from generation to generation, or it has been obtained through field explorations and excavations in modern times. Similarly, the understanding of these records either has been preserved through the ages, as in the case of Hebrew or Chinese; or it has been, or will have to be, recovered through decipherment in our times, as in the case of Egyptian hieroglyphic or Mesopotamian cuneiform. Under the general term "decipherment" we include the recovery of the writing systems and languages, the use of which was brought to a stop, and consequently lost, between the time of their use in the past and their recovery in the present.

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Written records together with material remains derived from excavations, such as buildings and tools, form the two main bases for our understanding of past civilizations. Evaluation of the written records also leads to the reconstruction of their underlying systems of writing.

It is very difficult, if not impossible, to separate the concept of written records from that of literature. Authors of works on literatures of ancient peoples often include under literature the whole body of written remains, as distinguished from material remains, such as buildings, tools, weapons, dress, etc. Literature to us means mainly belles-lettres; that is, works created under some kind of artistic, inspirational, or imaginative impulse. What may be called literature in one period or area may not be literature in another. For that reason, I am avoiding the term "literature" altogether in the following discussion.

The use of writing in written records can be either primary or secondary. Its primary use is found in records whose sole purpose is to convey the written message. Its secondary use is found in records which have another purpose in addition to that of communication—as on inscribed sculptures, reliefs, vases, gems, seals, coins, or measures.

The frequency and variety of records available from different areas and periods depend on many factors, the most important of which are the availability and cost of writing materials, their perishability, and the widely varying degrees of the application of writing.

The recovery of written records of dead civilizations is tied up with the progress of field explorations and excavations. Before the systematic explorations and excavations in Asia and Africa began early in the nineteenth century, our knowledge of the ancient Near Eastern civilizations was limited to what could be gathered from the Bible and Classical sources. This was very little indeed, certainly for the great civilizations which surrounded Palestine, if not for Palestine proper. It can be said without any exaggeration that almost our entire knowledge of ancient civilizations, such as Egypt and Mesopotamia, is derived from the efforts of the explorers and excavators in the field. Certain areas of the ancient Near East have been explored more thoroughly than others. Mesopotamia and Egypt are well explored, but hundreds of sites still remain to be excavated. Relatively little

known are eastern Anatolia, Syria, and Iran. No Median sites have as yet been discovered, and as a result our knowledge about the Medes does not go much beyond what we have known for years from Greek sources. The best explored and excavated area in the Near East is Biblical Palestine; contrary to the expectations, the attestation of written records from Palestine is very meager.

Progress of discoveries in the ancient Near East often follows the proverbial "excavator's luck." It is at two Assyrian sites, Nineveh and Dur-Sharrukin, that the excavators discovered the great archives which paved the way for our understanding of the Mesopotamian languages; not at Babylon, which yielded great palaces but scanty written attestation. And it is Knossos and Pylos, not Troy and Mycenae, that provided us with written records which formed the basis for the recovery of the older languages of the Aegean area. For years Ras Shamra was one of the hundreds of sites in Syria unknown to and untouched by archeology. In 1928 a chance discovery of a stone inscription at the site by a native plowman led to great excavations in subsequent years which have unfolded for us the most varied collection of written records ever made in the ancient Near East: Ugaritic, Amorite, Akkadian, Sumerian, Hurrian, Hittite, Egyptian, and Aegean.

The extent to which the frequency and variety of written records is connected with the degree of literacy in a given area cannot be discussed due to lack of data. My feeling is that the connections are negligible.

Another point which cannot be profitably discussed here because of lack of data is the relation of written to oral tradition. It is quite plausible that certain genres—such as epics, legends, historical narratives, popular songs, and proverbs—have traditionally been preserved from generation to generation by word of mouth rather than in writing. In certain areas and periods, the taboo against the use of writing may explain the lack of attestation of certain genres of written records.

I know of no systematic treatment of written records, their form, material, function, etc. For preliminary thoughts on the topic, cf. Gelb 1973.

2. *Epigraphy and Paleography*

The investigation of writing from the textual point of view has been traditionally the prime domain of the epigrapher and paleographer. While epigraphy is concerned mainly with inscriptions written in characters which are incised or scratched with a sharp tool on hard material (such as stone or metal), paleography deals mainly with manuscripts written in characters which are drawn or painted with pen, pencil, or brush on soft material (such as leather, papyrus, or paper). Since epigraphy means "writing on something" and paleography means "old writing," it is clear that the distinction made above between epigraphy and paleography cannot be justified on etymological grounds. This distinction has grown artificially over the years, as one scholar or another began to apply one or the other term to his own branch of study of written sources. Owing to the close interrelations between epigraphy and paleography, some scholars refuse to admit any distinction between the two, and prefer to use one of the two terms to cover both disciplines.

The main characteristics of epigraphy and paleography as listed above may be applied, with some leeway, to the ancient Near East (Mesopotamia, Egypt, Anatolia, etc.), the Classical world, China, India, the Islamic world, and, in general, to the Western writings from the Middle Ages on. But there are many difficulties and exceptions.

Paleography and epigraphy are involved in the study of written sources from two points of view: the purely formal aspect and the hermeneutical aspect.

The study of the purely formal aspect—possible without any understanding of the contents or without an extended study of the contents—is concerned, for example, with the kind, form, and size of the materials, techniques of writing, and with the form, order, and direction of writing. Hermeneutics—possible only with study of the contents—is concerned, for example, with the dating and localizing of written sources, their authorship, linguistic interpretation, and content evaluation.

A general scientific discipline of epigraphy and paleography does not exist. There are no studies which treat of the subject from a general, theoretical point of view, encompassing all the written sources wherever they may be found. The narrow fields which are

represented are, for example, West Semitic epigraphy, Arabic paleography, Greek and/or Latin epigraphy and/or paleography, or Chinese epigraphy and/or paleography. In all cases, these narrow fields of study form subdivisions of wider, but still linguistically or geographically defined areas of study, such as Semitic or Arabic philology, Classical philology, Assyriology, Sinology, etc. (Cf. also Gelb 1974).

3. *Language and Writing*

Very little work has been done in the field of relations of writing to language. The philologists have been concerned mainly with the historical evolution of writing and have paid little attention to the interrelations between writing and language. The linguists have been more concerned with the spoken language than with the written language. When interested in written languages, they have often limited their study to living written languages, neglecting the rich sources of information which can be culled from ancient written languages, and with it of pre-alphabetic systems. The question of the relationship of writing to language has been pursued in recent years mainly by scholars with a background in linguistics. Because of their interest in modern languages and writings, this implies generally relations between the alphabet and language. Due to the preference for a synchronic-descriptive approach rather than diachronic-historical, linguists generally have stressed the independent character of writing and have studied it as an independent system, rather than as a system ultimately based on and related to the underlying language. Both approaches seem justified to me. Scholars have as much right to point out the close interrelations between writing and language as they have to study writing as a relatively closed system, without being involved in matters of relationships between writing and language and the degree of their interdependence.

While the connections between language and writing are very close, there has never been a one-to-one correspondence between the elements of language and the signs of writing. The "fit" (a term used by Gleason 1955, p. 302; Voegelin and Voegelin 1961, pp. 85 f.) between language and writing is generally stronger in the earlier stages of a certain system of writing and weaker in its later stages. This is due to the fact that a writing system when first introduced

generally reproduces rather faithfully the underlying phonemic structure. In the course of time writing, more conservative than language, generally does not keep up with the continuous changes of language and, as time progresses, diverges more and more from its linguistic counterpart. A good example is the old Latin writing, with its relatively good fit between graphemes and phonemes, as compared with the present-day French or English writing, with their tremendous divergencies between graphemes and phonemes. In some cases, recent spelling reforms have helped to remedy the existing discrepancies between writing and language. The best fit between phonemes and graphemes has been achieved in the Korean writing in the sixteenth century and in the Finnish and Czech writings of modern times.

Families of writings are not related to families of languages. Note, for example, that English and Finnish are written in the Latin writing, but they belong to two different families of languages, and that the cuneiform writing was used in antiquity by peoples speaking many different languages.

The temporal primacy of language over writing has been taken for granted by most scholars, especially the American linguists. It has been contested by some European scholars who claim that writing is as old as oral language and gesture language. The fact is that full writing, expressing linguistic elements, originated only about five thousand years ago in Mesopotamia and Egypt and full writing is therefore much younger than language. Only if we include the semasiographic stage under writing can the assumption of equal temporal hierarchy of writing and language be admitted. As noted elsewhere, however, the semasiographic stage should not be treated as full writing, but as a forerunner of writing (Cf. also Gelb 1974).

4. *Philology and Linguistics*

There is a good deal of confusion regarding the aims and methods of the fields of philology and linguistics. Philology, involved mainly in the study of the linguistic sources of a people or a group of peoples, forms the basic means for the comprehension of their respective cultures. It deals less with oral sources than with written sources, mainly literature (whatever its exact meaning). Philology deals with

the formal aspects of writing under the topic of epigraphy and paleography. Linguistics is concerned with the study of linguistic systems as reconstructed mainly from oral sources. Pursued less than the study of "oral language," the study of the "written language"—that is, of the language as it is used in written sources—is also a matter of linguistics. Linguistics deals with the structural aspects of writing under the heading of graphemics (Cf. Gelb 1974).

5. *Semiotics*
Men communicate with each other by means of various systems of signs, of which the most universal are oral language or speech, a system of auditory communication; and gesture language and writing, two systems of visual communication. For the general science of signs several terms have been proposed, of which the term "semiotic" (used by Morris 1946, p. 3 f.) or "semiotics" (as here preferred) are the most appropriate. The term "semantics," which deals with the meaning of linguistic elements, should be carefully distinguished from the much broader term "semiotics." (For these and other terms, see Read 1948, pp. 78–97; Sebeok, et al., 1964, pp. 5 f. and 275 f.; and Gelb 1974.)

6. *Grammatology*
The general field of study which deals with writing in the broadest sense has been called "grammatology" by Gelb (1952, p. 23), following partially the term "grammatography," which was used in 1861 in a title of a book on writing by Ballhorn published in England. The original German edition, from which the English translation was made, does not use the term. Equally appropriate as "grammatology" are the terms "grammatonomy" used by Boodberg (1957, p. 113) and "graphonomy" used by Hockett (1958, p. 539). Not acceptable are "graphology" of Halliday (1961, p. 244) because this term already has another, well-established meaning; and "graphemics," because this term is too narrow (Cf. also Gelb 1968 and Gelb 1974).

7. *Graphemics*
The field of graphemics deals with full writing or phonography, as represented in systems of writing in which written signs generally have set correspondences in elements of language. Graphemics is concerned

mainly with the graphemes of a system—such signs as phonemograms, syllabograms, and morphograms—which find their equivalents in phonemes, syllables, and morphemes of language. Thus the field of graphemics deals with writing after it became a secondary transfer of the language, a vehicle by which elements of the spoken language were expressed in a more or less exact form by means of visual signs used conventionally. This took place for the first time about five thousand years ago in the Sumerian and Egyptian writings.

Instead of "graphemics," other scholars use the terms "graphics" (Francis 1958) or "graphic linguistics" (Crossland 1956). All three terms are frequently misused by scholars who limit the terms to the study of alphabetic writings, overlooking or paying scant attention to all other types of writing, such as the logo-syllabic and syllabic systems (Cf. also Gelb 1968 and Gelb 1974).

8. *Auxiliary Disciplines*

There are a number of scholarly disciplines which have some relation to the study of writing. The most important among them are: art, religion, cultural anthropology, child psychology, human pathology (amnesic aphasia), and animal ethology (biosemiotics) (Cf. the extensive treatment in Gelb 1974).

9. *Types of Writing Systems*

The accompanying chart showing the typology of writing is given to enable readers to understand the terminology and classification of writing as used in the section devoted to methods of decipherment.

Scholars interested in descriptive and historical presentations of the various systems of writing should consult Gelb 1963, Jensen 1969, Diringer 1968, Février 1959, Cohen 1958, Istrin 1965, Friedrich 1966, or Barthel 1972.

10. *Grammatology and Decipherment*

A basic prerequisite to a successful decipherment consists of a thorough acquaintance with the field of grammatology, specifically the structure and typology of writing. This should enable scholars to answer primary questions as to whether the texts to be deciphered represent real writing or no writing, original writing or forgeries, and should be helpful in indicating to scholars the type to which the

THE TYPOLOGY OF WRITING

NO WRITING: Pictures

FORERUNNERS OF WRITING: Semasiography

1. Descriptive-Representational Devices
2. Identifying-Mnemonic Devices

FULL WRITING: Phonography

1. *Logo-Syllabic*

Sumerian +Akkadian +Hittite cuneiform | Egyptian | Proto-Elamite | Proto-Indic | Cretan | Hittite hieroglyphics | Chinese +Chinese derived systems

2. *Syllabic*

Type A (with vowel indication)	Type B (without vowel indication)	Type A (with vowel indication)	Type A (with vowel indication)
Cuneiform Syllabaries:	West Semitic Syllabaries:	Aegean Syllabaries:	Japanese Syllabary
Elamite Hurrian Urartian Hattic, Luwian, Palaic, etc.	Proto-Sinaitic Proto-Palestinian Phoenician Hebrew Aramaic etc.	Linear A Linear B Phaistos disk Proto-Byblian Cypro-Minoan Cypriote	

Mixed Syllabic B + A

Ugaritic
Persian Cuneiform

Mixed Syllabic A + Alphabetic

Iberian

3. *Alphabetic*

Greek
Aramaic (vocalized)
Hebrew (vocalized)
Latin
Indic
Korean
etc.

particular writing belongs, e.g., alphabetic, syllabic, or word-syllabic.

It may sound rather preposterous to ask a scholar to take a stand on the question of whether the texts he is working on, do or do not represent writing, but even such well-known systems as the cuneiform and the hieroglyphic Egyptian were for a time considered by some scholars as merely ornamental or symbolic. It was not until the nineteenth century that scholars were able to provide evidence that the two systems represent real writings.

There are written remains, especially those appearing in bilingual versions, that have so many of the obvious characteristics of writing that scholars may be forgiven if they fail to provide evidence that the texts in question represent writing; but this is not always the case, and all too often scholars have failed to provide such evidence when it was required. I have in mind primarily the question of the Rongo-rongo boards of Easter Island which are generally taken to be composed in a real writing system, but which I have characterized as nothing else but a series of pictorial representations concocted for magical purposes.

The question as to whether certain written remains are original or modern forgeries can often be answered with the help of grammatology. Modern forgeries are spurious fabrications usually made by or for dealers in antiquities for the purpose of financial profit; some well-known fakes were made for the purpose of national glorification, while other hoaxes were perpetrated by scholars, I assume for amusement.

Among the best-known forgeries of modern times are the "Glozel finds" in France, whose authenticity was defended tenaciously by the renowned French archaeologist S. Reinach. On the other hand, the Phaistos Disk in Crete and the Stone of King Mesha of Moab, once thought spurious by many scholars, are now almost universally considered to be authentic.

Knowledge of grammatology appears most useful to scholars in the definition of the type of writing on which they are working. From a practical point of view, this is also the most common application of grammatology to the field of decipherment. It is relatively easy to count the number of graphemes (i.e., of signs with distinctive features) in a given writing. The number thus reached might be about

sixty graphemes. The teachings of grammatology tell us that a writing consisting of about sixty graphemes should represent a syllabary. Similarly, if the number of the counted graphemes reaches several hundred, it is safe to assume in the light of grammatology that the underlying writing represents a logo-syllabic system.

11. *Methods of Decipherment*

In contrast to the extensive literature in the field of cryptology, both scholarly and popular, there is a lamentable dearth on the subject of the decipherment of extinct writings and languages. More often than not, the decipherers themselves have failed to preface their work with any remarks on their methodology. The history of decipherment is treated in Friedrich 1966a, a book which also appeared in English and Russian versions. The latter contains extensive additions by I. M. Diakonoff.

More or less popular accounts of decipherment can be found in Doblhofer 1957 (also in English and French editions), Cleator 1959, and Gordon 1968. A bulky volume on cryptanalysis, written by an ex-journalist, David Kahn 1967, has a chapter on extinct writings and languages which is uneven in quality. Good discussions of the decipherment of individual writings are to be found in standard manuals on writing by Jensen (1969), Diringer (1968), Février (1959) Cohen (1958), Istrin (1965), and Friedrich (1966).

I know of only two relatively brief studies dedicated to the methodology of decipherment: Modrze 1930 and Aalto 1945. One can also consult the section "Methodisches zur Entschliessung verschollener Schriften und Sprachen" in Friedrich (1966a, pp. 123–8). Some thoughts on the cultural basis of decipherment are expressed in Voegelin and Voegelin 1963. My own ideas on the methodology of decipherment were offered in Gelb 1973. Reworked completely with the collaboration of Robert M. Whiting, this article was presented as the opening paper at the three-day International Symposium on Undeciphered Languages organized in celebration of the 150th anniversary of the Royal Asiatic Society in London.

There are many stories connected with the decipherment of ancient writings and the recovery of forgotten languages but these stories need not be retold here. Furthermore, these stories usually deal only

with the discovery of the key, that brief moment of insight when some datum is arrived at, which when inserted causes the rest of the puzzle to fall into place. But what we are interested in here is the tremendous amount of work—routine but necessary—which precedes that moment and makes it possible, and the even more tremendous amount of work which follows that moment and results in the recovery of the language.

There is a clear connection between the decipherment of extinct writings and languages used for the purpose of normal communication and cryptanalysis, which deals with the decipherment of writings used for the purpose of secret communication. For this reason, it is frequently convenient to use the terminology of cryptology when referring to the problems encountered by the decipherer of ancient writings. However, one important difference should be stressed. Cryptography or secret writing attempts to lay obstacles in the path of the non-intended reader which will hopefully make the interpretation of the message impossible, while the writing systems used by the ancients were meant for direct communication with the reader. This is important because of a linguistic feature known as redundancy which the designers of cryptographic systems try to eliminate to the greatest extent possible.

In spoken language, redundancy allows us to understand what has been said even if some of the sounds are not heard or are badly distorted, because of the fact that certain sequences of sounds are more frequent than others while some sequences do not occur at all. Thus if several phonemes of an utterance are missed, our knowledge of the sound patterns of the language allows us to eliminate very quickly the sound sequences which are not allowed and to reconstruct the one which is. If more than one sequence is allowable, context usually permits us to make the final decision.

This same feature of redundancy is also present in writing systems: certain combinations of signs are more frequent than others while some do not occur at all. Most of the methods of decipherment make use of this fact, and the degree of difficulty or ease with which a writing system can be deciphered depends in large measure on the extent to which this feature can be recognized and exploited.

Full systems of writing express language on two levels, morphological (logography) or phonetic (syllabary, alphabet). This gives

rise to three basic types of full writing systems: logo-syllabic, syllabic, and alphabetic. The latter two types are phonetic while the first combines morphological elements (logograms) and phonetic elements (syllabograms). Even so, the syllabic and alphabetic systems usually contain morphemic elements to a greater or lesser degree. In cryptography, coding at the phonetic level is called cipher, while replacement of morphemes is known as code. There are two basic types of cipher: substitution and transposition.

Redundancy is present at the morphemic level, but since the number of morphemes in a language is so much greater than the number of phonemes, the effect of redundant morphemes is not as great as that of phonetic redundancy. For this reason, a code is generally harder to break than a cipher, and a writing system based mainly on logograms will be more difficult to decipher than one based on phonograms, given the same degree of availability of materials and of knowledge of the underlying language.

The preceding statement implies that the degree to which the underlying language of a writing system is known affects the decipherment of the writing system. This can be stated more strongly: provided sufficient text is available, a phonetic system of writing can and ultimately must be deciphered if the underlying language is known. It should be noted, however, that the converse is not true. Interpretation of a language is a matter of linguistic analysis which determines the morphological and syntactic rules governing it. These rules are much more extensive and complicated than the phonological ones; hence it is much more difficult to deduce the former from the latter than vice versa.

In view of this, we should really speak of decipherment in connection with writing systems and speak of the recovery or interpretation of languages. In popular usage, however, the term decipherment is also used in connection with languages as one speaks of "the decipherment of Etruscan."

Using the term decipherment in its wider sense we can classify decipherments into several types based on the extent of our knowledge of the two elements involved: the writing system and the language. There are four possible situations, only three of which present problems to the decipherer. The four categories are:

Type O: known writing and known language
Type I: unknown writing and known language
Type II: known writing and unknown language
Type III: unknown writing and unknown language

It must be pointed out here that "known" and "unknown" in this application are not absolutes but shade into each other in a manner which cannot be expressed quantitatively. This is especially true of languages where we can speak of a well known one such as Latin, a less known one such as Sumerian or Hurrian, or a virtually unknown one such as Etruscan. Furthermore, a language may be unknown itself but be more or less closely related to a known language or group of languages; a fact which, once established, moves it closer to the category of a known language. Keeping this in mind, we shall return to our four types of decipherments.

Type O, a known language written in a known writing system, is generally considered trivial and requires little discussion. However, despite the fact that this type offers no difficulty in decipherment, examples of it can provide us with valuable information especially if the writing system is other than the one normally used for the language.

I am thinking here (1) of the inscriptions written in the Phoenician (Punic) language but using the Greek or Latin alphabet, which furnish useful information for the vocalization of that language which is not expressed by its normal writing system; and (2) of the limited amount of Sumerian and Akkadian material written in the Greek alphabet which not only increases our phonological knowledge of these languages, but also serves as a convenient check on the validity of the decipherment of cuneiform.

Type O corresponds to what is known in cryptography as plain-text; that is, an uncoded message.

Decipherments of Type I, an unknown writing system used for a known language, vary in degree of difficulty depending on the nature of the writing system. We have already seen that there are three basic types of writing systems: alphabetic, syllabic, and logo-syllabic. Deciphering these writings makes extensive use of the techniques of cryptanalysis.

If the writing system is alphabetic, the problem resembles that of a simple substitution cipher and, provided sufficient text is available, is very easy to solve utilizing the redundancy features of the known language.

If the writing is syllabic, the problem is slightly more complex because of the larger number of graphemes and their more complex phonetic structure. However, syllabaries have their own redundancy features and such a system will eventually fall to analysis. It should be noted that the amount of text required to guarantee a unique solution of such a system is considerably larger than for an alphabetic system. It is for this reason that the Phaistos syllabary, which probably hides a known language, remains undeciphered. There is just not enough text available to provide an unambiguous solution.

If the writing is logo-syllabic, the problem can become quite complex. It amounts to code mixed with polygraphic encipherment. It has already been noted that code is considerably harder to break than cipher. For this reason the proper cryptanalytical procedure would be to attack the cipher (syllabograms) first and then deduce the code (logograms) from the knowledge of the morpholexical structure of the language. On the practical level, other factors often intervene which simplify this process, as we shall see when we discuss methodology.

The history of Type I decipherments bears out this general picture. Thus of the writings in this category, the most easily deciphered have been the Phoenician and Ugaritic writings, which consist of only 22 to 30 signs. (Although syllabic in nature, from the point of view of cryptology these systems behave like alphabets.) More difficult problems were posed by the Old Persian, Cypriote, and Linear B systems—all of the class of syllabaries—with the number of signs varying from approximately 40 to 80. Much more difficult were the decipherment of logo-syllabic systems such as Egyptian hieroglyphic, Akkadian cuneiform, and Hittite hieroglyphic—involving hundreds of signs.

As we have already noted, Type II decipherments are not, strictly speaking, decipherments, but linguistic analyses. The category of an unknown language corresponds in cryptography to code, which involves the substitution of an unknown lingustic element for a known

one. Such systems are extremely difficult to break, and a language which is truly unknown is virtually impossible to reconstruct using cryptanalytic methods because of the tremendous amount of text required. This is not to deny the possibility of reconstructing an unknown language, but only to indicate the very low probability of recovering a significant part of it by internal means alone. In every case of a Type II decipherment, external sources of information have played a large role. Even if a language cannot easily be reconstructed by internal means, it is still possible to construct a formal (descriptive) grammar of such a language by making a catalog of short repetitive elements and classifying them as affixes or function words (as opposed to content words), even though their meaning or use may be unknown. This describes our present state of knowledge about the Etruscan language, for example.

Type III decipherments, involving an unknown writing system and an unknown language, are clearly the most difficult of all. If such a case occurs in cultural isolation where no outside information can be brought to bear, it can be considered undecipherable. External sources can sometimes provide clues which can reduce it to a Type I or Type II problem. If the language is truly unknown, reduction to Type II is not a significant improvement in understandability. As we have seen, our knowledge of the phonetic shape of Etruscan does little to reduce its obscurity.

Type III situations have been compared by some authors to the cryptographic category of enciphered code, but this is not true. Cryptographic codes have no phonological shape since the code words are usually series of unrelated symbols. An unknown language is code whether it can be read or not. The purpose of enciphering code is to further reduce redundancy by making frequently used code words appear differently at different places in the text. In Type III these repetitive morphemes are clearly visible and can be collected to form a preliminary grammar of the language in exactly the same manner as described for Type II.

Having outlined the types of decipherment which may be encountered and having assessed their relative difficulty, let us consider some of the methods involved in decipherment.

The approaches to the recovery of extinct and unknown writings and languages have in the past been almost uniformly characterized by haphazard touch-and-go procedures. With very few laudable exceptions, the would-be decipherers have approached their task without any idea of cryptanalytic techniques. In the light of this almost total lack of systematic methodology, it is astonishing to note how frequently the tenacious efforts of scholars have led to a successful decipherment.

From a cryptanalytic point of view, we can distinguish two broad areas of methodology. These deal with the utilization of external information, or what can be determined about the probable contents of the cryptogram from outside sources; and internal information, or what can be learned from an analysis of the cryptogram itself.

Every cryptogram has a certain a priori probability of containing a given message. If the cryptanalyst can guess what the message is, the solution of the cryptogram will be much easier. Even having only a general idea about what the message might be will facilitate decipherment.

In considering the application of this concept to ancient writings, it is interesting to note that frequently the key to a decipherment has been provided by a source external to the writing under study. In most cases this has been one or more proper names known traditionally, such as the Persian royal names found in Herodotus, or provided by a bilingual inscription, such as the Rosetta Stone—to name just two of the best known examples.

Therefore, before doing any work on the decipherment of a specific writing or language, a would-be decipherer must become acquainted with the historical-geographical background of the area from which it comes. One should remember Champollion, who spent years in familiarizing himself with the history, geography, religion, and languages of Egypt as preserved in the Classical sources or by tradition, before he dared even to suggest the reading of a single sign of the Egyptian writing.

It is generally considered that a bilingual text is a type of external information which will immediately produce a unique solution of an ancient writing or language. The reasons why this is not true will become apparent if we remember the cryptological analogies which we have established. If a cryptanalyst has both the plain and

enciphered text of a message, his problem is solved since ciphering is a linear and reversible transformation of one writing system into another. Furthermore, this information allows him to determine the key, that is, the rules under which the transformation was made. But we have already established that the only class of decipherment which corresponds to cryptographic cipher is Type I, a known language written in an unknown writing, and that this corresponds to simple substitution cipher. It can easily be shown that for substitution cipher, the choice of the cipher alphabet does not affect the general appearance of the ciphertext, or in other words, all substitution encipherments of a given message are equivalent and all that is significant is the pattern of letter repetition. But the patterns of letter repetition are generated by the language, or, more specifically, by the redundancy features of the language. The immediate conclusion is that, provided there is sufficient text for these redundancy features to assert themselves, the only key necessary for the solution of a substitution cryptogram is the language in which it is written!

The reason that having a bilingual text is not equivalent to a cryptanalyst having the plain and enciphered text of a message is the simple fact that the two parts of the bilingual *are not written in the same language*. Hence we are not dealing with an enciphered version of the same text, but rather with an encoded version of it. While encipherment is a linear reversible process, translation is not—as anyone who has given any thought to the problem of machine translation quickly realizes. Translation of a passage of moderate length into another language and then back into the original by another translator would almost never result in exactly the same text as the original. If a cryptanalyst has the plaintext and encoded version of a message, he cannot guarantee a unique solution for each code group; and even if by chance he could, knowledge of a hundred or so code groups would hardly make a dent in a code consisting of ten thousand groups.

Of what value, then, are bilingual texts to the decipherer of ancient writings and languages? Let us consider this in the light of the possible types of decipherments. Since the known language of the bilingual represents a coded version of the unknown one—for Type II and III decipherments, which represent code—this means that we now have the same text encoded in two different systems one of which is known. This allows us to determine some, if not all, of the unknown code

groups. As we have seen, unless this number is quite large no significant increase in our knowledge is gained. Thus for Type II decipherments our understanding of Sumerian has been advanced quite far by the tremendous amount of Akkadian-Sumerian bilingual material available, while the relatively short Etruscan-Punic bilingual recently discovered at Pyrgi in Italy has added little to our knowledge of Etruscan.

For Type III decipherments the situation is similar. But there is an important extra. Apparent Type III situations frequently hide a less difficult decipherment, usually Type I, and a bilingual sometimes allows us to break a code group which makes this apparent. This is exactly what happened during the decipherment of the Cypriote syllabary using a Cypriote-Phoenician bilingual. The language turned out to be Greek, but because the redundancy features were altered by the writing conventions of the syllabic script from those expected of classical Greek, it was unrecognizable as such when enciphered.

Another feature of bilingual inscriptions which requires discussion brings us back to our original reason for rejecting the bilingual as an immediate solution, namely that it represents code, not cipher. Cryptographic codes always have groups for a syllabary and an alphabet so that words not included in the code can be spelled out. The most frequent need for these groups is to express proper names. Proper names are usually not translated into another language, but are simply transcribed. Thus if a bilingual text has a proper name in one version and the exact position of this name can be located in the other, one can consider the two occurrences as one phonological sequence expressed in two writing systems, or cipher. Since the plaintext is known, the phonetic values of the signs used to encipher it are established. If enough such occurrences could be found, a Type III situation could be reduced to Type II, and if during the process enough information about the language were found to indicate that the language was known, it would quickly reduce to Type O.

Finally, a bilingual can be useful as a check on a decipherment made by other means. It should be noted here, however, that not all bilingual inscriptions are well suited to this use, since the two sections might be either very reliable, verbatim translations, or one might be simply a loose paraphrase of the other.

Although other sources of external information may come to bear on the decipherment, it is best to shift at this point to internal analysis and see what preliminary steps should be taken.

Equally as important as a thorough study of the area from which the writing to be deciphered comes from is a sound acquaintance with the field of grammatology, specifically the structure and typology of writing (see above, Section 10).

From a consideration of the writing system as a whole, we move to graphotactics or the evaluation of such graphic characteristics as the position, sequence, arrangement, and direction of signs, and word division. The sequence of signs in a sign group may be orderly (as in the classical Latin writing) or disorderly (as in the earliest Sumerian writing). The sequence of signs may be from left to right, from right to left, or both, or from top to bottom, or from top to bottom in the sequence of individual signs but from right to left or left to right in the sequence of columns or rows of signs. Word division may not be indicated at all in the writing, or it may be indicated by special marks in the form of dots or strokes, or by a space.

More information about the probable content of the inscription can be deducted from repetitive schematic arrangements in the text. Such a repetitive sequence may be called a "routine." Routines offer exceedingly valuable information of a quasi-bilingual nature and are usually easy to detect without any elaborate statistical analysis. For example, if the last line of a text includes a fairly low number, it is a reasonable assumption that it is a date routine, and one should expect the word "year" and perhaps a royal name. Similarly if there are numbers throughout the text and the last line includes a higher number with a word before or after it, it is almost certain that the word is "total" or "sum."

Still another source of information about the probable context of an inscription can be utilized if the script is logo-syllabic. This source is the interpretation of logograms.

It was pointed out earlier that an unknown logo-syllabic system could be considered as a mixture of enciphered text and code. While the comparison is typologically valid, no cryptographer would ever use such a system. Because even a small amount of context can be extremely valuable in solving a cryptogram, there is an absolute prohibition in cryptography against plaintext appearing in the body

of an encrypted message. For the same reason, no cryptographer would risk having code groups recognized among the enciphered text and would insert the code groups at the plaintext level and then encipher both. But ancient writing systems did not strive for secrecy and the logograms are in full view of the decipherer.

If a logo-syllabic writing appears in a Type II situation (known writing, unknown language), the interpretation of all logograms may be known, a situation which generates numerous context clues. The key to cuneiform Hittite was actually discovered in this manner.

If a logo-syllabic system is unknown but largely pictographic, it may be possible to deduce the interpretation of some logograms from their pictorial representations. This is more often true of logograms denoting nouns than of those denoting verbs. But there are pitfalls in this approach because in a logo-syllabic system, syllabograms have normally developed from logograms by means of phonetic transfer, and one must be certain that he is not trying to interpret a syllabic sign as a logogram.

There are several other ways of distinguishing and interpreting logograms. Logograms are at times distinguished from syllabograms by a special mark. In a sign group composed of several signs, it is frequently possible to assume that the first or sometimes the first two signs represent the logogram, and the rest of the signs denote the syllabic indicators. Finally, the use of semantic indicators or determinatives preceding or following a logogram helps in distinguishing logograms and at the same time—because they are logograms themselves—helps in ascertaining the sphere of meaning to which they belong.

The limitations involved in the understanding of logograms without being able to read them form no great obstacle to the understanding of the texts. There are well-known and fully developed writing systems, such as Sumerian and cuneiform Hittite, which abound in logograms with clear meaning but unknown reading. If we can interpret all the logograms of a logo-syllabic system, the residue is obviously a syllabic system with plaintext clues scattered through it. Such a system would a priori be easier to solve than a normal syllabic once.

Having exhausted all sources of information about the probable content of the text, the next step is a systematic application of

statistics to determine the redundancy characteristics of the writing or the language.

Statistical analysis involves making frequency lists of the individual signs, of sequences of signs, and of signs which appear more frequently than others in initial or final position in a word. These statistics about the frequency with which certain signs appear in combinations or in certain positions are in fact the redundancy features of the language which generated them, perhaps modified by the limitations and orthographic conventions of the writing system employed. Thus, for example, an orthography which does not express double consonants will distort the redundancy features of a language that does. This is a problem which has to be resolved by outside information, since the distortion of the redundancy features will make the enciphered language appear to be different, or, more likely, unknown. However, if some phonetic values can be established the language will soon be recognized, even with the reduced redundancy, because redundancy is merely a measure of how much of a transmitted message can be omitted without impairing its intelligibility.

Another useful outcome of statistics, especially for syllabic systems of the Aegean type (only single vowels and consonant plus vowel signs), is the possibility of constructing a grid system which limits the phonetic values which may be assigned to a given sign by grouping the signs which interchange under certain circumstances together. By this method it is possible to group together signs which should have the same consonant but a different vowel, or alternatively, the same vowel but a different consonant. These groupings may be arranged to form a grid with the consonant as one coordinate, and the vowel as the other. All this may be accomplished without being able to read a single sign. The usefulness of the grid stems from the fact that once a few phonetic values are determined, the rest fall into place almost automatically.

Discussion of statistics leads to the application of computers to decipherment. The compilation of the statistical analyses I have described can be a very laborious process, especially if the amount of textual material available is large. In accomplishing this work, computers can be utilized most profitably. I estimate that the use of a computer in my work on Amorite has saved me several man-years of tedious repetitive labor.

While the computer is very useful for collecting, sorting, and counting, analysis should, at least at present, be left to the human mind. The computer has the same problems with ancient languages as with modern ones, and the same limitations which presently make computer translations unreliable (except for very narrow purposes) hinder their usefulness in analyzing ancient languages.

The first attempt to decipher an ancient writing with the help of computers was the so-called "Siberian" decipherment of the Maya writing. While the results are disappointing, the method is sound and may hold promise for the future. The first step was the collection of both linguistic and graphic data from available sources. Next the redundancy features of both the linguistic and graphic data were determined by computer. Finally, the output of the linguistic and graphic data was correlated in order to reach certain conclusions as to the reading or meaning of the Maya signs on the basis of comparable frequencies and distribution within the Maya linguistic material.

It is my belief that the failure of the decipherment is not due primarily to flaws of methodology, but to the fact that Mayan glyphs do not represent a full phonetic writing system. The decipherment is apparently of Type I (unknown writing, known language), and we have already shown that for this category—provided sufficient text is available—a phonetic writing can, and ultimately must, be deciphered if the underlying language is known. Since there is plenty of Mayan text available and the language is known, the fact that the writing has defied even the most sophisticated attempts at decipherment leads me to the conclusion that it is not a phonetic writing system. Therefore the lack of success by the computer does not diminish its potential for this type of decipherment.

I have left until now discussion of the assumption of an underlying language because it is involved in the test of a decipherment. But I have tried to stress, both in my discussion of the types of decipherments and elsewhere, that the extent to which the underlying language is known, or can be recognized as known, governs almost completely the difficulty of the decipherment. Hence the assumption of an underlying language is one of the most basic premises of the decipherment. If the assumption of the underlying language is wrong,

then the decipherment is wrong. Note, however, that the decipherment may progress up to a point even if the assumption of the language is wrong. A good example is Linear B where a grid structure for many of the signs had been worked out, but which remained undeciphered as long as it was assumed that its underlying language was Etruscan.

A preliminary assumption of an underlying language is the result of logical deductions about the linguistic situation of the area from which the writing or the language to be deciphered comes. The assumption is more or less self-evident in the great majority of cases. Thus it was logical to assume that ancient Egyptian would be a language ancestral to Coptic, spoken in Egypt until quite recently; just as it was plausible to start with the presupposition that the language of the Ugaritic texts would be a Semitic one, closely related to the other Semitic languages known from the general area, such as Phoenician, Aramaic, and Hebrew. The probabilities as to the underlying language had to be weighed in varying degrees in the case of other decipherments, such as hieroglyphic Hittite, Linear B, Cypriote, and Iberian.

The assumption of an underlying language may be plausible or even probable, but no decipherment is possible if the assumed language has no parallels in any known group of languages. This may be the case for Cretan hieroglyphic, which may be written for Minoan, a native Mediterranean language possibly unrelated to any other known language.

As a test of a decipherment, we should insist on the translation of a full text, not simply excerpts. It is frequently possible to provide a persuasive interpretation for a small portion of the text, such as a phrase or even a sentence, but this cannot be a decipherment if the rest of the text is gibberish.

The translation of the text must be consonant with the preliminary expectations about the contents of the text. It is reasonable to assume that Proto-Elamite texts, full of numbers and measures, would represent simple administrative accounts dealing with the day-by-day routine of running a household, such as the listing of incoming and outgoing commodities. A decipherment that would read magic conjurations into these texts would be highly suspect.

But perhaps the best test of a decipherment is repeatability. That is, it should be possible to decipher another text, preferably one the

original decipherer has not seen, using the decipherer's methods. Perhaps the most spectacular example of this was conclusive proof of the correctness of the decipherment of Linear B provided by the discovery of the famous "tripod" text, which not only deciphered into good Greek words, but also had pictographic representations which showed exactly the objects which those words represented.

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Four Surrealist Images

Edward Germain

Surrealism has consistently asserted its desire to comprehend the essence of thought—a statement usually read in aesthetic terms by art and literary critics or in clinical terms by psychological critics. If this statement is taken more literally, certain overlooked insights arise, including the hypothesis that the surrealists' search for an ultimate synthesis may itself reflect a structure of the mind.

I

In order to comprehend most poems, the words visible in front of you have to trigger an equivalent image inside your mind. The good reader abnegates his ego, becomes transparent to the poem forming within him, sees the words on the page and hears them and pictures them—all simultaneously. "Meaning" in its full sense (what romantic critics call "experiencing the poem") involves a union of verbal-visual information within the mind. This integration usually occurs whether the poem is heard or read. Typically, the arrangement of words on the page encodes information closely equivalent to the phrasings and intonations of the poet's voice. The good reader receives this information, just as the good listener does; the written words produce essentially the same experience in the mind as the spoken words. At this level no different neurophysiological processes are apparent. One kind of poetic experience ends here with the reformation of the poem in the mind. Another—the surrealist experience—begins here and, beginning precisely where traditional poetry leaves off, these poems demand cognizance of what *Visible Language* is concerned with and from what they draw their power and authority: the processes of the mind itself.

Shortly before 1924, as he was going to sleep one evening, André Breton noticed an image in his mind and heard simultaneously its verbal counterpart: a man appeared bisected horizontally by a pane

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of glass which moved as he moved, accompanied by words to the effect that "there is man cut in two by the window."

This audibly-bisected man precipitated for Breton a synthesis of diverse ideas which can only be suggested here: Rimbaud's experiments with implications of dreams, chance, and poetic "possession"; Lautreamont's sensual, violent, cold-minded anti-romanticism; Baudelaire's correspondences; Dada's irrationality—essentially a half-century of incursions into what Freud at the end of that century called the unconscious mind. Breton's synthesis, philosophic in its implications, was Surrealism. Among other things, it resolved the problem of artistic originality by relieving the artist of that responsibility. The images that appeared on the scrim of consciousness came without rational control; one had simply to record them. Surrealism also identified a validity behind art so produced. No one could successfully accuse the artist of faking or disingenuous fabrication because the very significance of his art lay in its appearance within his mind unbidden and unsought.

The first few years of Surrealism were spent recording the dream-like images that formed within receptive artists. Those more verbally oriented recorded them in words; those visually oriented painted them. (Breton, Eluard, Pèret, Aragon, Soupault, and Desnos were among the writers; Arp, de Chirico, Ernst, Kleé, Man Ray, Masson, Miro, Picasso, Tanguy, Duchamp, and Picabia exhibited with the surrealists from 1925–27.) Presumably not all the "automatic" mental images that formed the bases for these art works were accompanied by words, but most may have been—certainly for the poets. In any case, the distinction was not held assiduously; Breton deferred to inspiration itself—whether verbal, visual, or both—and considered valid only those works through which he could observe the strange force of the unconscious at work. In all these experiments "reason's role . . . [was] limited to taking note of, and appreciating, the luminous phenomenon" of the language visible in the mind. It was not surprising, therefore, that these works were widely misunderstood, often considered incomprehensible.

In 1936 Breton wrote one of his periodic responses to critics in an article, published in London, "Automatism, Limit Not Frontier of Surrealism." To those who mistakenly had equated Surrealism with an abandonment of reason, he replied that automatism is as far

toward the dream-state of unconscious as one's conscious mind can travel while still maintaining awareness. For what the surrealists sought was not irrationality, but a reality superior to that offered by the language of reason. It sought transcendence, not escape; hence its name. Breton esteemed those who had mistepped and fallen into madness—like Nadja or Artaud—but these were tragic figures, not surrealist heroes. Surrealism sought a precarious balance:

> The poet of the future will surmount the irreparable divorce of action and dream. . . . He will maintain at any price in each other's presence the two terms of the human relation: . . . the objective awareness of realities, and their internal development in . . . the unconscious.[1]

Although automatism had explictly sought to reveal "verbally, by means of the written word, or in any other manner—the real functioning of thought," critics through the 1930's treated it as an aesthetic technique that was becoming monotonous. Part of this charge was true. The "surrealist image" which Breton had defined in 1924[2] as "the juxtaposition of two distant realities"—"the chance meeting of a sewing-machine and an umbrella on a dissecting table," to use the famous phrase from Lautreamont—soon became reducable to a formula: "the ——— of the ———": the "broom . . . of flesh and hair,"[3] the "wife with the hair of a wood fire,"[4] "the thought of heat lightning," "the key-hole of your eye," etc. Critics either deplored the monotony or tried to reduce these juxtapositions to paraphraseable themes—just as beginning students often do to poems. Critics still do this. An art historian comments on the phrase from Lautreamont "There is a logic in these particular images. An umbrella's function is to open, a sewing machine's is to close . . .; they meet on a dissecting table."

The surrealists *did* have a great deal to say about openings and closings (note the prevalance of doors ajar in their painting, for example), but this is hardly pivotal here. Other "logics" exist in the passage: an umbrella has a point, a sewing machine has a point . . . they meet on a dissection table. And the surrealists did have a great deal to say about self-mutilation (see the paintings of Salvador Dali, for example), but this, too, is somewhat beside the point. The sounds of the words in French contain recurring noises, also, so that there is

structure within it. But no mere logical connection will be sufficient apart from the totality of mental processes—the linkings and means of linking—that the juxtaposition involves. Even all these are insufficient unless one holds fast to the sense of wonder at such an incongruous chance meeting of sewing machine and umbrella. The full meaning of the passage is a state of mind: synchronistic, unlimited by its perception of causal connectives, vividly aware of the images and the sound of their meeting, alert suddenly to mystery, feeling now that it will never end.

II

The craters of his eyes[5]
the threads of her heart[6]
the snakes of her hair[7]
the lids of her windows[8]
the houses of their blood[9]
the key-hole of your eye[10]
the thought of heat lightning[11]

Psychologists, Heinz Werner and Bernard Kaplan among them, have identified metaphor as a central process underlying the learning and creation of language. Brian Sutton-Smith, discussing this concept, has given the example of a young child stung by a bee who looks at the swelling and says, "Flower." He concludes the child is juxtaposing images in his mind, expressing this comparison in the word, which is metaphorical.[12]

Catching this process in mid-stream, surrealist automatism is unconcerned about clarity in a rational context, but all the more interested in clearly observing the mental processes at their fundamental level. "The blossom of the arm," like "the basement of the sun" or the "hair of oranges," all catch a way the mind works—according to Sutton-Smith, Werner, and Kaplan, perhaps the most essential way so far as language is concerned.

A reader trained in a different way of reading, however, could analyze the child's "blossom" as metonomy. Instead of making a comparison, the child could be perceiving the growth process common to both the blossom and the swelling. Expressing his revelation, he substitutes effect for cause. Our language embodies this figure when blossom is used as a verb.

Recent speculations by linguists and literary critics suggest that metonomy, along with metaphor, may be "more intimately related to the processes whereby experience becomes language and thought than study of it as a [literary] figure would suggest."[13] Examination of the surrealists' automatic writings leads one toward this conclusion, for metonomy and metaphor are ubiquitous in about equal proportions. Moreover, if metaphor and metonomy are primary thought processes relating to language-formation, this would throw light on both the surrealists' early enthusiasm as well as their gradual disillusionment with automatism, for no matter how varied its other contents, repeated experiments always discovered these identical processes.

Breton had spoken of automatism as revealing thought's true or real functioning because, following both Freud and Jung, he accorded the unconscious an ontological "reality" that clear consciousness would possess only in lesser degree[14]—an assumption at odds with the disposition of the public in 1927. That year Breton asked rhetorically, "Does not the mediocrity of our universe depend essentially upon our powers of enunciation?"

So long as the rationalist's language prevailed in the world, and the rationalist's picture of the world appeared accurate and sufficient, the experiences of the surrealists could be misconstrued by the public as fantastic idylls. Freud had already shown that the unconscious works continuously beneath daily perceptions; the problem was to catch it in the act, and to communicate this experience to others.

In 1928 Salvador Dali discovered a new kind of surrealist imagery. Breton immediately certified his techniques:

> Dali has endowed Surrealism with an instrument of primary importance, in particular the *paranoiac-critical method*, which has immediately shown itself capable of being applied with equal success to painting, poetry, the cinema, to the construction of typical surrealist objects, to fashions, to sculpture, and even, if necessary, to all manner of exegesis.[15]

Dali's paranoiac-critical technique is revolutionary, but not new, suggested both by Leonardo da Vinci, who describes in his notebooks seeing faces and landscapes in the cracks of an old wall, and by Shakespeare in *Hamlet*:

Hamlet: Do you see yonder cloud that's almost in the shape of a camel?
Polonius: By the mass, and 'tis like a camel indeed.
Hamlet: Methinks it is like a weasel.
Polonius: It is backed like a weasel.
Hamlet: Or like a whale?
Polonius: Very like a whale.

While it is true that Hamlet tries to humiliate Polonius by showing him as a sycophant—failing because Polonius obtusely thinks Hamlet mad and so merely humors him—the surrealist critic would look beneath the dialogue for its underlying structures of language and thought.

"Paranoia," wrote Dali, "uses the external world in order to assert its . . . idea, and has the disturbing characteristic of making others accept this idea's reality."[16] This aspect of paranoia neither obliterates reality nor surrenders to subjectivism, for the faces on the wall or the animals in the clouds depend as much upon what nominally appear as wall-cracks or cloud-shapes as they do upon the desire within da Vinci or Hamlet to transform the object in terms of his own idea. "The two terms of the human relation," as Breton phrased it, are therefore maintained.

Dali called his method *critical* paranoia to distinguish it from the mental disorder. For the artist this is a healthy, active force liberating the unconscious in his work, whereas for the mental patient paranoia is the tyranny of his unconscious over his critical intelligence.

Dali's paranoiac-critical paintings are almost exclusively double images. "A double image is clearly paranoiac," he wrote, "a representation of an object that . . . is also, without the slightest physical or anatomical change, the representation of another entirely different object."[17] Figure 1 is a kind of tour-de-force if the reader sees it as actually a triple image.

The surrealists thought that critical paranoia was paradigmatic of man's ability to conceptualize ("I am paranoiac, therefore I am"?); this in turn suggested to them that the world is continuously perceived by the unconscious but "rationalized" by consciousness that fits it into a known pattern, freezing it in mid-stream. Consider British surrealist Hugh Sykes Davies' "Poem," published the same year as Dali's *Apparition*.[18]

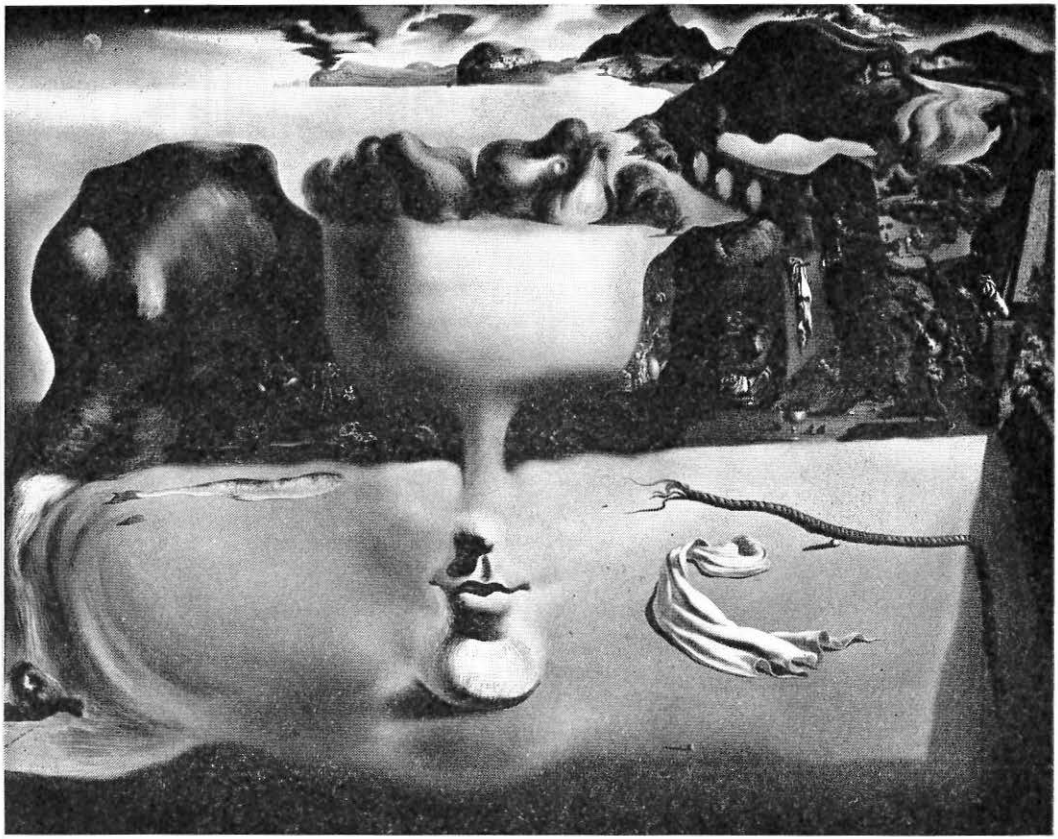

Figure 1. Salvador Dali, *Apparition of Face and Fruit-Dish on a Beach.* 1938. Wadsworth Atheneum, Hartford Connecticut.

The most noticeable difference between Davies' technique and Hamlet's or Dali's is that he does not name the object under paranoiac scrutiny. Instead of being a game of suggestion or a visual pun, Davies' poem thereby engages the analytic powers of the mind in addition to the paranoiac powers.

One understands that the poem's subject is a great destruction because the progression of images in each line is toward destruction, and one caused by men rather than women because "It doesn't look like my mother . . . it looks like my father." Women have survived it, for there is "an old woman searching in a heap of stones." "Heap of stones" tells us that buildings were destroyed and with them, from

POEM

It doesn't look like a finger it looks like a feather of broken glass
It doesn't look like something to eat it looks like something eaten
It doesn't look like an empty chair it looks like an old woman searching in a heap of stones
It doesn't look like a heap of stones it looks like an estuary where the drifting filth is swept to and fro on the tide
It doesn't look like a finger it looks like a feather with broken teeth
The spaces between the stones are made of stone
It doesn't look like a revolver it looks like a convolvulus
It doesn't look like a living convolvulus it looks like a dead one
KEEP YOUR FILTHY HANDS OFF MY FRIENDS USE THEM ON YOU BITCHES OR YOURSELVES BUT KEEP THEM OFF MY FRIENDS
The faces between the stones are made of bone
It doesn't look like an eye it looks like a bowl of rotten fruit
It doesn't look like my mother in the garden it looks like my father when he came up from the sea covered with shells and tangle
It doesn't look like a feather it looks like a finger with broken wings
It doesn't look like the old woman's mouth it looks like a handful of broken feathers or a revolver buried in cinders
The faces beneath the stones are made of stone
It doesn't look like a broken cup it looks like a cut lip
It doesn't look like yours it looks like mine
BUT IT IS YOURS NOW
SOON IT WILL LOOK LIKE YOURS
AND ANYTHING YOU SEE WILL BE USED AGAINST YOU

lines 15–16, men. In the poet's view, those who caused this war—for this is what we seem to be describing—acted not out of clear consciousness (the "eye" in line 14), but from an internal decay, "like a bowl of rotten fruit." All the aspirations of the common folk have been broken like feathers. Their revolvers now lie buried in cinders; their faces have turned to bone beneath the stones, though they remain antagonists. Death has hardened their opposition, "The faces beneath the stones are made of stone."

Davies' hatred of the aggressor's brutality breaks through grammar and syntax to hidden psychotic repressions when he writes "USE THEM ON YOU BITCHES," simultaneously swearing at them, exposing their

sexual inadequacy, their sadistic use of women, their callousness; they are the leaders of dogs.

A glance at the date of publication, May 1938, locates the poem exactly one year after the Barcelona uprising. It is reasonable to conclude that the subject of the poem is the take-over of Spain by the fascists. Davies has confirmed this in a letter to me.

Davies exposes Fascism as an extreme form of paranoia wherein the fascist, tyranized by his paranoid delusions, externalizes the sickness as atrocities of war. Anything the fascist sees becomes part of his disease, yet the poet is able to contradict him effectively, for he holds the controls of both reason and passion. The ending of the poem is a curse, condemning the fascists to their own madness, and holding their actions up to the judgment of the free world.

The power of the poem, and the power inherent in critical paranoia, lies in the mind's ability to transform any object in accord with desire, and to communicate this transformation, making the reader more vulnerable to the world of the poem and less dependent upon his own prelearned and fixed representation of reality. Like automatism, its validity lies in the mind, in the fact of its occurrence, and in the universality of this experience; probably the reader himself has witnessed the metamorphosis of a knotty-pine wall in a summer cabin or, lying on his back, discovered faces upon faces in the leaves.

As Surrealism passed through the '30's, the discovery of other figures of thought behind reason continued to dominate its activities. Consider British poet David Gascoyne's "The Very Image"[19] and painter René Magritte's *At the Threshold of Liberty* (Fig. 2).

Each of these works consists of images amid images. In the poem these images are more differentiated within each stanza, while the painting contents itself with one recognizeable image per frame. In perceiving either work, the viewer finds his mind moving through a helplessness of the reason. In the poem the process is incremental. Each stanza presents a tangible object that the next line confounds by a ludicrously inappropriate addition. The following lines force a further juxtaposition until the incongruity of contexts expands beyond reason's ability to encompass the meaning of the evolved image. Somewhere along this process, the mind begins to turn back upon itself, observing the processes through which it has just gone, experiencing a perplexingly pleasant sense of the futility of the search

THE VERY IMAGE

to René Magritte

An image of my grandmother
her head appearing upside-down upon a cloud
the cloud transfixed on the steeple
of a deserted railway-station
far away

An image of an aqueduct
with a dead crow hanging from the first arch
a modern-style chair from the second
a fir-tree lodged in the third
and the whole scene sprinkled with snow

An image of the piano-tuner
with a basket of prawns on his shoulder
and a firescreen under his arm
his moustache made of clay-clotted twigs
and his cheeks daubed with wine

An image of an aeroplane
the propeller is rashers of bacon
the wings are of reinforced lard
the tail is made of paper-clips
the pilot is a wasp

An image of the painter
with his left hand in a bucket
and his right hand stroking a cat
as he lies in bed
with a stone beneath his head

And all these images
and many others
are arranged like waxworks
in model bird-cages
about six inches high.

for meaning. The same thing occurs with the painting, but more quickly.

Keys to the bewildering effects are the distortions of scale in each work. Gascoyne creates five surrealist tableaux of vast spaciousness—

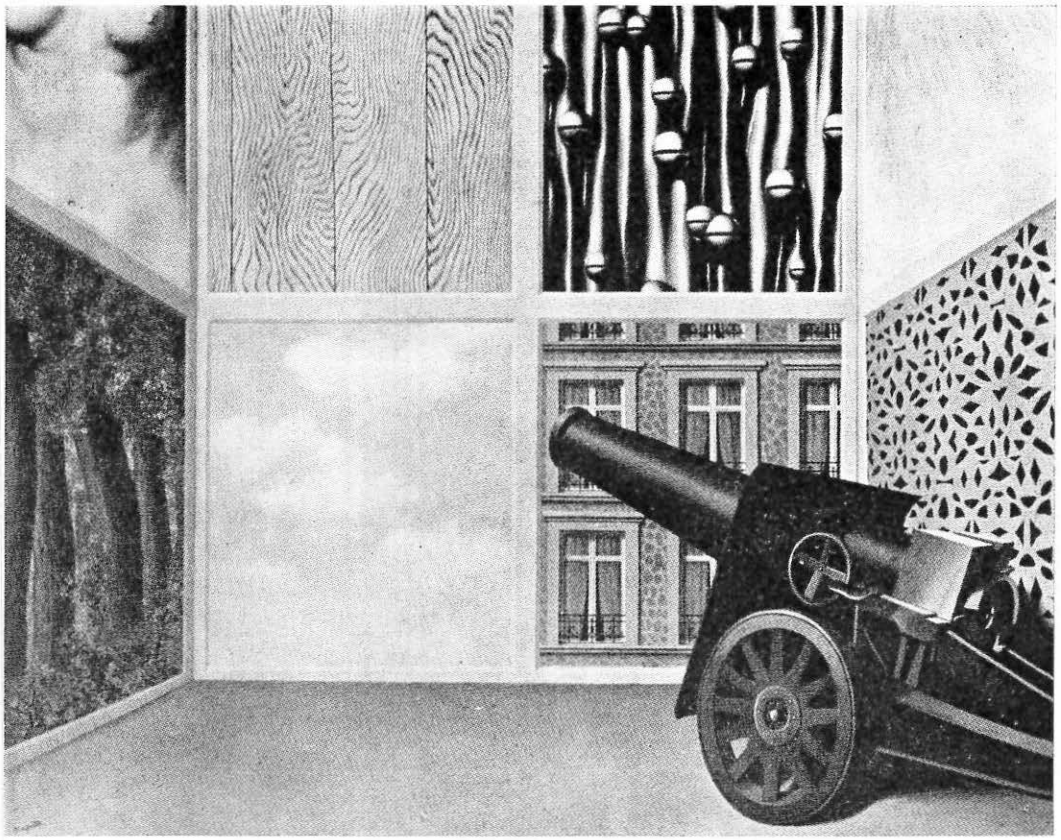

Figure 2. René Magritte, *At the Threshold of Liberty*. 1929. Humphrey Jennings Collection.

aqueducts, airplanes, churches in the distance—suddenly he telescopes them into six-inch-high bird cages. Magritte paints a nude woman's torso as tall as two stories of a building.

Both artists call specific attention to their *images*. Magritte frames each one, like a separate picture. Gascoyne frankly begins each stanza with the words "An image of. . . ." When he shrinks the tableaux into the birdcages, he carefully notes that the cages themselves are *model* birdcages, not the real thing. Thus the reader is put in the unsettling position of noting that while there is nothing "real" before him—it's just images—the images nevertheless exist; he finds them in the poem, on the canvas, in his mind accompanied by a sense of

wonder or irritating amusement that suggests they are somehow significant, products of mental activities with which his normal consciousness is typically unconcerned.

In the poem these processes are the dream-work techniques of condensation and displacement. These are hardly new to poetry, but here they are both manifest and structural. In dreams, Freud wrote,

> dream thoughts are condensed into new unities. When the thoughts are translated into pictures those forms are indubitably preferred which allow this kind of telescoping, or condensation; it is as though a force were at work which subjected the material to a process of pressure or squeezing together.[20]

Gascoyne has *embodied* this process in his poem.

Magritte works with another aspect of the mind, where the size of an object can be an index of its power of attraction. We observe this in children's art and in our own language. What we love or fear "looms large" we say. Or one says of her lover: "His face filled the whole room!"; i.e., "my whole attention was attracted to his face." By enlarging the woman's torso, Magritte steps behind these figures of speech into the figure of thought. He has, we might say, "sized her up." Certain images in the painting now begin to reverberate with meaning.

The cannon—separated from the framed images as the ego is separated from the objects of its desire—points at the framed image of the female torso. This is love. The small conning-wheel for aiming the cannon has raised it to the effective erect position. Its trajectory has been calculated. The cannon has a shield to protect it from small nuisances hurled at it from its adorable target. It is a battle of love—with the outcome already determined, for the woman is already nude and judging by the size of the shield, her resistance will be small.

In Gascoyne's poem, the movement in every stanza is towards a strange devitalization. His grandmother is decapitated, her head transfixed upside-down on a spike, and abandoned. The aqueduct has a dead crow hanging from it enshrouded in snow. The piano-tuner turns into a manikin. Even the aeroplane turns into lard. The painter himself lies with his head on a stone, almost a tombstone. Some kind of sterility or fear hangs death-like about this hilarious and entertaining poem.

Our hypothetical reader has found his rational faculties outstripped as each work involves itself at a structural level with processes essentially unconscious in nature. Then, to use a metaphor that fills Breton's *Nadja* as well as scores of surrealist poems and paintings, the effect is not unlike opening doors in his mind. Reason is accessible, with its limits clearly perceived. Unconscious desire, manifesting itself in the symbolic images, fills the conscious mind with wonder or dread. Not clinging to either, perception watches the scenes surfacing, aware suddenly of the powerful conscious and unconscious processes effortlessly evolving beneath it. Standing there, with all the doors open, is surreal.

This precise vantage point, approximating that of the artist who had to open the same doors to get his material, holds in equal value the available conscious and unconscious functions of the mind, allowing their antinomonies to resolve into one pattern, which is the poem or painting—itself a map or instruction to this *point sublime.*

One knows he is following this map when he begins to experience the disorientation produced by the works, called by the surrealists *vertige.* This leads to speculation that the surrealist goal of reconciling opposites has a psychological analogy within the mind. In the bilateral symmetry of the cerebrum, sequential reason is a left-hemisphere function along with language.[21] *Vertigo* may result from the introduction into sequential reason of the spatial orientation of the right hemisphere to such a degree that it contradicts the former. Thus, *vertige* is a signal connected with the limitations of left-hemisphere rationality and traditional language in whose presence the uncomprehending man might draw back, saying "I can't understand this, Surrealism is pointless." But to the surrealists, *vertige* is a sign that the *point sublime* is not far off. It is quite possible, as the saying goes, that it is accurate to say one cannot "understand" Surrealism—if one means that particular casuistic, rational understanding typical of the left hemisphere. And it is also possible that the shape of the thought behind the surrealist phrases

juxtaposition of distant realities

and

reconciliation of opposites

may turn on equal, simultaneous access to both hemispheres of the mind: the left concerned with language, the right with pattern; the left with words to the effect that "There is a man cut in two by a window," the right with a picture of a man bisected horizontally by a pane of glass that moves as he moves. . . . But on this, the returns are not all in.

1. André Breton. "Les vases communicants" (1932), translated by Maurice Nadeau in his *The History of Surrealism* (New York: Macmillan, 1965), p. 304.
2. *Manifesto of Surrealism* (1924), translated by Richard Seaver and Helen Lane in *Manifestoes of Surrealism* (Ann Arbor: University of Michigan Press, 1969), pp. 10–11.
3. Charles Henri Ford. *The Overturned Lake* (Cincinnati: The Little Man Press, 1941), section III.
4. André Breton. "Freedom of Love," translated by Edouard Roditi in *Young Cherry Trees Secured Against Hares* (Ann Arbor: University of Michigan Press, 1969).
5. Dylan Thomas. "Among Those Killed in the Dawn Raid Was a Man Aged One Hundred," in *New Road* (London: 1944), p. 170.
6. David Gascoyne. "Fragments from 'The Symptomatic World'," in *Contemporary Poetry and Prose*, No. 6, October, 1936, p. 113.
7. Nicholas Moore. "Poem About England," in *View*, III (October 1943), p. 83.
8. Dylan Thomas. "The Marriage of a Virgin," in *New Road* (London: 1944), p. 170.
9. Robert Horan. "Deceptions of Brass," in *View*, I, 6 (June 1941), unnumbered insert.
10. Francis Scarfe. "Billet Doux," in *Contemporary Poetry and Prose*, No. 4–5 (August–September 1936), p. 89.
11. Breton. "Freedom of Love."
12. *Child Psychology* (New York: Appleton-Century-Crofts, 1973), p. 229ff.
13. Robert O. Evans in *Encyclopedia of Poetry and Poetics*, Alex Preminger, et al., eds. (Princeton: Princeton University Press, 1965), p. 500.
14. Discussed in Ferdinand Alquie, *The Philosophy of Surrealism*. translated by Bernard Waldrop (Ann Arbor: University of Michigan Press, 1965), p. 27.
15. *What Is Surrealism*, translated by David Gascoyne (London: Faber and Faber, 1936), p. 83.
16. "The Stinking Ass," translated by J. Bronowski in *This Quarter 5*, No. 1 (September 1932).
17. *Ibid.*
18. In *London Bulletin*, No. 2 (May 1938), p. 7. Reprinted by permission of the author.
19. In *Contemporary Poetry and Prose*, No. 2 (June 1936), p. 35.
20. *New Introductory Lectures on Psychoanalysis*, translated from the German by W. J. H. Sprott (New York: Norton, 1933), pp. 32–33.
21. As an interesting introduction, see Robert E. Ornstein, *The Psychology of Consciousness* (San Francisco: W. H. Freeman, 1972).

An Introduction to the Visual Syntax of Concrete Poetry

Aaron Marcus

Many different forms of concrete poetry have emerged in the past twenty years. One way to appreciate, describe, and compare these works is to examine them in terms of their visual syntax. This includes emphasis on figure-field relationships, implied depth, spatial structure, and movement. Examples are presented which illustrate basic types of visual organization and are analyzed to relate their visual syntax to their total meaning. This initial classification could be elaborated and supplemented to provide a basis for a semiotic of concrete poetry.

After a period of quiescence following World War I, the awakening of the modern eye to the full potential for communication of the visible word began again in earnest with the emergence of the concrete poetry movement. This renascence is credited primarily to the activities of the Noigandres group in Brazil and Eugen Gomringer in Germany. Manifestos of their intentions appeared in the middle of the 1950s stating that concrete poetry involved the "conscious study of the material and its structure . . .; material means the sum of all the signs with which we make poems."[1] In particular this implied less dependence on the mimetic qualities of conventional narrative text and a greater attention to the development of new visual structure by examination of linguistic units.

The flourishing of the movement has brought forth an abundance of work in many countries. Anthologies have attempted to gather and, to some extent, analyze the work. The task has been difficult, however, for the collected body of recent concrete poetry has been exceedingly heterogeneous and has defied attempts at categorization. Several major anthologies have resorted to an ordering of the work by alphabetically listing the author/artist or by listing the geographical area of production. One anthology, the catalogue of an exhibit of concrete poetry in Amsterdam, did present a beginning section of

Visible Language, VIII 4 (Autumn 1974), 333–360.

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visual analysis entitled "some forms and working methods in visual poetry."[2] However, these concepts were not continued throughout the catalogue. The various themes emerging from these anthologies emphasize the following:

words	collages	color
letters	figured texts	surrealism
constellations	non-type	spatialism
sounds	newspapers	alphabets
typographic styles	found poems	political engagement
verbal semantics	poem objects	visual tautologies
phoneticism	kineticism	information

One is left in a confusion of claims and counter claims for the proper areas of concern of concrete poetry. There is a consequent difficulty in describing, comparing, and evaluating different works. Concrete poetry[3] has significance in terms of the advancement of poetic forms but also in terms of the development of all forms of text presentation which aim at documentation, persuasion, arousal, or expression condensed into a relatively limited visual formulation. The field of concrete poetry is a proving ground for developments of text forms in general. This supplements the pressure for change in verbal forms which arises from the poster, the magazine, movies, and television.

One approach to understanding concrete poetry is to return to the fundamentals of the work—its essential visual structure—for that is what it seeks first of all to affirm. This suggests examining the basic visual qualities of the work as a means of appreciating the poem's particular aesthetic stance. This essay is intended as a beginning study of this approach and utilizes work that has appeared in anthologies of concrete poetry.

This methodology accepts the conceptual structure of a visual semiotic[4] and seeks first of all a clarification of visual syntax in order to appreciate the important changes that concrete poetry is bringing to traditional linear text forms. This approach attempts to establish a descriptive and hopefully explicative taxonomy of forms of concrete poetry. In doing so it creates a strong basis for further analysis of the semantic and pragmatic dimensions of the work. To explore the visual syntax of a concrete poem suggests giving attention to several modes of visual statements: figure-field relationships, implication or direct

statement of depth, spatial structure, and movement. These concepts are explained and treated separately in later sections of this essay.

The accompanying diagrams (pages 356–360) are meant to indicate abstract, archetypal formal organizations. According to Wertheimer's principle of objective set[5] they can serve as a normative conceptual framework for describing and explaining the works shown in the accompanying figures. The square diagrams are meant to indicate figure-field relationships. The circular diagrams are meant to indicate particular text-figure relationships only. This analysis is not complete, in the sense that each diagrammatic possibility is not substantiated by an example. This is acceptable in the author's opinion because certain forms may not necessarily have been used to a great extent. In addition, the length of this initial presentation could become inordinately long, and a partial substantiation is sufficient to indicate the point of view of the analysis and to demonstrate its procedural validity.

Aspects of Visual Syntax

Figure-field relationships are fundamental to the emergence of visual form. Every object is seen with respect to some background, and it establishes a particular visual presence in terms of its magnitude (size and shape), position, and orientation judged against this field. Some of the factors which influence the reading of figure-field relationships, as pointed out by Arnheim,[6] are the qualities of enclosed forms, spatial proximity, texture, suggestion of bottom vs. top, convexity of forms, horizontal vs. oblique positioning, constancy and simplicity of shape, and suggestions of overlap. The figure-field relationship is a distinctive and significant aspect of the syntactic meaning of a work.

An object is interpreted by the mind as existing in space within a two- or three-dimensional field. Even if the visual statement is physically two-dimensional, there are strong clues present that influence the viewer's mind and evoke a reading of implied depth. Such factors as perspective of position (i.e., textural and size gradients or linear perspective), blur or changes of color, and overlap (transparency, translucency, and opacity) are significant for the interpretation of depth.[7]

An object may have an internal organization or it may appear with other objects in a configuration of elements within a visual field. This arrangement can be described in terms of points, lines, and planes.

These are simple and straight-forward but useful conceptions. The point implies visual attention focused on a specific centralized area. The line suggests a beginning and an end to directed movement, and the plane implies a surface oriented in space. Of equal importance is the concept of regular or irregular divisions of the visual field stated explicitly or implied by the point, line, or plane elements of the composition. This structuring of the total visual field is as characteristic and significant as coloration or any other particular visual qualities of elements within the field.

The structure of the composition may change with time. This may be due to motion; i.e., actual physical or kinetic alteration of the figure or of the field. It may also be due to movement; i.e., the shifting of the viewer's attention and/or the dynamic sensation of directed tensions caused by some aspects within the composition that can be seen as shifts from a visually neutral state. Movement can arise from perceptual gradient (of shape, colors, and intervals), the kinaesthetic experience of wedges and oblique lines, incomplete figures, and various distortions of implied simple shapes, intervals, angles, etc.[8]

Traditional linear text forms of which poetry is a subset have developed over the centuries a consistent and powerful appearance that demands certain conventions of reading. The typography generally appears to exist upon a single abstract plane more or less centered within the field. The viewer is brought into the visual composition at the upper left (Diag. 1) and is directed to mechanically scan horizontal line after horizontal line, gaining rhythmic import visually from the length of lines and subordinately from certain qualities of the typographic forms. Emerging at the lower right, one is propelled from the field. The figure-field relationship of the poem usually connotes a sense of neutrality or emptiness of significance. Of course, this is a judgment relative to visual compositions in general and to concrete poetry in particular. The margins are usually large and relatively neutral. The interior of the poem figure itself is very neutral: the interlinear spacing is constant, the interword spacing is constant, the interletter spacing is constant, the intraletter spacing is constant. Not precisely constant, but the fluctuations are intended to be extremely subtle or non-existent.

In contrast, much of concrete poetry questions the assumptions about the size, shape, orientation, texture, physical material, grid

structure, color, depth, and movement of symbols in a field. The following part of this essay analyses examples of recent concrete poetry with respect to the categories stated earlier and under certain limitations or restrictions. The material is drawn from two major anthologies which have appeared in book form.[9] The reproductions have usually been single illustrations in black and white; variations of gray value or hue have been infrequent. Coloration and kineticism as primary visual factors have not, therefore, been treated although work in both areas has been done by some concrete poets.[10] The communication of the color work has suffered from financial limitations for color printing. This is unfortunate because of the relevance of the work to the increased use of color printing in many large-circulation books, newspapers, and magazines. The aspect of texture is also given subordinate importance in this essay. Its significance can usually be assimilated into a discussion of structure and movement. In the work published in the primary anthologies, relatively few examples approach the qualities of line texture that exist in the typographic innovations of M. Robson in *Transwhichics*.[11] The following discussion restricts itself to examples which do accept the tradition of a single physically flat field. While this may be viewed as unnecessarily limited, the examples are more abundant and the implications for future directions of mass printed texts are more immediate.

Figure-Field Relationships

Some concrete poems are surprisingly undemanding of the potential for significance in placement of typographic elements within the field.[12] Many works concentrate on the interior of the figure and may show a traditional centered statement. This is often a completely justified approach to giving emphasis to the reduced quantity of text (Diag. 2; Fig. 1). In Figure 1 the title functions as the key to the meaning of the poem. The contrast between this first, varied set of elements and the uniform, relatively monotonous group of inverted *l*'s is enhanced by the total isolation of the poem in the center of the field.

Other works give much more importance to large scale asymmetries and dynamic qualities of the composition (Diag. 4; Fig. 2). Figure 2, one of a series of collages made from Hershey Bar wrappers,

individualista

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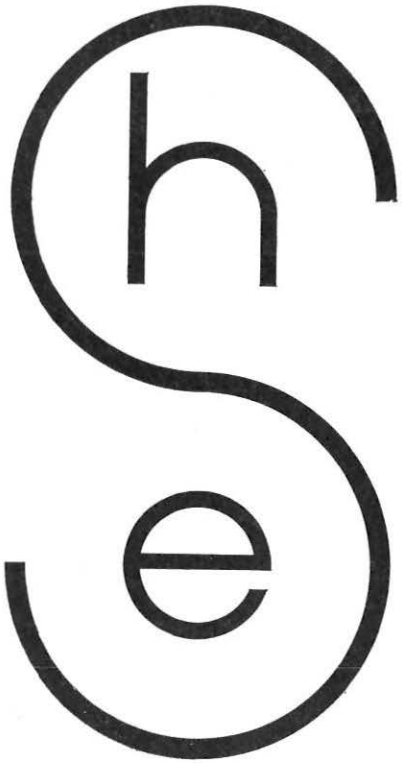


Left above: Figure 1.
Ladislav Novák,
"Individualista"

Above: Figure 2.
Al Hansen,
Untitled, 1966

Left: Figure 3.
Pedro Xisto,
"Epithalamium II"

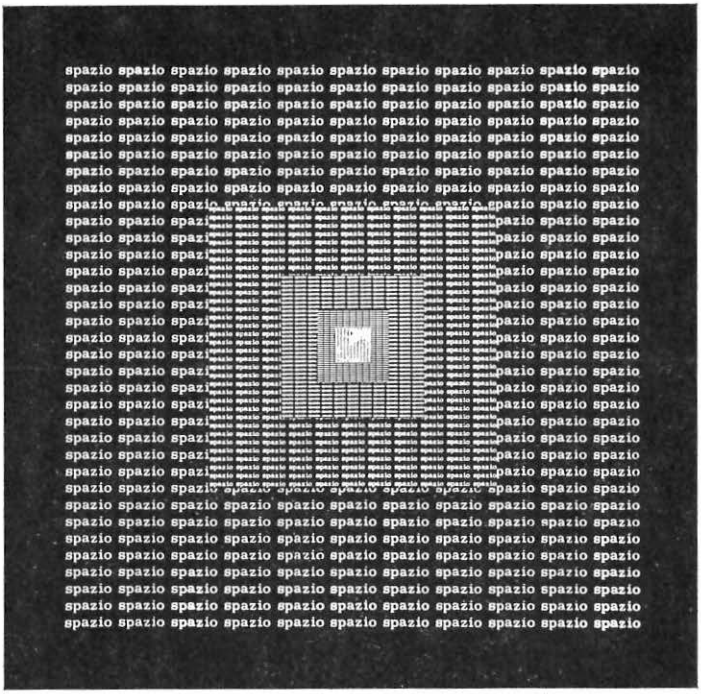
Right above: Figure 4.
Arrigo Lora Totino,
Untitled, 1966

Right: Figure 5.
Augusto de Campos,
Untitled, 1962

Far right: Figure 6.
Carlo Belloli,
Untitled, 1948

he=êle
&=e
she=ela

S=serpens
h=homo
e=eva



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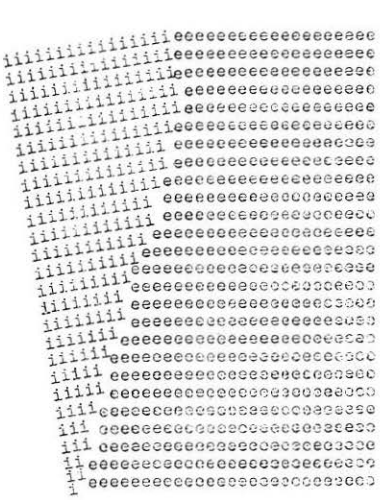
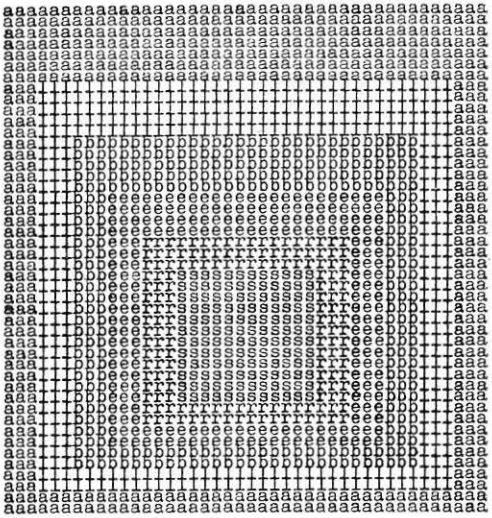




Top left: Figure 7. Ilse and Pierre Garnier, Untitled, 1965
Top right: Figure 8. Jiri Kolar, Untitled, 1962
Bottom: Figure 9. Ernst Jandl, Untitled, 1964

creates powerful rhythms of letterforms across the field. The letterforms are in an implied three-dimensional space. They shout, echo, and whisper in a suggested and suggestive sound space. The work also indicates a reversal of traditionally positive and negative elements of a composition (Diag. 3). As in the situation of reduced text size, the presence of the formerly "empty" background is emphasized. The boundaries of the field (i.e., the poem's "territory") is exactly and dramatically stated, to the extent that some letter elements are altered by the field edge.

Another approach is to stress the interlinear interval of the traditional form (Diag. 5) or the interletter intervals (Diag. 6; Fig. 3). In Figure 3 the letter spacing of the *h* and *e* is precisely determined by the intermediate *s*. This connection and containment by the sinuous s/line/snake is crucial to the levels of meaning in the poem relating to the fall of man (according to the author: *s* = *serpens*, *h* = *homo*, *e* = *eva*) and male-female relationships.

Depth Relationships

The possibility of re-orienting and/or fragmenting the plane of text in space (Diag. 7; Fig. 4) and within it the very line and point (or letter) elements (Diags. 8–9) allows for several modes of experimentation. In Figure 4 the varying typographic surfaces with their contrasting texture boundaries utilize a basic depth perception phenomenon, the texture gradient, to create planes readable at different positions in space (*spazio*). In this way, the poem manifests the idea of space known through tactile qualities and discontinuities in the fabric of sense experience. An oblique plane of text may be established through the convergence of ends of text lines (Fig. 5) or through a size gradient in letterforms (Fig. 6). This may establish a gradient of texture within a line or over the entire surface of a text. In Figure 5 the extra twist in space adds strength to the marching lines of this "social protest poem about the Brazilian peasant."[13] The form contrasts the numberless (*um sem numero*) peasants with the powerless individual (*o* = the, zero). By the ambiguity of the spatial reading (top forward *vs.* bottom forward) there is a constant bivalence which continuously emphasizes the paradoxical nature of the extremes of the crucial pivot in terms of power. Through typographic size Figure 6 establishes a simple relationship between rhythm of vision

and music. It is possible to consider this the implied spatial separation between large and small versions of the same visual elements. Here again, as in Figure 5, the effect of the work is enhanced if one understands it to be stated in an implied three-dimensional space.

The text may constitute more than a single plane (Diags. 10–13) and thereby enable parallel or intersecting configurations (Fig. 7). About the confrontation in Figure 7 the author comments, "light and shadow, vertical and horizontal, the card game of creation: the *i* is the letter that stands out, rises up; the *e* is the gray letter, always turned in on itself. The two fields of letters confront one another across a breach, that of the 'nothingness' between existences."[14] Again the contrast is heightened by the possibility of a spatial separation in depth as well as the flat two-dimensional disjunction. Situations of phenomenal opacity, translucency, and transparency may arise.[15]

In Figure 8 the "opaque" overlapping planes of similar letterforms fluctuate ambiguously while the sequence of letters establishes another order through a semantic relationship. The tension between these two modes of reading the text constitutes the primary meaning of the work and makes appropriate the exact semantic referent, paintings of Joseph Albers. By using the elements of the typewriter's writing to create subtle color and boundary effects, the piece is additionally suggestive of Albers' work which uses elements of colored paint for the same purposes. As Albers reduces the number of shape elements within his work, so has Jiri Kolar reduced word elements to a minimum.

In an extremely potent manner the middle area of Figure 9 creates a phonetic and visual translucency between two planes of letters. In addition to the transformation of *o* plus *e* into *ö*, there is the visual transformation of the crossbar of the *e* into its endpoints specified by the two dots of the *umlaut*.[16] As an example of working with elemental awareness the work ingeniously balances the square, the circle, and the triangle in its composition.

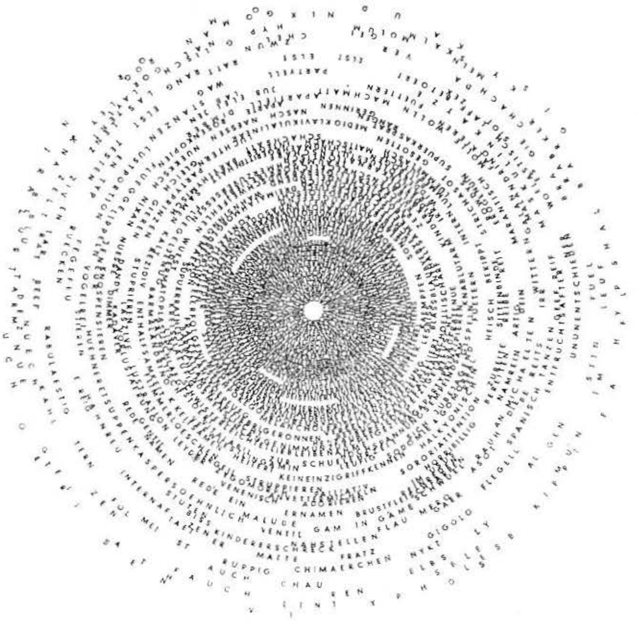
Spatial Structure

Because the concepts of point, line, and plane are abstract and geometric, there is always a certain lack of fit between any of these categories and a particular example. A geometrical line has no width,

no color, but any visual line may exhibit these phenomena. The geometrical point has no shape, but the visual point may have a noticeably circular or rectilinear perimeter. A particular example may not evidence merely one or another of these categories but rather multiple interactions. In all cases judgment is required and explanation of the reader/viewer's scale of attention may be necessary to posit any one of these concepts upon a particular configuration. It is usually necessary to make clear the context against which the form as point, line, or plane configuration emerges.

Point configurations emphasize a visual center (not necessarily the geometrical center) of the field. Diagrams 16–20 indicate several primary ways in which this can be accomplished. In Figure 10 a density gradient of letterforms is established which, together with the orientation of the letters in circular rings, radiates outward from the center. The text is an example of "*sehtexte*" or visual texts developed by the author/artist, Ferdinand Kriwet.[17] It reads in a directed, but multiply connected way suggested by ". . . *oder* . . . *oder* . . ." (. . . or . . . or . . .) within the initial, innermost ring.

Line configurations of importance are those in which the text figure condenses in one direction to emphasize a linear shape or in which a primary line emerges within the text because of changes of size, position, orientation, etc., of certain letterforms. Diagrams 21–24 indicate typical forms. When multiple linear aspects are introduced, the basic configurations are those shown in Diagrams 25 and 26. In Figure 11 the reduced text has a linear form which immediately denotes the verbal referent *film*. The meaning is reinforced by the repetition of slightly altered "frames" in which the letters *i* and *l* change places, appear, and disappear. A sense of implied movement is thereby established that conveys the phenomenon of still images transformed into moving pictures. A variant of syntax with a variety of similar semantic relationships to *film* is shown in Figure 12. Instead of the strip of frames, the flickering light and dark surface of the projected image is immediately suggested. The repetition of the words in two-dimensions manages to express the abundance of images in the film strip which are needed to create even one picture over time. Additionally, the letterforms create diagonal bands of different gray values that emphasize visually the manner in which the word *cinéma* is pronounced.



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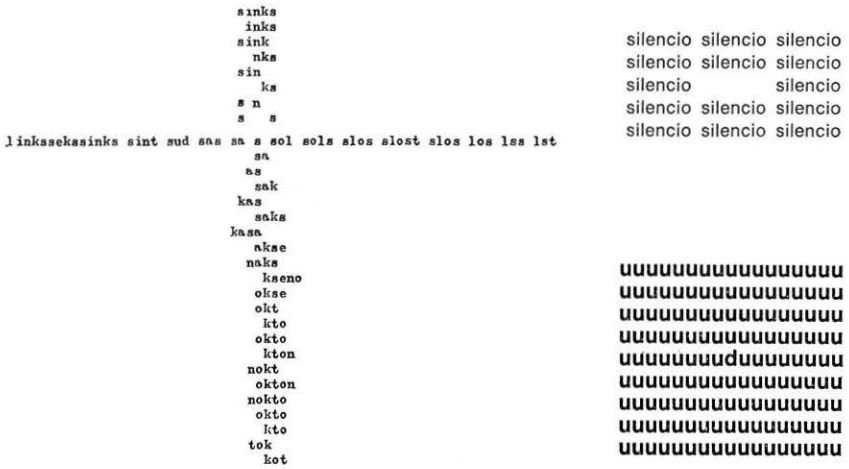
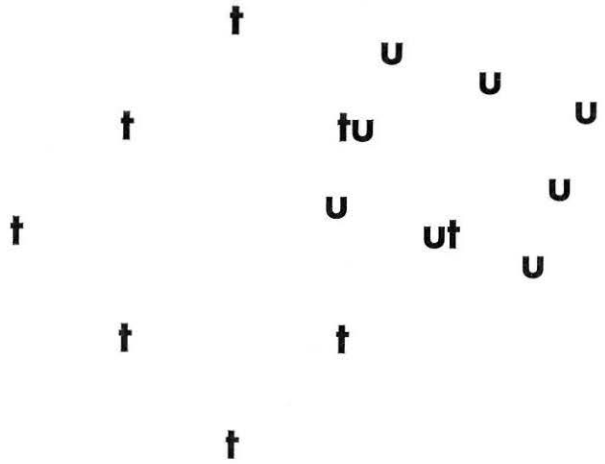




Far left above: Figure 10. Ferdinand Kriwet, "Zuverspaetceterandfigurinnenswert Olos," 1962
Left above: Figure 11. Ernst Jandl, Untitled, 1964
Far left: Figure 12. Pierre and Ilse Garnier, "Text for a Building," 1965
Left: Figure 13. Eugen Gomringer, Untitled, 1954

Top above left: Figure 14. Franz Mon, Untitled, 1959
Top above right: Figure 15. Eugen Gomringer, Untitled, 1954
Above right: Figure 16. Gerhard Rühm, Untitled, 1954
Above: Figure 17. Diter Rot, Untitled, 1965

Figure 13 illustrates an example of Diagram 25 in which the two parallel axes serve to stabilize the fluttering areas of type that appear to flip back and forth across the axes as well as to appear to twist in space. The verbal text provides a confirmation of the visual form. The horizontal lines of text (symbolically of any text) flow in their accustomed direction, creating patches of gray. The lines change in size and appear to grow from point elements to lines, then back to point elements. The visible form of the poem shows what the poem means. The text areas can be seen as flag-like elements that are light or flexible enough to move in the wind. This suggests the movement, play, or restructuring of the conventional text which the author, Eugen Gomringer, urged in his manifestos. Figure 14 shows an organization of the intersection type (Diag. 25) in which the night and day, sun and earth, the constant and the changing are viewed as a confrontation of the archetypal horizontal and vertical.

Planar aspects of interest are those which alter the conventional text by establishing gridded organizations within the surface. Gridding the visual field may be accomplished through the disposition of point, line, and/or plane elements (Diags. 27–29). This is equivalent to letter, word, and text area organizations. The interval sequence may be regular, irregular, or mixed and need not necessarily exhibit an orthogonal or rectilinear orientation (Diags. 30–32).

A word grid example is shown in Figure 15. The reinforcement by repetition of the word unit emphasizes the missing element *silence*. It is an essential dialectic of the kind which Mallarmé dealt with in *Un Coup de Dés* in which he, too, emphasized the white space of his poetry, the silence between words, the cosmic silence into which words are inserted. By calling attention to the formerly silent white field, the relatively stentorian presence of any symbols is emphasized in contrast to the semantic referent of the word itself. The text appears in a large empty field which creates a double relationship of small words in a large silent field *vs.* a small silent area in a field of non-silent words.

Figure 16 shows a letter grid arrangement that uses repetition to lose the diminutive but significant variant letter in a sea of conformity. Through a semantic link a new unit is formed, *du* (= you), which accepts the visual statement of an overwhelming array of echo-like

individuals, but contrasts it with the identity of the verbal unit which distinguishes itself from the surrounding letters. The power of the verbal unit to separate itself from ordinary letterforms and the power of the individual cohesive psyche to separate itself from the masses are simultaneously asserted.

Figure 17 represents a mixture of gridded organizations. Seen as intersecting grid structures (with an implied center element), the two subsets of the complete work interact to produce a mirrored word relationship, *tu* and *ut*. At the same time one corner element *u* is emphasized while the *t* corner is hidden in the joined elements. This poem has been justly called ambiguous. In attempting a decipherment, the concrete poet Daniel Spoerri recalls that the poem appeared in a review which intended "to eliminate the subjective point of view of the author, and present poetic material that the reader could do with as he saw fit," and he proposes the decipherment "that there is no meeting without reciprocal influences."[18] The following elaboration on this theme is possible: the Latin words *tu* (= you) and *ut* (= in the manner that, to the end that, in order that) suggest a maxim or pronouncement. An individual is defined by interaction of one reference frame, or personality, with another. *In order that/you* exist, a relationship with others must be effected.

Movement

One of the strongest differences between much of concrete poetry and traditional linear forms is the movement of the reader's eyes while scanning the text. Instead of the more regular cycle of horizontal right sweep and downward-left return, many other movements are required or implied: circular, random, vertical, etc. In traditional material there is a strong distinction between the movement when reading words within lines and the movement when shifting between the lines. In the newer work there is often no standard entry point and no compulsive visual exit. The reader may be brought back into the text in a cyclic manner. Once again conceptions of point, line, and plane organizations serve as one useful means for discussing the dynamic qualities of these works.

Diagrams 33–35 indicate basic movements to, from, or around a center. Similar to Figure 10, discussed above, is Figure 18 by the same author/artist, in which a casual spiral of large letterforms is established

leading the viewer toward the center. Still another example of point-oriented movement is Figure 19. The partially circular, partially spiral text revolves about the center point which semantically offers the central theme of the work: *mandala*. The beginning and end of the journey to the center—outwards to the perimeter, then collapsing back into the center—is aided by the partially obliterated letterforms that leave remaining the vertical letter strokes as a visual bridge to the center. Rather than continuing beyond the field edges, the perimeter reinforces the center and isolates the total configuration from the edges, allowing the viewer to become re-involved with the interior. An example of center-radial construction of the type indicated in Diagram 34 is that shown in Figure 20. The reader must pivot about the center to view the poem. The staccato repetition of the words is like a propagandistic broadcast which matches the polemic of its verbal message, "not only/to inform/ (but) to provoke/ (changes in) attitudes." This poem by Claus Bremer is an example of his "engaged texts" in which "the reader must move either the poem or himself."[19] In this manner one enhances his appreciation of the meaning of the poem.

The line in space focuses an implied linear movement from point to point. It may follow a complex path, it may pulsate in some way, and it is inevitably bidirectional, although asymmetries and habit can create a preferred reading direction. It may stand for movement in time or movement in space. These basic qualities of linear movement and primary differences of orientation are shown in Diagrams 36–47.

The complex path is stated very directly in Figure 21, a poem called "Estrangement." The two end points have an approximate syntactic equality. A semantic referent to the Czech word *ja* (= I) gives a preferred direction, and the process of complicated search begins within the field, finally uniting the two end points. Figure 22 indicates a pulsation within a general linear movement accomplished through changes of type size. The relative change in visual strength is clearly related to an acoustic referent, and the multiple statement conveys visually the mass sound source and its droning quality. The diagonality of the work is important. If the poem were oriented differently, it would be difficult to make the appropriately simple shift to *s* (implying silence), while at the same time suggesting the massive change from noise to silence, silence to noise by the use of the vertical

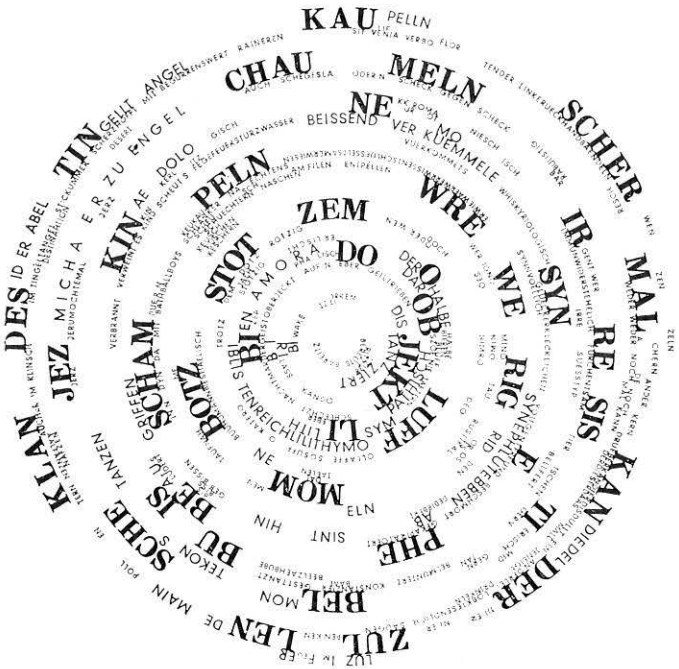


Figure 18.
Ferdinand Kriwet,
"Type is Honey," 1962

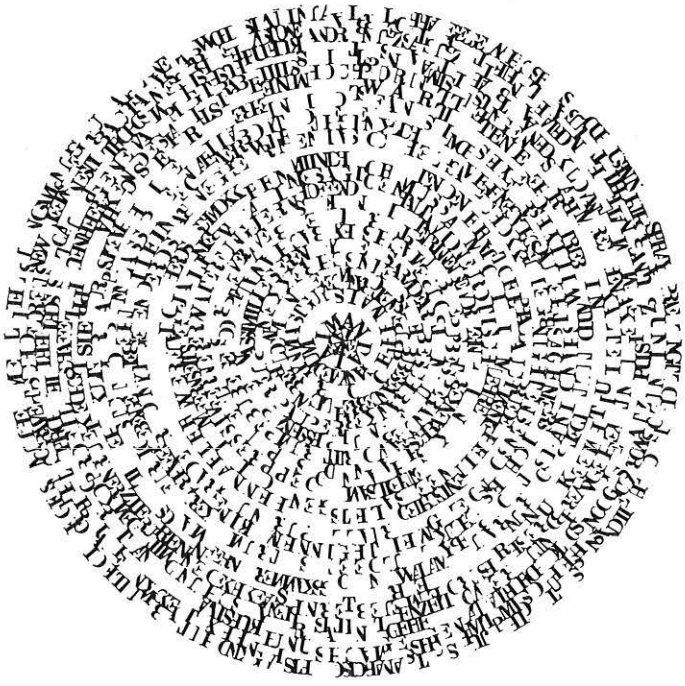
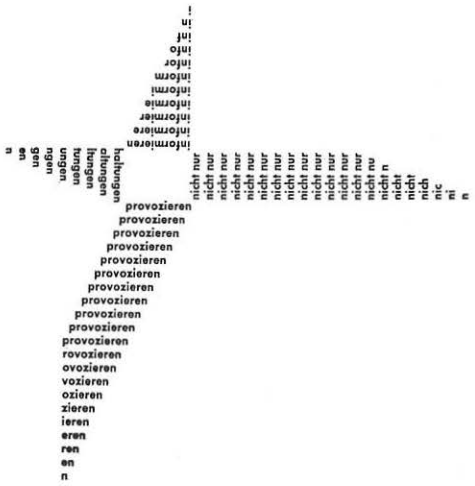
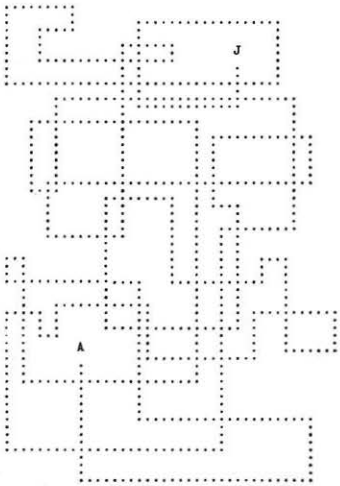
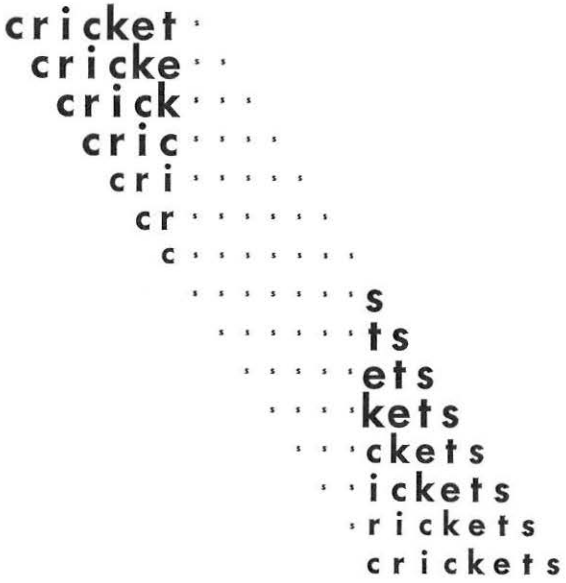


Figure 19.
Ferdinand Kriwet,
"Visual Text XIV"







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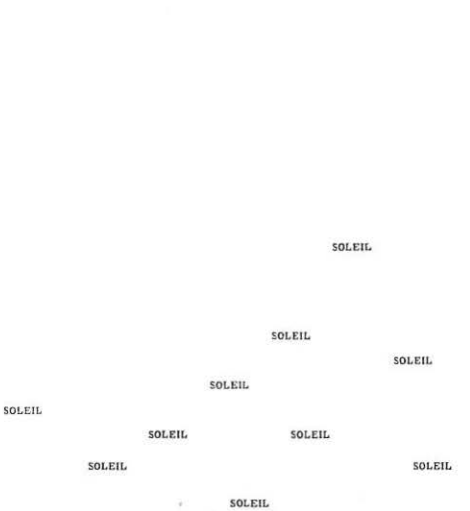

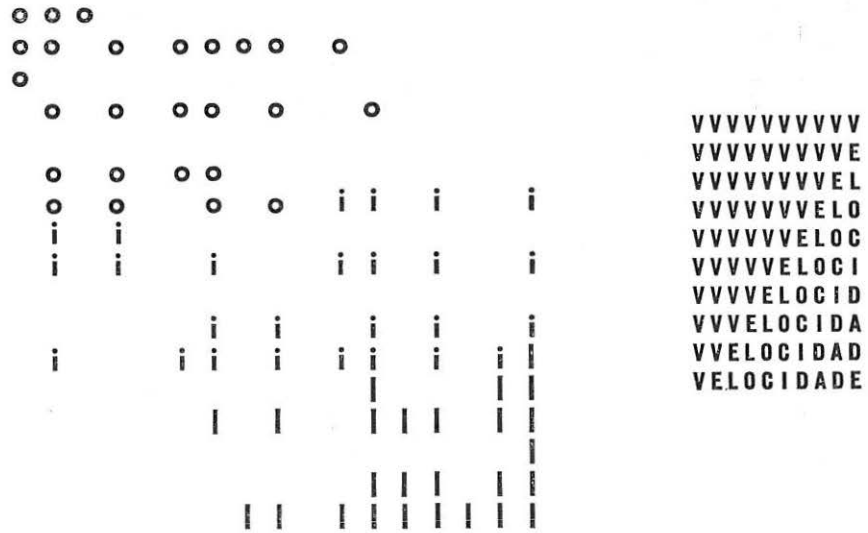

Far left above: Figure 20. Claus Bremer, Untitled
Left above: Figure 21. Vaclav Havel, "Estrangement"
Left center: Figure 22. Aram Saroyan, Untitled, 1966
Left: Figure 23. Ronald Johnson, Untitled

Top above left: Figure 24. Pierre Garnier, "Grains de Pollen," 1962
Top above right: Figure 25. Carlo Belloli, Untitled, 1961
Above left: Figure 26. Hansjörg Mayer, Untitled, 1965
Above right: Figure 27. Ronaldo Azeredo, Untitled, 1962

line of differentiation. The vertical line emphasizes the downward movement of the poem and the vertical change of type size within the "noisy" sections.[20]

Figure 23 is representative of some palindrome poems that acknowledge the visually bi-directional quality of the line (Diag. 38). The beginning and end in this work are the two human eyes that reinforce the kinaesthetic experience of the horizontal.

Figure 11 may be mentioned again as an example of essentially downward movement. A series of letter shifts transforms the original set of elements. Although the horizontal word unit is maintained, its singular presence and brevity makes it subordinate to the total vertical movement.

Strong examples of linear movements are not frequent among the work presented in the major anthologies. Figure 23 may be considered again as essentially of the type shown in Diagram 43. The types shown in Diagrams 42–46 can be found in parts of works but are particularly difficult to find as the primary structure. This is no doubt due to their strong opposition to normal reading directions for words or lines.

Aspects of movement within the plane, however, have been more thoroughly explored. Basic configurations are shown which indicate non-gridded random movement through the field (Diag. 48) and variations of movement within grids (Diags. 49–56). One combined form is also indicated (Diag. 57). An example similar to Diagram 48 is shown in Figure 24. Each element competes for attention equally, causing the reader's attention to shift constantly. There is no center, there is no preferred hierachy. This randomness is appropriate to the idea of a cosmic force (the sun) being realized over time and space in a flickering unpredictable way.

Gridded structures present a rich variety of possibilities for moving through the text figure. Many poets, working on standard spacing typewriters were inevitably led to experiment with the built-in grid of their "drawing" equipment.

An example with strong vertical emphasis is shown in Figure 25 in which the verticality of the rectangle subdues the horizontality of the word element. The eye, attracted to the bold letters moving downward through a two-part center, leaves this complex, involved, quickly shifting area and proceeds further downward in a cool, orderly

fashion. In the meantime, the word unit *acqua* has been altered into a lighter weight of type. This work is praised by M. E. Solt for its balance of semantic and syntactic play. The transition of *acqua* (= water) from bold to light occurs near the center of the poem and within the center of the word group *nava acqua homine* (= ship water man). The flickering presence of dark and light words is actually mirrored above and below this position. "With a reversal of typeface, which reverses the meaning, the poet, nearly inundated by the word 'acqua,' suddenly returns by way of his words themselves to the world of men, women, children and things where, an equal among them, water finds its place. The kinetic typographical play in the shifting of 'acqua' from bold to light to bold in the phrases 'nave acqua uomini'/'uomini acqua nave' as the poet arrives at the moment of spiritual illumination should be noted. For he looks into the water as a great mirror from which objective reality, faintly visible for a time, comes to the surface into the sunlight of 'palma sole voci'/'*voci sole palma*' at the center of the poem."[21]

An interesting example of double movement horizontally and vertically, within a gridded framework (Diag. 57), is shown in Figure 26. The poem moves from upper left to lower right across the field creating a flowing surface of letterforms that suggest the reflections, the droplets, the slow transformation of color and substance in flowing oil. Another mixed movement is exemplified in Figure 27 in which the verticality of the text figure and the arrow-like *v*'s establish a downward movement in contrast to the gradual leftward shift of the word *velocidade* in the line. This creates diagonal rows of similar letterforms which overlay their implied movement onto the already active grid. In the final stage of internal sequencing the completed word, having achieved its far left position, quickly moves the reader's eyes to the right through conventional reading of the word or propels them back through the word element sequence now seen as a shifting movement upward and to the right. The sense of movement that is established in several ways is perfectly attuned to the connotative experience of *velocity* which the poem postulates.

Summary

The preceding analysis has presented an introductory classification and description of concrete poetry according to primary qualities of

visual syntax and has attempted to relate structural qualities to the over-all meaning of the poetry. The examples drawn from major anthologies of work in concrete poetry have limited themselves to western forms and to typographical examples in order to show more simply and clearly the basic abstract, formal categories. There exists much room for elaboration of such a syntactic analysis, for example, to document the categories more completely to include texture, color, and motion. At the same time, clarification of visual semantics could be attempted—for example, the study of the use of visual/verbal metaphor, metonomy, synecdoche, etc. A thorough analysis of ideogrammatic and phonetic relationships would allow a well-structured understanding of visual syntax to serve as an armature for appreciating, describing, and comparing a wide range of experimentation in concrete poetry. One goal of such a complete analysis of visual semiotic in concrete poetry would be to add substantively to the understanding of the visual/spatial aspects of the architecture of meaning.

1. The quotation is from "The Poem as a Functional Object" by Eugen Gomringer, 1960, which appears translated in Solt (1970, p. 69). Two primary manifestos are "From Line to Constellation" by Eugen Gomringer, 1954, and "Pilot Plan for Concrete Poetry" by Augusto de Campos, Decio Pignatari, and Haroldo de Campos, 1958. Both of these manifestos appear in translation in Solt (pp. 67, 71–72).
2. *Concrete Poetry*. Amsterdam: Stedelijk Museum, 1971, pp. 36–42.
3. The term "concrete" has been applied to poetry which emphasizes either visual or oral communication. Anthologies have attempted to make some references to the latter works, but they are understood better through tapes or records which are available. Because this present article investigates visual syntax, only visual works are mentioned, and "concrete poetry" is used in this more limited sense.
4. Semiotic, or the science of signs, is a theoretical study of the ways in which forms are meaningful. It is succinctly presented in Buchler (1950, pp. 98–119).
5. Wertheimer's principles of visual organization include the factor of objective set. This means the tendency to view a particular configuration as stronger or more "objectively" given, and to see or judge other similar configurations as identical to or as variants of the stronger one. See Wertheimer, M., "Untersuchungen zur Lehre von der Gestalt," *Psychologische Forschungen*, II, No. 4 (1923), pp. 301–350.
6. Arnheim (1954, Chapter II, pp. 32–81).
7. For a detailed listing, see "A Summary of James Gibson's Thirteen Varieties of Perspective as Abstracted from the Perception of the Visual World" in Hall, E. T., *The Hidden Dimension*. New York: Anchor Books, Doubleday and Company, 1969, pp. 191–195.

8. Arnheim (Chapter VIII, p. 360–395).
9. The two anthologies are those edited by Solt (1970) and by Williams (1967).
10. The work of Tom Ockerse, for example, is characteristic of these facets of concrete poetry. His color-oriented work loses most of its impact if reduced to black and white presentations. See Ockerse (1970).
11. Robson, E. M., *Transwhichics*. Chester: DuFour Editions, 1970. This book contains poems in which a unique combination of letters within the line indicates duration, intensity, and pitch of oral poetry.
12. This vagueness parallels the ambiguous position of some concrete poets with respect to the typographic realization of their work. Most anthologies do not appear to be sensitive to the poem placement within the field. A given poem in several anthologies will not appear with a consistent figure-field relationship.
13. Solt (p. 254).
14. Williams (p. 117).
15. For a discussion of this type of phenomenon in relation to architectural space, see Rowe, C., and Slutsky, R. "Transparency: Literal and Phenomenal," *Perspecta* 8, New Haven: Yale School of Architecture, 1964, pp. 45–54.
16. In Williams (p. 163) the author/artist, Ernst Jandl comments: "This is an altogether German poem, of which Norbert Lynton remarked in *Art International* (IX/9–10, 1965, page 24): 'A very nice visual-cum-linguistic joke is Ernst Jandl's filtering of a column of *e*'s through a battalion of *o*'s: where *e* and *o* meet they become, of course, *ö*.' Which is about all you could say about this poem." The author of this article disagrees and finds additional significance.
17. Kriwet has developed an extensive theory of reading such texts. See *Tri-Quarterly*, No. 20 (Winter 1971), pp. 209–252.
18. Spoerri, D. *An Anecdoted Topography of Chance*. New York: Something Else Press, 1966, p. 81.
19. Williams (p. 43).
20. The poem used here is actually a typographic variation of the original rectangular typewritten version. Both versions are shown in Solt (pp. 236–7). In the opinion of the author of this article, the typographic variant is superior to the original and has been used to illustrate the point of the argument.
21. Solt (pp. 39–40).

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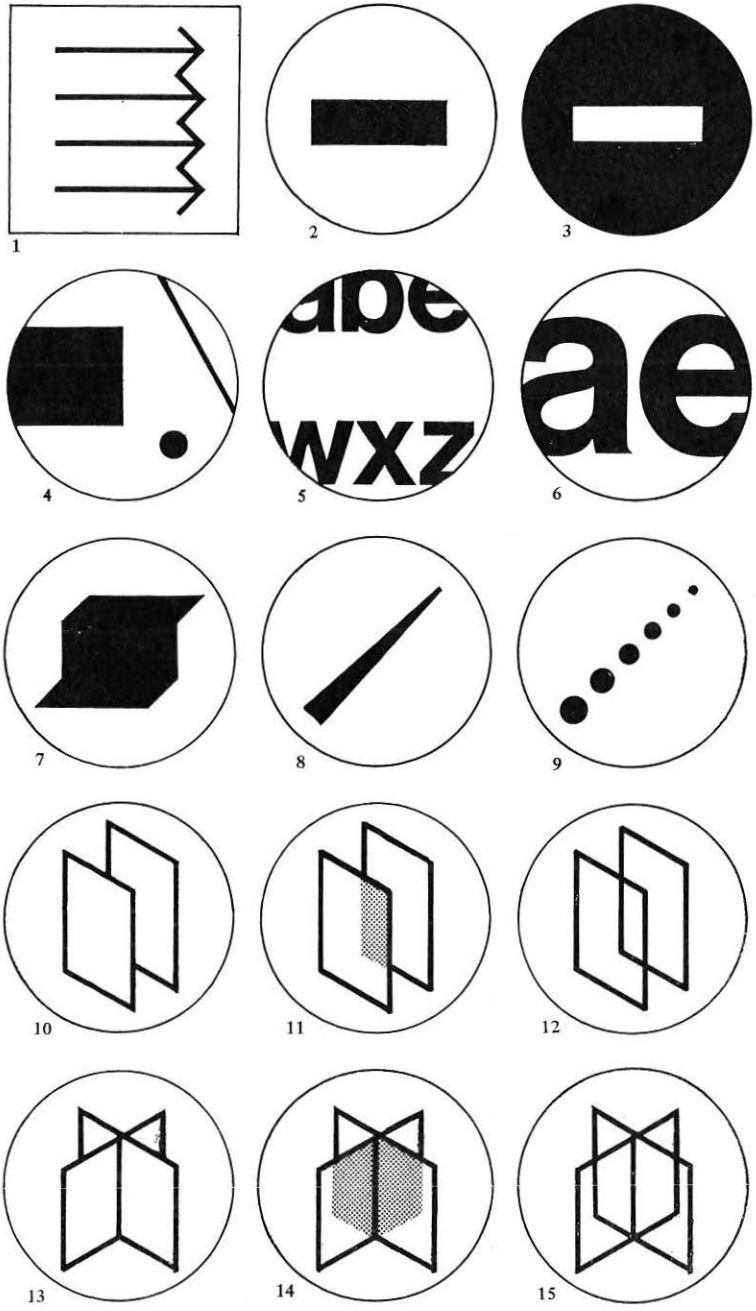
Figure-Field Relationships			
Emphasis	1. traditional (figure)	2. Figure	3. Field
Scale	4. Field (plane)	5. Interlinear (line)	6. Intralinear (point)
Depth Relationships			
Element	7. Plane	8. Line	9. Point
Parallelism	10. Opaque	11. Translucent	12. Transparent
Intersection	13. Opaque	14. Translucent	15. Transparent
Structural Relationships			
Centroidal (point)	16. Point	17. Field	
	18. Line intersection	19. Spiral	20. Rings
Linear	21. Horizontal	22. Vertical	
	23. Diagonal (135°)	24. Diagonal (45°)	
	25. Parallel	26. Intersecting	
Planar, grid element	27. Point	28. Line	29. Plane
Planar, grid rhythm	30. Regular	31. Irregular	32. Combination
Movement Relationships			
Centroidal (point)	33. Spiral	34. Radial	35. Peripheral
Linear, complexity	36. Path	37. Pulsation	38. Bidirectionality
Linear, orientation	39. Right	40. Down	
	41. Lower-right	42. Upper-right	
	43. Left	44. Up	
	45. Upper-left	46. Lower-left	
	47. Combination		
Planar, ungridded	48. Random		
Planar, grid orientation	49. Right	50. Down	
	51. Lower-right	52. Upper-right	
	53. Left	54. Up	
	55. Lower-left	56. Upper-left	
	57. Combination		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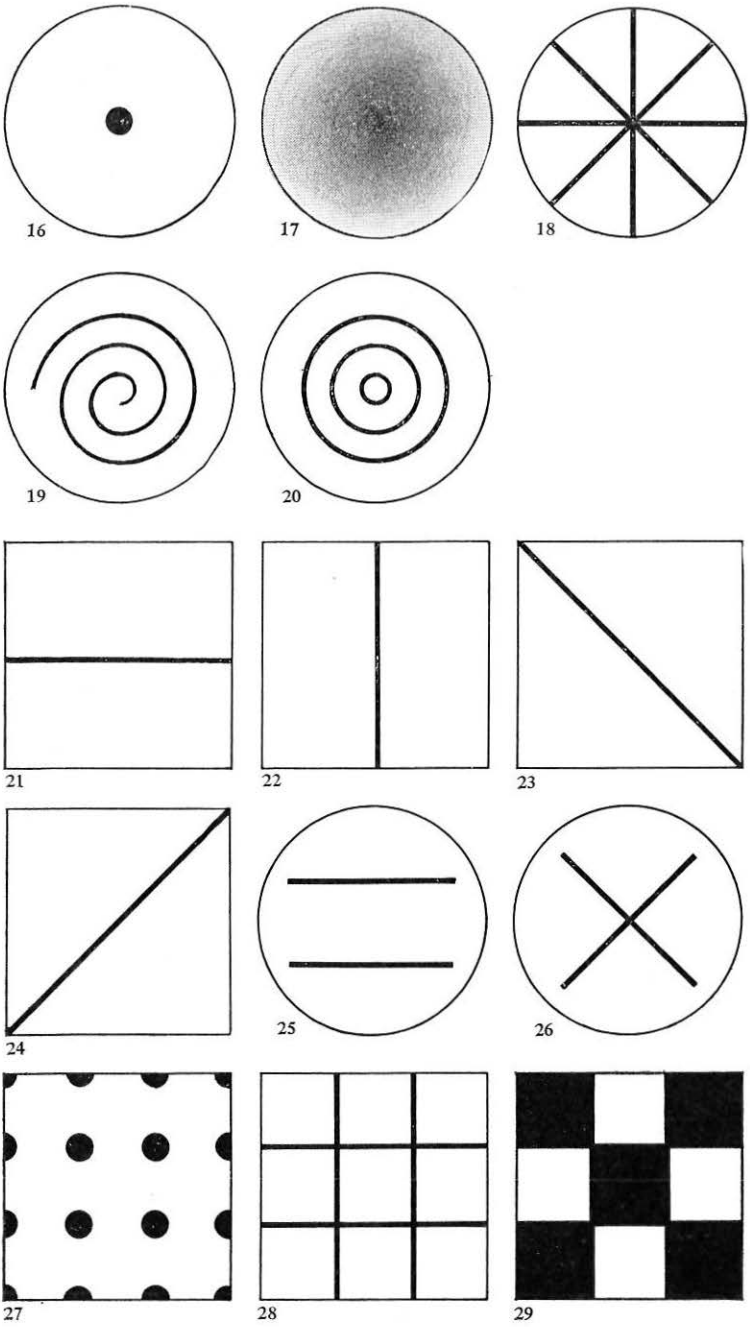
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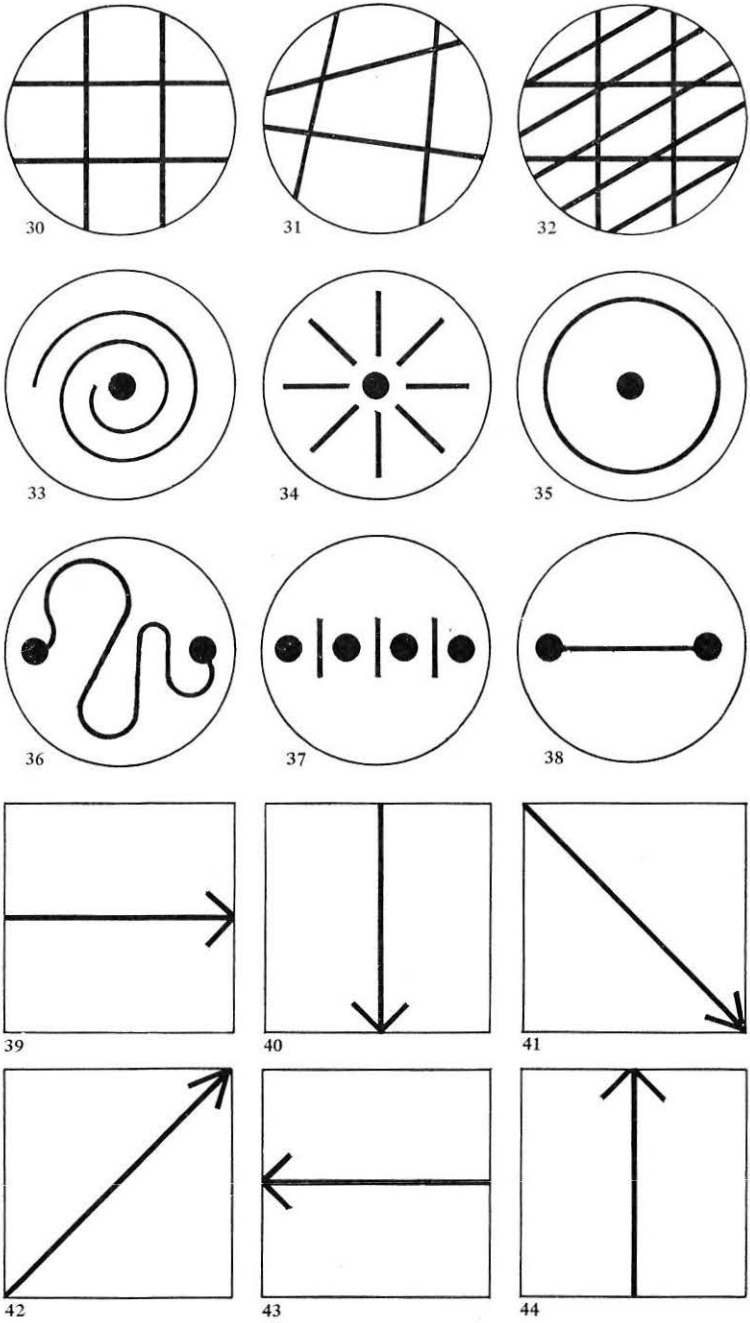
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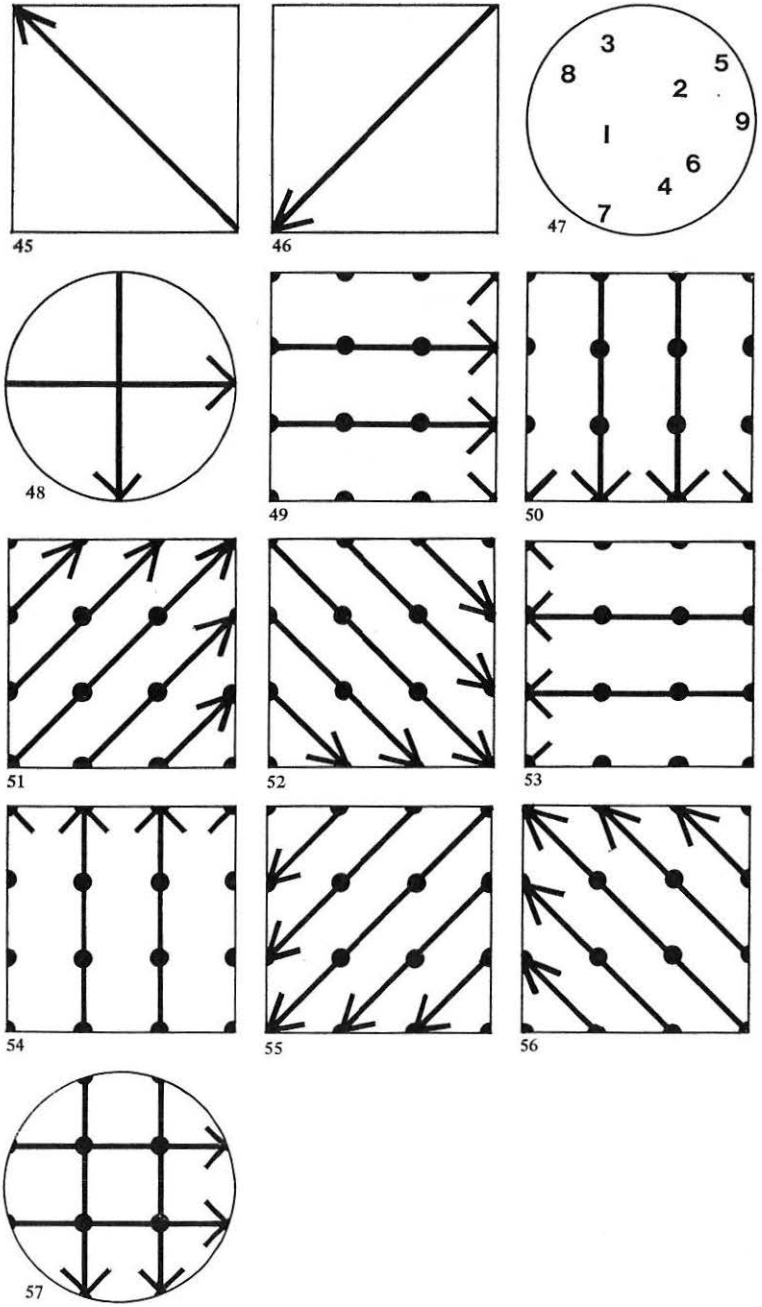
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excerpt: towards a three-dimensional pouitry

herman damen

1.1. in order to become a symbol, visible (and tangible), independent of time (and to a certain extent also of place), sound and notion (or object) need material; i.e., either the underlying material or the writing- or drawing-material. And in order to become a figure-symbol, they need a contrasting ground (light or dark).

1.2. in the traditional conception and in the traditional use, phonogram (letter) and ideogram are two-dimensional: they "are" a flat, a form of the material (graphite, ink, underlying matter, etc.); their length and width are defined—with a certain freedom of variation—by agreement. depth, the third dimension is of no importance: only visibility matters, a visible means of communication (to produce and to read efficiently). the operative printing types are ordered horizontally and are characterized by repetition of the form.

1.3. *verbal plasticism wants to consider letter and ideogram not only as one side of the matter, but also wants to see (consider) and feel them as material, as a concrete three-dimensional symbol, not only visible but also tangible.* it prefers to press sound and notion out of the matter more than to express them in matter.

1.4. the incised letter, e.g., exists by the grace of the absence of the underlying material as matter. the pencil makes a certain notch in the material, but more than fills it with graphite. chisel, nail, finger, etc.,

Visible Language, VIII 4 (Autumn 1974), 361–368.
c/o The Cleveland Museum of Art, Cleveland, Ohio USA 44106.
Author's address: Ibisdreef 400, Utrecht, Holland.

produce language, in stone or sand, by knocking off or pushing away these matters. through the light-dark contrast the letter becomes visible. this letter is not only to be considered as two-dimensional, but also as three-dimensional matter. just like the completely cut out letter, it consists of air; the concrete tangibility is very little.
remark: the air can also form the "background": viz., when writing in the air. this distinguishes itself furthermore by a restraint of place and time: the visibility has a minimum duration (for it is momentary), while there is no tangibility (evaporation). this form of communication has a special didactic function.

1.5. taking the criterion of the tangibility of the letter into consideration, i can distinguish:
small letter - big letter; line letter - flat letter (open or filled up); shadow letter - letter-with-shadow (suggestion of independent depth letter); monoletter - stereoletter; monochrome letter - letter with graphic accentuation of three-dimensionalness (light-shadow effect within the letter); letter that is necessarily fixed to the underlying material (e.g., the deepened or cut out air letter or the relief letter)—independent depth letter, only in its visibility tied to the contrast of the background.

2. the striving for a bigger/better concreteness of letter and ideogram realizes itself in two ways: graphical and plastical.

2.1. *graphical:* one can distinguish:
a. pouims ("ideograms") with an appropriate form, color or matter, on neutral underlying material (paper): the (sometimes) deformed letters fit into the outer form, for instance, the (section-)contour of a concrete part of the be-symbol-ed; the content is already partially referred to in the ideographic form (figurgedicht, technopaegnia).
b. pouims which have or have not an appropriate form, color, or matter, with a functional underlying

material (also according to form, color, or matter): the underlying material starts to participate with content and form of the text; i.e., plays, if possible, a greater part than only its primary function of contrast.
remark: as for the underlying-material-letter this function of contrast is realized by a contrasting matter round the letter. for this letter, however, it is necessary that the surface is smaller than the surface of the underlying material.

2.2. *plastical:*
now we enter the field of the concrete pouims (tangible and visible matters), of the word-object or the letter-plastic. the letters and ideograms consist of a natural or artificial material; are (pre)fabricated or discovered.

2.3 the question is whether with the above-mentioned pouims the—from my point of view—"one sided view of the letter" is done away with. with most letters of the roman alphabet the back side of a letter-structure is not the same as the appointed understandable front side (only A - H - I - M - O - T - U - V - W - X - Y have no reverse at the back side). starting from the surface-letter—i.e., the conventional two-dimensional form—i want to *create such an alphabet that as many as possible points of view and touch will be considered to be of equal value.* the mobility of the participant (looker-on/ feeler-for) has to be stimulated.

3. *a first step:* creating an alphabet of letter-objects, the back side of which has the same form as the front side.

3.1. the possibilities are: an overlapping or an over-lapping connection of the traditional symbol with its reverse (before or behind it) or a turning of the letter from a standing to a lying position.

3.2. the letter can become so thick that when looking from the side, one cannot see either the front or the back side; therefore:

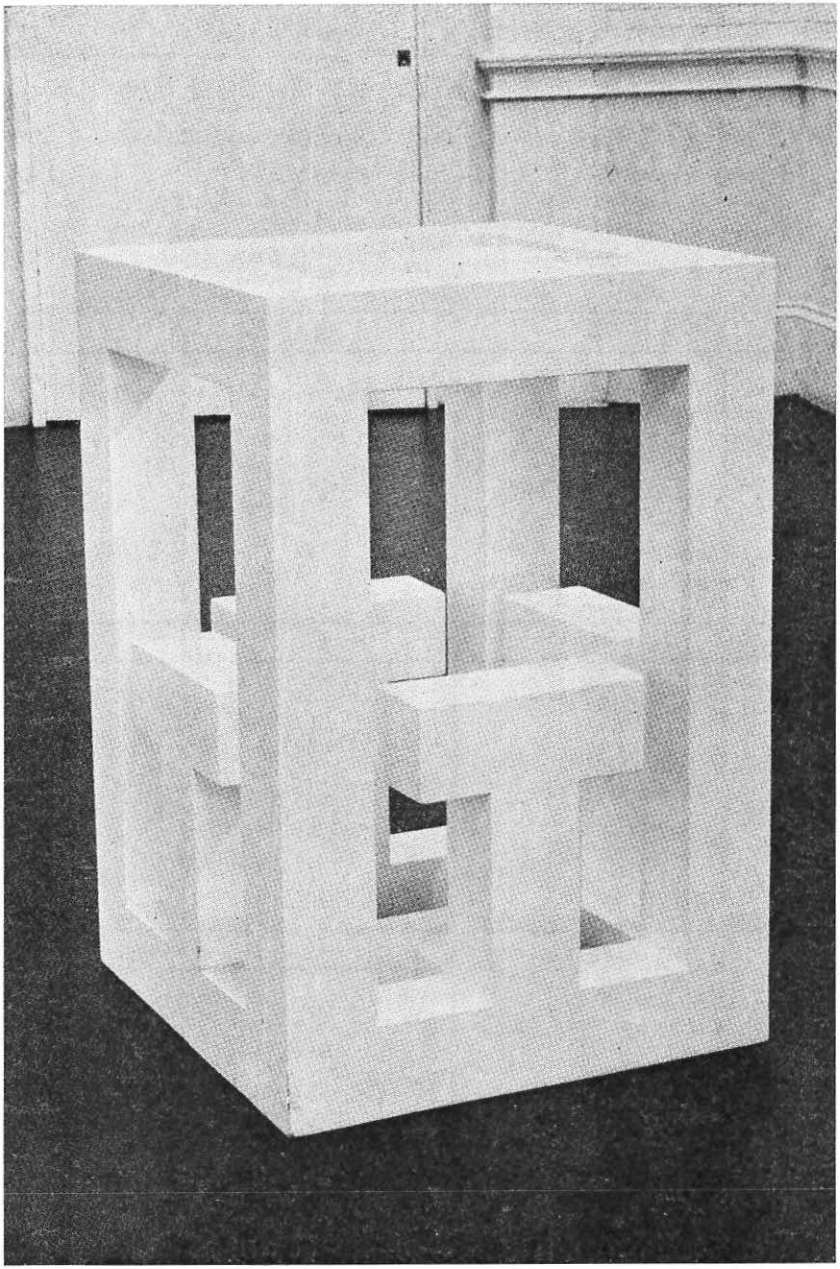
4. *a second step:* **the creation of an alphabet of letter-objects where front- and side-view have the same effect.**

4.1. **the upper side and to a less extent the bottom side allow and need a panoramic view from different positions.**

4.2. **transparent colored or not colored material helps to discover the traditional letterform when looking at the letter-structure from above or from below (although the length and width of this form will not always be the same), without an otherwise necessary multiplication of symbol and its reverse.**

5. *attempt to a three-dimensional alphabet:*

this article has been excerpted with kind permission of artist/publisher herman damen from his larger work, LANGER VERS ® (BILL BREAD), mobilizing language (1966–1972). copies of the book are available at hfl.30 (postage paid) from herman damen, ibisdreef 400, utrecht, holland (postgiro nr. 733154).



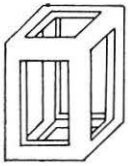
realized letter G. 70 × 70 × 100 cm.; wood; 1969–70.

365 *damen: towards a three-dimensional pouitry*

ATTEMPT TO A '3-DIMENSIONAL' ALPHABET

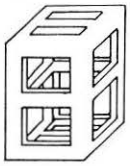
STARTING POINT: alteration of the roman capital-letters to stereometrical letter-figures (rectangular block, flat, beam, cylinder, truncated pyramide or tetrahedron, ball) in such a way that from as many points of view and touch as possible the letter-body is recognizable (i.a. by an overlapping or an overlapping connection of symbol and its reverse and by means of non-transparent and coloured or not coloured transparent polyhedrons).

D



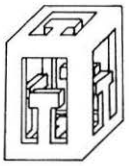
alternative: a closed block (cf U)

B



alternatives:
- a flat instead of the 4 horizontal beams;
- a tapping connection instead of an overlapping

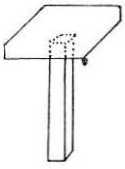
G



I

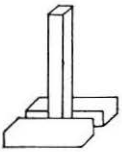
alternative for the beam: cylinder (similar with other letters)

T



transparent flat

L



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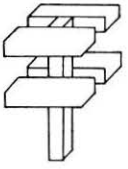
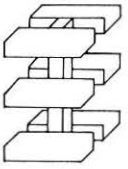
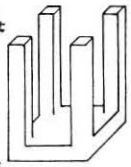


E



U

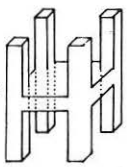


bottom: transparent flat

alternatives:
- open bottom
- closed block:
  - giving more prominency to the white in between the lines;
  - reducing the vertical beams to edges (cf O, J, V, S;

a further step: letter-structure with the help of the white only)

H

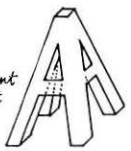


transparent flat

alternative:

(view above)

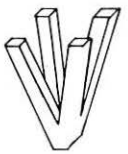
A



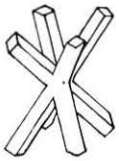
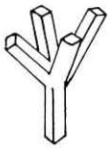
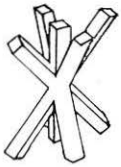
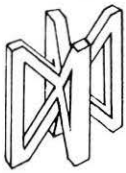
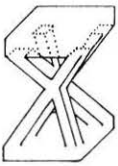
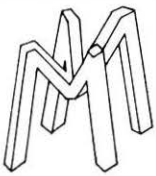
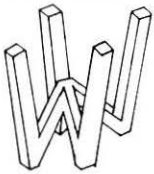
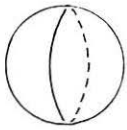
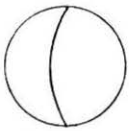
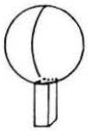
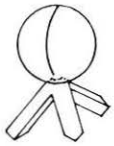
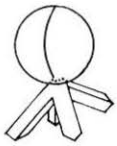
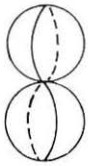
transparent flat

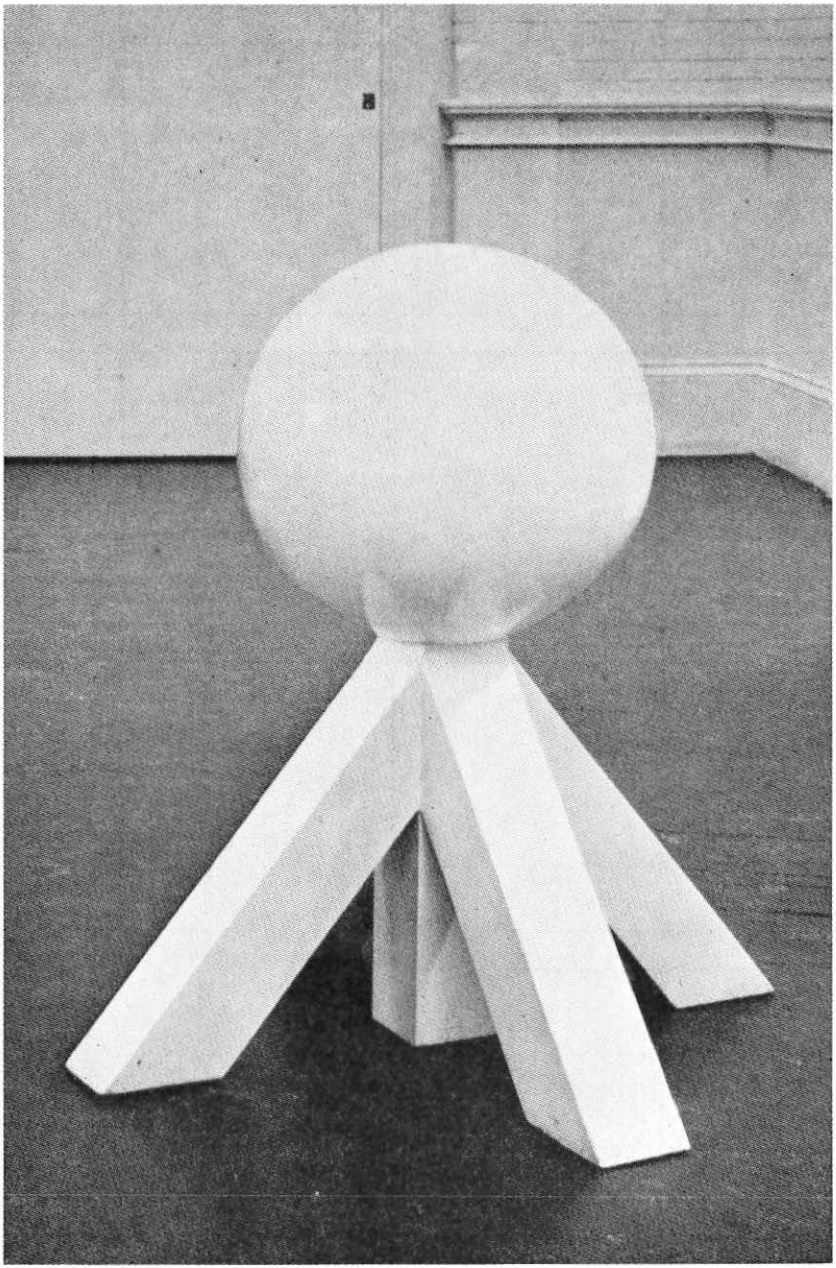
alternative: truncated tetrahedron

V



alternatives:
- filled up truncated pyramide (see note on U);
- trunc. tetrahedron (open or filled up)

X	Y	K	N
 alternative : twice a tripod			
Z	**M**	**W**	**O**
 instead of transparency : open upper and bottom side		 up side down version of the M	
C	**P**	**J**	**Q**
 to distinguish it from the O : transparent (coloured or not)	 transparent ball (similar to J, Q, R)		 alternative : tripod
R	**S**	* of course it is also possible to start from a phonetic spelling as the result of which the C, Q, X, Y disappear, but other "letters" take their place, resp. extend the alphabet : exact notations of the different vowels, consonants (and diphthongs). * from the drawings it becomes clear that (perhaps only for the time being) i leave the undercast-letters out. NOTE : the bodies of the letters have been made concrete here with more or less the same length, width, and altitude ; more variation in measure is also possible.		
			



realized letter R. 70 × 70 × 100 cm.; wood, polyester; 1969–70.

Aspects of Graffiti

Robert Kostka

As a natural part of our environment, graffiti is both spontaneous and functional —free from design conventions and often the sole communications weapon of an oppressed people. It can be a personal identification or it can mark the boundaries for an urban street gang. Its history is probably as old as writing itself. Graffiti has adapted personal expression to whatever space, writing tool, surface, or viewing requirements the environment demands.

Graffiti is always new, spontaneous, and functional. It can shock us, amuse us, incite or bore us. Because graffiti is actually a highly structured communication medium, it can even instruct us. It is a natural part of our visual environment, defining both the spaces and our responses within that environment. Even when it seems surprisingly new, graffiti is always familiar.

Often pornographic, the content of graffiti tends to be more informational or persuasive. Experiencing graffiti is more immediate than is the "naive sign." Graffiti is free from the design conventions of signs, as well as from economic or political limitations. It has often been the sole communication weapon of an oppressed people. Unlike the naive sign, it is not a folk-art, but a public medium and can be applied easily to any convenient surface.

Although graffiti is a visual medium, its origins do not lie within the history of art. Graffiti grew out of man's biological capability and necessity of expressing his immediate thoughts. For a child, to make a mark becomes a confirmation of his own developing kinetic sense, a record that his hand has moved through space. This mark becomes *his own* mark, an external visible sign of his identity and existence. This Kinetic dialogue evolves from mark to sign to symbol as a constant interaction between himself and his environment.

Norman Mailer[1] describes the kinetic relationship of boys in the

Visible Language, VIII 4 (Autumn 1974), 369–376.

Author's address: 1040 Ferry Street, Eugene, OR 97401.

New York ghettos to their spray-can graffiti on buses and subway cars. They spray their "mark" on vehicles that move through the city, which then "return to them." Identity is confirmed by the return of your own sign, still more kinetically enhanced by throwing rocks at "your car," or aggressively at someone else's identity.

Graffiti probably surfaced only after writing had ceased to be magic. The "macaroni lines" incised by Paleolithic cave dwellers used the kinetic mark as their first content, believed to be both informational and magical. The repeated and careful incising suggest complex purposes, which later developed into the pictorial images of an Altamira or a Lascaux. The Romans scratched their (and our) favorite four-letter word on carved stone signs and walls. Writing in Roman times was hardly magic, and graffiti was already an alternative media.

It is difficult to understand just how magical the written word once was. One Mayan codex describes the plight of a stone carver resisting being sacrificed in order to "save his soul by becoming at one with the Gods" because he had mis-carved a glyph. Such sanctity of the written word did not exist in Europe at that same time; illiterate monks often carefully copied a mis-spelled word from manuscript to manuscript. And graffiti flourished in Medieval England.[2]

As the marks or signs evolved into more complex symbols, they become more demanding in their precision. A separation occurs between the pictorial aspects which stay pictorial and those that can easily be replaced by words. When the subject communicates stress, anger, fear, or overwhelming delight, there is a tendency to return to the pictorial. Graffiti lacks the objectivity and distancing found in the naive sign, as the writer himself is covertly the main content and subject of his graffiti.

Most modern graffiti uses words instead of images or symbols, except for pornography which tends to be highly visual. Drawings of the human body are often fragmented and unfinished, stressing a graphic style based on the last formal art instruction, usually in grammar school. The role of pornographic graffiti is as little understood as is pornography itself. Whether it is a "release" or an advertisement is unclear, but it is most often meant to be an entertainment.

The use of graffiti among urban street gangs, such as "The Popes," demonstrates still further kinetic awareness. The gang's "territory"

is usually clearly defined by graffiti—painted on walls, sidewalks, trees, etc. When the Popes' territoriality was openly challenged by a rival gang, it was through additions to their own graffiti by the rivals. Instances of calligraphic aggression (such as the "Gas War" sign or the hole in a Mexico City street) frequently incorporate "design elements" closer to the naive sign. As in more sophisticated typography, when additional authority is being evoked, the graffiti is often symmetrically organized for increased emphasis.

Political graffiti tends to stay within the verbal form and is limited by the language, except for those rare phrases or images that manage to migrate. Few visual images or symbols in the long unwritten history of graffiti have ever had the international use or impact of the "Ban the Bomb" graffiti of the 1960's. Recent protest graffiti on many university campuses shows a hybrid between verbal content and visualized pornography. This often suggests a ribald political cartoon leaving open the relationship among cartoons, pornography, and graffiti.

Curiously there does seem to be an internationally uniform letter style found in most countries using the roman alphabet. It is a sans-serif, blockish kind of gothic letter usually used in all-capitals. There is rarely a mixture of styles. The international vogue for using spray-cans to letter is producing a softer, more cursive style. Even though the communication itself is highly personal, handwriting is rarely used. Perhaps handwriting is *too* personal for the objective distancing of graffiti.

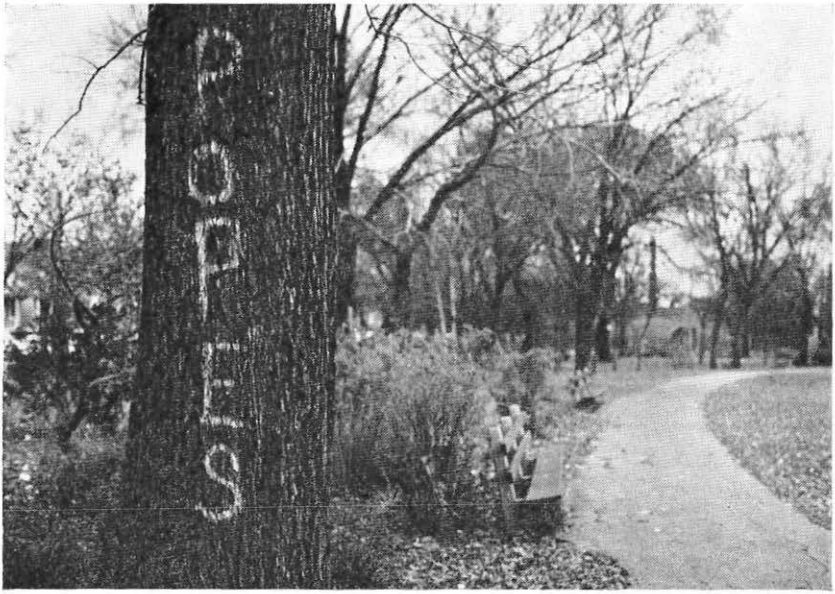
One also finds a careful placement of graffiti upon surfaces within various environmental spaces. The changing relationship of the viewer as he walks or drives through the space tends to be carefully considered. With a kinetic origin, it is only natural that graffiti reflect this spatial awareness as well.

1. *The Faith of Graffiti*. Documented by Mervyn Kurlansky and Jon Naar; text by Norman Mailer. New York: Praeger, 1974.
2. V. Pritchard. *English Medieval Graffiti*. London: Oxford University Press, 1967.

Hole in a Mexico City street, pointed out not only by a warning of danger (peligro) but also by traditional calaveras or skulls.

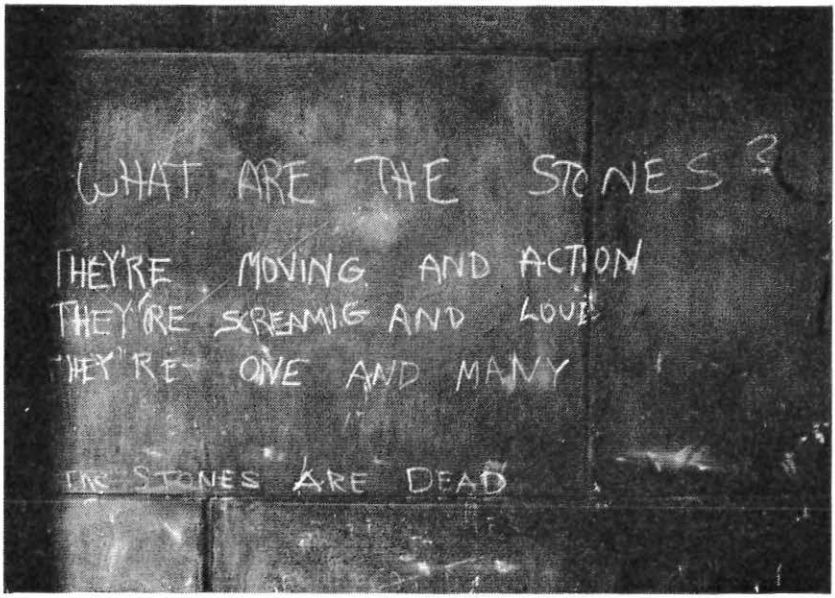
Graffiti and modified graffiti in a Peruvian election, 1962.

Graffiti in spray-can technique, two colors; part of the net that defines the territoriality of a Chicago street gang.



Graffiti designating territoriality in Chicago.

The potential of graffiti as a communications medium, Cambridge, England.



Graffiti eulogy for a Chicago street gang.

Naive sign in graffiti style in Joplin, Missouri.

A Chicago doorway.

Résumé des Articles

Traduction: Fernand Baudin

Le déchiffrement des écritures et des inscriptions *par I. J. Gelb*

Les monuments écrits et les vestiges matériels que nous livrent les fouilles sont les fondements de tout ce que nous savons sur les civilisations anciennes et sur leurs langages. Il n'existe aucune méthode reconnue pour aborder systématiquement l'étude des écritures et l'on n'a guère étudié jusqu'ici la relation écriture-langage dans les langues anciennes. Une écriture élaborée exprime un langage donné à deux niveaux: morphologique et phonétique. Ce qui permet de distinguer trois systèmes d'écriture fondamentaux: logo-syllabique, syllabique et alphabétique. L'auteur décrit quatre méthodes de déchiffrement selon ce qui est connu sur l'écriture et sur le langage envisagés: écriture connue/langage connu; écriture inconnue/langage connu; écriture connue/langage inconnu. Du point de vue du décrypteur, il y a deux méthodes possibles pour établir le contenu probable: (1) la critique externe (ex. textes bilingues) et (2) la critique interne (structure et typologie). L'idée que l'on se fait au départ concernant le langage à étudier est évidemment déterminante quant à la méthode à adopter et quant au succès éventuel.

Quatre images surréalistes *par Edward Germain*

Le surréalisme a toujours affirmé son désir d'exprimer l'essence même de la pensée—affirmation qui fut toujours interprétée en termes d'esthétique par les critiques d'art et par les critiques littéraires; en termes cliniques par les psychologues. Mais si on la prend à la lettre, elle fait entrevoir des aperçus négligés; notamment, l'idée que l'effort de synthèse surréaliste lui-même constitue une structure mentale.

Un essai en vue d'une syntaxe visuelle de la poésie concrète *par Aaron Marcus*

Bien des formes de poésie concrète ont vu le jour au cours des vingt dernières années. Un moyen de les étudier, de les décrire et de les comparer entre elles consiste à en dégager la syntaxe visuelle en termes de relations spaciales, de profondeur de champ, de structure et de dynamisme, des exemples illustrent quelques types fondamentaux d'organisation visuelle et en analyse la syntaxe visuelle par rapport au sens global. Ces catégories élémentaires sont susceptibles de développements et pourraient servir de départ à une sémiologie de la poésie concrète.

Les graffitti *Robert Kostka*

Ils font partie du décor quotidien—spontanés, percutants, libres de toutes les conventions de la mise en page, ils sont bien souvent le seul moyen de communication des gens opprimés. Tantôt signes d'identification, tantôt marques délimitant le domaine d'un gang urbain, ils sont probablement aussi vieux que l'écriture. Dans le graffitti, l'expression personnelle s'accomode de toute surface, de tout instrument ou exposition qu'impose le site.

Kurzfassung der Beiträge

Übersetzung: Dirk Wendt

Aufzeichnungen, Schrift und Entschlüsselung *von I. J. Gelb*

Geschriebene Aufzeichnungen und materielle Überbleibsel aus Ausgrabungen stellen die einzigen Grundlagen für unser Verständnis vergangener Zivilisationen und ihrer Sprachsysteme dar. Es gibt keine systematische Behandlung der geschriebenen Aufzeichnungen, und der Beziehung zwischen der alten Schrift und der Sprache ist wenig Aufmerksamkeit gewidmet worden. Volle Schriftsysteme drücken die Sprache auf zwei Ebenen aus—morphologisch und phonetisch—woraus drei Grundsysteme der Schrift entstanden: Wort-Silben, Silben und Buchstaben. Vier Arten von Entschlüsselung werden auf Grundlage unserer Kenntnis des Schriftsystems und der Sprache besprochen: bekannte Schrift/bekannte Sprache, unbekannte Schrift/bekannte Sprache, bekannte Schrift/unbekannte Sprache, und unbekannte Schrift/unbekannte Sprache. Crypto-analytisch gesehen gibt es zwei allgemeine Entschlüsselungsmethoden: (1) Ausnutzung externer Informationen, um den wahrscheinlichen Inhalt zu erschließen (z.B. zweisprachige Texte), und (2) interne Informationen aus dem Text selbst (z.B. Struktur und Typologie). Die Annahme über die zugrundeliegende Sprache ist entscheidend für die Entschlüsselungsprozeduren und liefert ein Kriterium für die erfolgreiche Entschlüsselung.

Vier surrealistische Eindrücke *von Edward Germain*

Der Surrealismus hat beharrlich seinen Anspruch zu verstehen gegeben, das Wesentliche des Gedankens erfassen zu wollen—eine Behauptung, die man üblicherweise in ästhetischer Formulierung bei Kunst- und Literaturkritikern liest, und in klinischer Formulierung bei psychologischen Kritikern. Wenn man diese Behauptung mehr wörtlich nimmt, kommt man zu gewissen Einsichten, die bisher übersehen worden sind, einschließlich der Hypothese, daß die Suche der Surrealisten nach einer endgültigen Synthese selbst die Struktur des Geistes wiedergeben könnte.

Eine Einführung in die visuelle Syntax der Konkreten Dichtung *von Aaron Marcus*

In den letzten zwanzig Jahren sind viele Formen konkreter Poesie entstanden. Eine Art, diese Arbeiten zu beurteilen, beschreiben und vergleichen ist die Untersuchung ihrer visuellen Syntax. Diese beinhaltet Beachtung der Figur-Grund-Beziehung, implizierte Tiefe, räumliche Struktur, und Bewegung. Es werden Beispiele gezeigt, welche die Grundtypen visueller Organisation darstellen, und sie werden analysiert, um die Beziehung zwischen ihrer visuellen Syntax und der Gesamt-Bedeutung zu zeigen. Dieser Ansatz zu einer Klassifizierung könnte ausgearbeitet und ergänzt werden zu einer Grundlage für eine Semiotik der Konkreten Dichtung.

Ansichten über Graffiti *von Robert Kostka*

Als natürlicher Teil unserer Umwelt ist Graffiti sowohl spontan wie auch funktional—frei von Gestaltungskonventionen, und oftmals die einzige Mitteilungswaffe eines unterdrückten Volkes. Es kann persönliche Kennzeichnung sein, oder die Grenzen des Territoriums einer großstädtischen Straßenbande bezeichnen. Seine Geschichte ist wahrscheinlich so alt wie das Schreiben selbst. Graffiti hat den persönlichen Ausdruck an das angepaßt, was jeweils Raum, Schreibwerkzeug, Oberfläche oder Sichtbarkeitserfordernisse der Umgebung verlangten.

Resumen de los Aríctulos

Traducció: Felix Beltran

Inscripciones, escritura y desciframiento *por I. J. Gelb*

Las inscripciones, junto con los restos materiales, extraídos de excavaciones, constituyen las únicas bases para nuestra comprensión de las antiguas civilizaciones y de susocultos sistemas de lenguaje. No existe ningún tratamiento sistemático de información escrita y se ha prestado poca atención a la interrelación entre la escritura antigua y el lenguaje. Los sistemas completos de escritura expresan el lenguaje en dos niveles—morfológico y fonético—que dan lugar a tres tipos básicos de sistemas de escritura: logo-silábico, silábico y alfabético. Se están discutiendo cuatro categorías de desciframientos, basados en nuestro relativo conocimiento del sistema de escritura y del lenguaje: escritura conocida/ lenguaje conocido; escritura desconocida/ lenguaje desconocido. Desde un punto de vista cripto-analítico, existen dos métodos generales de desciframiento: (1) utilización de información externa para determinar un contenido probable (por ej., textos bilingües), y (2) información interna de un análisis del propio texto (estructura y tipología). La suposición de un lenguaje subyacente es decisiva para los procedimientos de desciframiento, y suministra la prueba de un desciframiento exitoso.

Cuatro imágenes surrealistas *por Edward Germain*

El surrealismo ha mantenido con insistencia su deseo de comprender la esencia del pensamiento—afirmación leída, generalmente, en términos estéticos de críticos de arte y de literatura, o en términos clínicos de críticos psicológicos. Si se toma más a la letra esta afirmación, surgen ciertas percepciones internas pasadas por alto, incluyendo la hipótesis de que la búsqueda surrealista de una última síntesis puede reflejar también una estructura de la menta.

Una introducción a la sintaxis visual de la poesía concreta *por Aaron Marcus*

Muchas son las formas de poesía concreta surgidas en los últimos veinte años. Una forma de apreciar, describir y comparar estos trabajos es examinarlos en términos de su sintaxis visual. Lo cual comprende el énfasis en las relaciones imagen-campo, profundidad inplícita, estructura espacial y movimiento. Se presentan ejemplos que ilustran tipos básicos de organización visual, y se analizan para relacionar su sintaxis visual con su significado total.
Esta clasificación inicial podría ser elaborada y complementada para ofrecer una base para una semiótica de poesía concreta.

Aspectos de los graffitti *por Robert Kostka*

Como parte natural de nuestro medio, el graffito es tan espontáneo como funcional—libre de los convencionalismos del diseño y, con frecuencia, la única arma de comunicaciones de un pueblo oprimido. Puede sur una identificación personal o puede señalar los límites de una pandilla callejura urbana. Su historia es quizás tan antigua como la propia escritura. El graffito ha adaptado su expresión personal a cualquier espacio, herramienta de escritura, superficie o condiciones de vista que requiera el ambiente.

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Herman Damen is a Dutch artist (Nieuw-Wehl [Gld.], Deutseweg 5, Holland). He tries to mobilize language: to make a "semeion" which combines writing/articulation with photo, picture, object, project, movement, situation, etc. He propagates an art- and socio-critical "pouitry" which uses available information and participation media. In 1973 he published a collection of his work from 1966 to 1972 in *Bill Bread.*

Robert Kostka is associate professor of fine arts/graphic design at the University of Oregon (Eugene, OR 97403). He spent sixteen years as an art director (television, educational publishing, advertising), has taught at the University of Illinois/Chicago Circle, University of Wisconsin/Green Bay, and has often been a visiting critic. Currently he is interested in the changing insights into perception, archetypes, and spatial intuitions—such as "seeing sound" and "hearing color."

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