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National College of Art and Design

Faculty of Design -

**Visual Communication** 

# COMMUNICATION WITHOUT LANGUAGE -

Sign Systems in the Quest for Universal Communication

by

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### Introduction

Modern communication technology and transport has allowed human society to function on a global scale. A consequence of this is that a global culture is fast developing. Global culture requires global understanding. The only real barrier to this is language. The Old Testament tells a story of how the world's people, cursed by God after the fall of the great Tower of Babel, became divided by being given many different tongues in which to speak. The term "debabelisation" is much used by people who work to solve the problem of the language barrier. The solution is not seen as creating a single language for the whole world to speak, such as was envisioned by those who created the hybrid Esperanto in the late nineteenth century. Rather it is seen as essential to create a system of writing which can be used as a medium for all spoken languages. The medium for all languages is the image.

This thesis is about the use of the image as a sign. The discipline of semiotics - the science of signs - is concerned primarily with how meaning is generated in "texts", a text being anything which can be interpreted by man as having inherent, associative or intended meanings. This, of course, allows a sign to be defined as anything which has been created throughout the entire history of human endeavour, encompassing such things as medical diagnostics, literature, art, architecture and TV culture. However, despite the tendency of semioticians to investigate signs in the broadest possible sense of the word, their theories are directly relevant to this thesis when they focus specifically on how signs function. These ideas will prove useful in providing a scientific tool with which we can probe and evaluate the sign systems dealt with in this discourse. This use of semiotics is advocated by Seppo Vakeva, of the University of Industrial Arts in Helsinki:

Semiotics is ... a frame of thought which, together with specific knowledge about a specific subject, enhances our vision of the structure of communication and the assumed state of facts for mutual comprehension. (Vakeva, 1990, p. g/2)



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The signs dealt with in this discourse are pictograms or simplified pictures with intended meanings, and not signs in the broader semiological sense of the word. Semiotics provides a structure by which we can examine these more specific sign systems.

The signs to be discussed are attempts to defy the notion of alphabetic supremacy in visual communication. Pictures are a powerful force in shaping our knowledge and understanding of the world, both contemporary and historical. Once upon a time, painting and sculpture were used in civilised society to educate the largely illiterate masses in matters of religion, history and even current events. Primitive cultures used pictograms as memory aids and for the passing on of oral tradition. We know that phonetic writing has its origins in pictographic writing and that it was through the slow evolutionary process of practical simplification and abstraction that a phonetic representation of language came into being. Here is a simplified model of this process: If the spoken word indicated by the sign was a sound in a particular language, the sign itself became imbued with a specific phonetic value. This, we can then surmise, led to the slow degradation of the

sign as a representation of the object to become eventually a symbol for a sound. As this continued, the sign lost its figurative value and gradually became a purely phonetic symbol. This is illustrated in figure 1, which traces the development from Sumerian hieroglyphic writing through ancient Babylonian to the Assyrian phonetic cuneiform (Unesco,

	- igurative S	Sign	Ph	onetic Symbol
FISH	⇒	\$	r.	Ŧŕ≺
ox	×	\$	÷,	Ħ
WHEAT		***	<b>\$</b>	*
ORCHARD	Щ	) +++		臣

FIGURE 1. THE EVOLUTION OF PHONETIC CUNIFORM.

1965, p. 7). The result of this evolution is that the symbol gains a greater economy of articulation and exchange within the system to which it belongs. The twenty-four signs of the roman alphabet, which are used as the primary carriers of information throughout this discourse, are an example of such a result.

Western culture's faith in the alphabet as the ultimate tool in the creation of meaning is apparently ill founded. Ferdinand de Saussure, the noted linguist and semiotician, viewed writing as an artificial technology for reproducing speech. He condemned the alphabet's violation of natural language, pointing to the irrationality of spellings in written languages such as English, with the same sounds being spelt differently (fig.2). Saussure's argument is often impassioned , for instance, with his description of how "the tyranny of writing distorts its pristine referent through orthographic monstrosities and phonic deformations" (Lupton/Miller, 1996, p. 11).



FIGURE 2. THE SAME SOUNDS SPELT DIFFERENTLY IN ENGLISH

It would seem that since the written word represents the spoken word which in turn signifies an object or idea, the meaning of what is written is compromised by its distance from what is truly meant. On top of this limitation is the fact that the same alphabet is used in many different languages to write words which are mutually incomprehensible to the various language speakers. Therefore, the alphabet has no fixed meaning. Even the sounds it supposedly represents are subject to change through its use in different languages. In the early nineteenth century, a Cherokee American Indian named Sequoyah developed a script to represent his native tongue based on and borrowed from the Roman alphabet, but many of the characters were given entirely new meanings (Lupton and Miller, 1996, p. 169). A contemporary example of the culturally affected nature of the alphabet is that of the soft English "W", (as in "wood") which represents the sound "vay" in German (as in "wunderbar"). The closest relative to the English language is German, but who is to say which of the two languages should give up its claim to the correct pronunciation of a letter? Surely nobody would be so absurd.

In every era, there are individuals who believe in the power of images to transcend the limitations of language and to offer pure, undiluted meaning in its place. They hold the belief that an image has the same meaning in every language, and therefore that a system of images, or signs, can be developed with the potential to express any facet of human experience. They



see the sign as the basis for fulfiling the utopian vision of a universal language. When the quest for a language of signs began in earnest in the early part of this century, its proponents were operating as outsiders and their endeavours were seen as an eccentric fad (Jacobs, 1991, p.45). Alphabetic literacy was becoming more widespread through better education, and as always, the "man of letters" was held by society to be of greater importance than the man who understood and could communicate through images. Books with pictures were for children or undereducated people and so were generally regarded with disdain by the literati. It seems paradoxical that literacy should be so highly prized over picture comprehension; literacy is surely an achievement to be proud of, but to dismiss the potential of the image for communicating on the grounds that it is easier for everyone to understand is a curious notion.

Today the situation has changed. The image is now at the forefront of contemporary culture. We are under a constant barrage of imagery; photographic, logographic, televisual, artistic, illustrative and computerised. These images, however, are most often accompanied by the written word. Is it that, without written language, the viewer is not equipped to decipher the image? That is hardly the case. There is a much more subtly decisive reason for their presence. Where written words interact with an image they

serve to direct the attention of the viewer in a process which Roland Barthes refers to as "anchorage". This describes how the linguistic message avoids objective identification in favour of guiding interpretation of the symbolic message, encouraging the acceptance of a particular ideology by leading the viewers through the "signifieds" of the picture, causing them to miss some and notice others (Barthes, 1977, p. 20). Visual advertisements are particularly adept at anchorage. A Beck's beer advertisement (fig. 3) demonstrates this point



FIGURE 3. ANCHORAGE IN THE USE OF A PUN

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perfectly. We are shown two astrological symbols, representing Venus and Mars respectively, which by association represent man and woman. They are linked in what could easily be taken to mean solidarity or co-operation of the sexes. Their abstract form allows us to make nothing more of this until we read the caption "The Joy of Beck's", which is an obvious pun on the title of the famous adult video "The Joy of Sex". The message is that if Beck's is taken to mean something as pleasurable as carnal union then it must be a pretty fine drink. The anchorage of the image is in the pun, implying that the combination of the two symbols means the act of sex. The otherwise innocuous and objective image, which allows a multitude of subjective interpretations, is suddenly given a very specific meaning. Anchorage is used in a spirit of fun here, but it could have more ominous consequences if applied to the propaganda of fascism or false journalism. In other words, an image, particularly a photographic one, can be seen as a neutral medium through which meanings can be received, but those meanings can be directed or corrupted by words.

This thesis concerns people who have attempted to eschew words in favour of developing an unbiased, universal language of imagery and how their creations have influenced design thinking and affected the modern world. The validity of these sign systems will be critically evaluated and assessed in the light of their successes and failures, and an attempt will be made to answer the final question on the issue: is a universally understandable pictorial language achievable?

We will begin in Chapter 1 by examining what will be referred to as the DOT system. This is a set of signs designed under the auspices of the American Institute of Graphic Arts (AIGA) for the United States Department Of Transport (DOT). The Department of Transport required a set of signs which would communicate basic concepts to travellers in a hurry and those without a command of English. The design methodology of AIGA will be explained and the various modes by which their signs communicate will be investigated. Public information signs such as those of the DOT system are the



most basic mode of non-linguistic visual communication in contemporary society. As such, it forms part of the basis for the argument in favour of the universal communicative properties of the sign image.

Chapter 2 examines the major influence on the popular direction that sign design followed in the twentieth century. Otto Neurath, philosopher and creator of the sign system called ISOTYPE, is the first recorded modern figure to make a stand on the possibility of signs as a vehicle for universal communication. He is considered the original pioneer of modern public information graphics and sign systems. The philosophical ideas which inspired his invention will be examined in depth, as his principles are extraordinarily influential among sign designers even now. The design ethos of ISOTYPE, with all its necessary contradictions, will be critically reviewed. Finally, the means by which the ISOTYPE approach to sign communication became a widespread ideology for designers around the world will be explained.

Chapter 3 considers an alternative to the approaches of the DOT and ISOTYPE systems, in the form of Semantography. This is a sign system which was designed by Charles K. Bliss with the express purpose of communicating across language barriers while utilising the expressive and versatile qualities of language. In this way it can be seen as an attempt to bridge the gap between non-linguistic, static public information signs and flexible natural language. Bliss's provisions for the basis of this symbolic language will be looked at and the design of the signs within his system will be criticised. Despite the widespread rejection of Semantography, there is a minority which regard the use and development of such a system as essential to communication. The adoption and development of Semantography by this sector will be drawn.

After reviewing the proponents of universal sign communication in Chapters 1 to 3, chapter 4 will hear the arguments of its opponents. These views vary

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from that of the designer Hans Rudolf Lutz, who has effectively disproven the assumption that the design of a particular sign can hold a monopoly on a concept, to the quietly assured experience of the Apple Macintosh icon designer Susan Kare, whose designs make no claims to universal truth but only serve to fulfil a function effectively.

Having looked at the various attempts at sign based communication and evaluating their strengths and weaknesses we will hopefully be in a position to arrive at a conclusion with regard to the possibility of the development of a universal language of signs.

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### Chapter I The DOT System



Figure 4 contains two typographic marks. They are typographic symbols because, like the printed letter, they are mass producible minimalistic signs. It is their representative qualities that differ from type. They do not represent specific sounds, but a particular class, or type, of objects; namely people. They are obviously not individual people, they lack the features or characteristics to allow us to define them as such. The only discernable difference between these figures is that one appears to be wearing a rather high-cut skirt, with the other being devoid of any visible garment. The conservative ethos of western society dictates that men do not wear skirts. While social convention has changed to allow women the option of wearing a skirt, it is generally assumed that only a woman will wear one, men who do so being viewed as deviant or at least outside the norm. So, we can establish from the social convention of clothing attire that the figure with the dress is a woman. If we are to assume that the other figure is a man, and not a naked woman, should he not be wearing a bowler hat, or have some other evidence of "typically" male attire?

The symbols in figure 4 are part of a system of signs devised in 1974 by the design firm Cook and Shanosky, under the guidance of the American Institute of Graphic Arts (AIGA) and which was commissioned by the United States Department of Transport (DOT). With ever-increasing international travel, it became clear that travel facilities such as Airports and bus termini needed a system of visual communication which would be clear to commuters in a hurry and people without fluency in English. The AIGA design committee overseeing the project was comprised of such respected figures as Seymour Schwast, Thomas Geismar, Rudolf de Harak and Massimo Vignelli, each of whom had established successful businesses in the 1960s involving corporate identity and signage with modernist design

ethics. The principles of modernism, those of reduction and geometric simplicity, were regarded as most applicable to the project. Modernism was then, and still is to a wide extent, seen as the aesthetic of objectivity and therefore the one most suitable for the task of public information design. Even the famously eclectic Schwast, who saw any historical style as having an appropriate area of application, agreed that modernism was the key to communication on the broadest scale (Lupton and Miller, 1996, p.199).

Before Cook and Shanosky were provided with guidelines for the design of the symbols, elaborate research and analysis was conducted by the AIGA committee to ensure that a sound and systematic approach to the project could be established. A list of the messages to be conveyed by the signs was drawn up and an inventory of existing signs from around the world was compiled. These included signs used by various international airports, transport authorities, Olympic games and other international events. The purpose of this compilation of signs was to discover where effective sign communication already existed and to detect dissatisfactory approaches. The symbols were arranged thematically in relation to the list of message areas and were further divided into sub-groups, according to their various compositional approaches. This allowed the AIGA team to make clear comparisons between the various approaches to the same message, measuring their strengths and weaknesses against each other. The symbols were ranked against each other according to three semiotic values, their "semantic", "syntactic" and "pragmatic" qualities. Semantic value describes the relationship between the form of the sign and what it is supposed to mean. The syntactic quality examines how the sign can relate to other signs and how it functions within a system. Pragmatics questions the relationship of the sign to the user, exploring how poor lighting, oblique angles of view or vandalism can affect its clarity.

Through this laborious process of symbol examination, the AIGA committee were able to establish the most effective approaches to the design of the symbols. AIGA presented their findings and the final designs of Cook and



Shanosky to the Department of Transport in the form of a book called *Symbol Signs*, which details all the stages of research and development of the project. On the pages which contained the proposed signs, the compiled international symbols were arranged on the left side of the page, the symbol submitted by Cook and Shanosky shown on a much larger scale alongside with written reasons why the AIGA committee advocated its use. The persuasive, orderly visual effect of this presentation is illustrated in figure 5.



SAMPLE PAGE FROM THE AIGA BOOK SYMBOL SIGNS.

The result of the co-operation between the United States Department Of Transport, AIGA and Cook and Shanosky was a set of thirty-four symbols,

each dealing with a different concept in the vocabulary of transport and its associated facilities. They are pictures of events, procedures, services, objects, concessions and prohibitions which are familiar to almost anyone who has an experience of travel (fig. 6). What they lack, however, is the detail which allows us to relate them to personal experiences of travel. The possibility of subjective interpretation has been almost completely nullified by the rigorous application of modernist reductionism.



What distinction can be made between the subjective and objective interpretation of signs and how would subjective interpretation affect the meaning of these signs? Barthes provides a useful analysis of how sign interpretation is affected by what the sign provides and what the viewer can read into it. He distinguishes two distinct aspects in the operation of a sign and how it affects its reader. The first he defines as "denotation", the commonsense, obvious and objective meaning in which the sign has a direct relationship to what it signifies in reality. The second he calls "connotation", which is an interaction that occurs when the meaning of the sign is affected by the feelings or cultural values of the viewer. The Department of Transport do not need people to feel in order to use travel services, but very much want them to be objectively informed, quickly and easily. Therefore, Cook and Shanosky, in collaboration with the AIGA went about ruthlessly stripping their picture information of connotation, but to what extent did they succeed? There is a plump roundness in these signs which might either be intended to lend an intimacy and friendliness to their forms or could be "the faint yet unmistakable flavour of Pop design culture of the 1970s" (Lupton and Miller, 1996, p. 199). Both of these assertions suggest that the symbols have been affected, in a small way, by either the subjectivity of the designers or the culturally specific design ideology of the time.

One notable observation is that not all the signs in the DOT system convey information in the same way. Most of them represent a physical object or interaction of objects and are therefore fairly easy to decipher. Others, however, communicate on a different level. They are attempts to convey a more abstract idea or concept. Both Rudolf Modley and Henry Dreyfuss have distinguished three categories of symbols. The signs which have direct referents in external reality and which are like simplified shadows of real objects are referred to as "representational". The symbols for "fire" and "airplane" in figure 7 are examples of this type of sign. The second type of sign is





called "abstract" and is one in which a symbolic representation is used in a way that is evocative of a particular concept, such as the "recycle" and "play" (from audio-visual equipment) signs in figure 7. The third category contains the "arbitrary" signs, in which the graphic symbol has no direct relation to an object or event in the real world. The meaning of an arbitrary sign has to be learned without any assistance from representational elements within the sign itself (Edworthy and Adams, 1996, p. 76-77). The "caution" and "medical" signs in figure 7 demonstrate this. Despite the exclamation mark in the caution sign being recognisable by anyone with a command of alphabetic language, like the elements of the alphabet, its meaning assignation is arbitrary. It is only social consensus or cultural dictum which gives such a sign a common meaning. However, this particular categorisation of signs is a rare instance where experts agree on those categories. Berger agrees with the principle of three categories, but describes them respectively as Icon, Index and Symbol. Other semiologists are a lot more divergent in their models of how various signs work, but for the purposes of eliminating confusion only the principles underlying the sign types in figure 6 will be used in this discourse.

Of course, it is not always possible to confine a sign to only one of these categories. Where a forbidden act is indicated, for example in the sign for "No Smoking" (fig. 6, no. 32), the representational sign for a cigarette or "Smoking" is superimposed with a circle and diagonal bar, or annulus, which is an abstract symbol for prohibition. The "No Parking" sign in the DOT system (fig. 6, no. 34) is a more complex combination. Why is the arbitrary sign "P" used to represent parking when any other depiction of an automobile in the series is purely representational, from car rental to taxi to bus? Could not the figurative symbol for car be used with an annulus? No, because that could be taken to mean "No Cars" or a ban on traffic, which is clearly not what is intended. While the obvious usefulness of "P" for Parking is limited to people who are fluent in English, its purpose is to greatly compress the time it takes to read the message, making the process of recognition faster and easier for

anyone travelling by in a car, where speed would reduce readability (Dondis, 1981, p. 85). Even for people without a command of English the sign retains its arbitrary status, so that it can be learned to mean the same thing in any language, despite not having phonetic equivalency. The "P" depends purely on its simplicity and distinction of shape to make it decipherable and quickly understood when re-encountered.

The AIGA committee were not, however, confidant that the symbol system they developed was automatically understandable in a universal manner. Indeed they were convinced that the effectiveness of their symbols was strictly limited to certain modes of application. They believed that the signs were most effective when they represented a service or concession which could be figuratively depicted, such as a bar glass or a ship. The symbols were less effective when they were meant to convey the idea of a process or activity, such as "Ticket Purchase". This kind of activity is a complex interaction, the mode of which can vary widely. The AIGA team concluded that the symbols should not be used alone, but should be incorporated as part of "an intelligent total sign system", involving the combination of symbols with appropriately designed alphabetic messages. To do otherwise would create confusion among air travellers (Herdeg, 1978, p. 50). The idea of combining the symbol with a linguistic message is a useful one, as it allows a viewer who can read the language to learn the meaning of a symbol which might not otherwise be immediately apparent. Thereafter the symbol itself can convey meaning independently of the linguistic message.

### Chapter 2. Otto Neurath, ISOTYPE and Rudolf Modley

The signs in the DOT system are largely based on symbol systems which had been previously developed, but all these systems seem to have a common approach to sign communication, their greatest variation being only in composition. Why is there this small measure of consistency among systems from so many parts of the world? To answer this question we have to go back to where the modern system of international signs began, in the early part of this century, with the man who is generally regarded as the true pioneer of these systems: Otto Neurath. Neurath is noted as the first individual in modern times to believe in the ability of pictures to provide an international language. An intellectual and social scientist, he was involved with a group of philosophers known as the Vienna Circle. Together they formed a philosophical concept which provided the basis of Neurath's investigation into the possibility of a system of universal signs. This theory is known as logical positivism. It was a radical philosophy which brought together two concepts which had previously been perceived as contradictory, rationalism and empiricism. Rationalism is an attempt to understand reality through logical systems such as geometry and mathematics, rather than through observation. Observation is the method of the opposing philosophy, empiricism, which claims that the only access to knowledge is through direct human experience.

The Vienna Circle used symbolic logic, the technique of rationalism, to study language. Symbolic logic uses a set of basic relationships, the components of which are given precise definitions (akin to those of mathematics), to build statements independent of relationships in the natural world. The truth of any statement can be assessed by referring it back to the basic constitutions of the system. However, the Vienna Circle established that the terms of all language are reducible to a core of physical, or empirical, phenomena, such as "big", "small", "red", "blue" (Lupton, 1989, p.147), creating a clash of philosophical ideas. Logical positivism came into being as a result, and its purpose was to define the basic components underlying all languages in

terms of their relationships to the physical world.

While Neurath believed that language was the medium of all knowledge, he saw verbal expression of thought as a disfiguring medium. In the manner in which Saussure viewed phonetic writing, Neurath felt that the lexical, syntactic and pragmatic rules of verbal language were inconsistent and illogical models of objects and relationships in the physical world. According to his philosophy, the tenuous link between language and nature could be consolidated by vision; pictorial signs could provide a "universal bridge" between "symbolic, generic language" and "direct, empirical experience" (Lupton, 1989, p. 145). Neurath believed that, especially in the initial stages of acquiring new knowledge, pictures provide a more accurate means of communication than words. This gave rise to his contention that the point of departure for the visual representation of an object, place or person should be what is seen by the human eye, as opposed to the spoken or written word associated with it (Neurath, 1972, p. 24). His exploration of this universal medium of knowledge began in the early 1920s, with his formation of the sign system which he called ISOTYPE, an abbreviation for International System Of TYpographic Picture Education.

ISOTYPE is a system of refined pictographs which are designed through particular techniques and are intended for use through various specific modes of communication. Unlike the DOT system, ISOTYPE is intended to have a flexibility of application on a broader range of issues than simply environmental public information. It can convey social and economic information and has been used by sociological museums, books, posters and educational material. In order to formulate a neutral system through which the representational pictures of ISOTYPE could be formed, Neurath based his signs on the closest reproducible representation of what the human eye could see, which was the photograph. In photography, as Barthes would have it, the "literal message,", or basic appearance, of an object is essentially unchanged by the process of becoming a sign for the object; it is simply a process "recording", and its mechanical nature a guarantee of objectivity
(Barthes, 1977, p. 22). The characters of ISOTYPE, therefore, were an attempt to organise the nonhierarchical, impartial detail of a photograph (fig. 8) into a more simple, schematised, and easily reproducible form. The photograph can be seen as a representative of empiricism because it is "positive", being a mechanically recorded picture of reality and one which relates directly to the human observation of nature. To satisfy the rationalist side of Neurath's philosophy, the photograph must be reduced to its simplest and most common message so that



FIG. 8. OTTO NEURATH, 1945. THE PHOTOGRAPH AS AN EMPIRICAL TOOL

it can be used as part of a basic logical system from which interrelated, truthful statements can be built (Lupton and Miller, 1996, p. 42; Margolin, p. 147-148).

From the scientific base of the photograph, Neurath was able to construct an extensive set of figurative signs which covered the broad range of human visual experience, people, places, objects and actions. What he avoided, however, was the development of arbitrary or even abstract signs to communicate more allusive concepts. These he saw as irrelevant as they did not relate directly to the observable phenomena which constituted the system:

> Each statement that does not fit without contradiction into the total structure of laws must disappear; each statement that does not relate to 'data' is empty, it is metaphysics... (Margolin, 1989, p. 147)

Not only were Neurath's ideas about the sign as the arbiter of truth informed by his philosophical background; so too was his practical design ideology. In translating a physical form into its most minimal significant form, the subject was commonly reduced to a flat, silhouetted figure, with little or no interior detail. In the manner of symbolic logic, these figurative symbols became the constituents of the basic system from which statements, operating through logical relationships, could be formed. An example of the simple operations of this system are illustrated in figure 9, where the basic silhouette of a shoe is related to various other basic shapes within









Machine-Made Shoes



Hand Made Shoes

FIG. 9. ISOTYPE AND SYMBOLIC LOGIC



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the ISOTYPE system to form simple compound ideas.

Covering as many visible phenomena as it does, there are sometimes inconsistencies in the representation of objects within the ISOTYPE system. Occasionally these flat shadow signs need an indication of depth, especially where the outline or significant details of the physical form makes its shape indistinguishable as a specific object. In these situations Neurath indicates the solid form, not with the converging lines of traditional perspective, but through the parallel lines of isometry. In isometry, which is commonly used

in the drawings of architects and industrial designers, dimensions are fixed from foreground to background, describing what we know to be true, based on exploratory observation. Thus ISOTYPE rationalises an object distorted by visual perspective into logical sense material, such as has been applied to the ISOTYPE books in fig. 10.



THE USE OF LOGICAL ISOMETRY TO INDICATE DEPTH.

Another, more obvious, problem is the lack of correlation in size of the majority of objects depicted. For example, given the difference in dimensions of an elephant an a flea in the real world, how is one to depict these forms within a consistent and easily printed system. This is where the strict application of Neurath's philosophical ideas breaks down: suddenly, observ-

able relationships of size become irrelevant, and he depends solely on the shape of the sign to communicate its meaning. Thus all the signs within the ISOTYPE system, even when used in relationship to each other, are the same size. The signs in figure 11, therefore, do not mean "giant telephone" or "toy car". This is one element of the ISOTYPE language that does require learning, however little. Where size differences are allowed for, it is in the relationships between objects which have similar forms or are of the same species or type and are only distinguishable in reality by their different sizes or proportions, ie. the ISOTYPE "family", differentiating between a man





FIG. 11. TELEPHONE AND CAR: SIZE CONSISTENCY WITHIN THE ISOTYPE SYSTEM



FIG. 12. ISOTYPE'S "FAMILY": NECCESSITY OF DISTINCTION BY SIZE DISCRIMINATION

In generalising natural and artificial forms through their reduction to the consistency of silhouettes, Neurath attempted to remove any detail which could be personalised by the user of the resultant signs. Lupton likens this, in an unflattering, yet relevant analogy, to "Plato's cave renovated as an empiricist laboratory" (Lupton and Miller, 1996, p. 43). To show us of how little we really understand of reality, Plato used the metaphor of the world's people in a cave where the only references to reality that we have are the shadows cast by the muted sunlight on the cave wall. If, as Lupton implies, the shadow forms of ISOTYPE are so limiting to understanding, why then has the system and the design philosophy behind it continued to inform the development of the vast majority of sign systems throughout the twentieth century to the present day? With ISOTYPE, Neurath was attempting to develop an alternative to writing that resembled writing, exploiting the solid but mutually distinct forms of phonetic typography (Lupton and Miller, 1996, p. 43).

At the time Neurath was developing the ISOTYPE system, no international body governed the acceptance of a symbol or sign system as an international standard. The International Standardisation Organisation only came into being in the latter half of this century. Consequently, the success of the ISOTYPE approach was not ensured by its own dispersion, but by the proliferation of imitative systems. A case in point is the Pictograph Corporation of America, founded by Rudolf Modley in the mid-1930s. Modley was an ardent believer in Neurath's ideas of pictographic supremacy in communication. He was the first to bring these ideas to the American people through the setting up a company which developed and sold pictorial symbols. Modley also published books which detailed principles of pictogram design and their methods of application, such as How to Use Pictorial Statistics, and Handbook of Pictorial Symbols. In mid-twentieth century America, the Pictographic Corporation of America had a virtual monopoly on the distribution of this form of visual language, which found its way into atlases, schoolbooks and newspapers (Jacobs, 1991, p.45). Modley's pictograms are very stylish. For this reason the subjectivity of their design comes



through and they are often imbued with emotional connotations. His suicide victims, drinker and depressed man in figure 13 demonstrate not only the figurative aspects of their situation, but also convey feelings associated with the subject matter. They seem to reflect something of the spirit of America after the Wall Street crash. Modley, like Neurath, saw the international acceptance of a single sign system as being of paramount importance in order that visual language would not degenerate into multiplicity and become as divergent as the various spoken languages. He was encouraged by the establishment of the International Standardisation Organisation and in 1976 wrote that "efforts are now under way to standardise the most important symbols into a new universal language, through international efforts of careful selection, design, testing and education" (ibid.). Modley's most significant contribution to the development of international sign systems is his success in the establishment of the ISOTYPE approach as the national standard of the most influential country in the world.





FIG. 13. RUDOLF MODLEY PICTOGRAMS. STYLE AND EMOTIONAL VALUE IN SYMBOLS

### Chapter 3 Charles K. Bliss and Semantography

All the sign systems we have examined so far have attempted to express concepts through the use of the image. However, none of them have gone very far in attempting to develop an active and versatile grammar and syntax with which the signs could be used to simulate language. They are expressive only on the level of phrase-book terminology - designed to promote understanding of concepts on the simplest of terms. They are tools for expression, but not for exploration on the same level of language. An alternative to the shadow-form systems of DOT and ISOTYPE in the search for a universal symbolic language was provided by Charles Kasiel Bliss. Bliss was born in Austria in the time of the Hapsburg empire. He described the situation there as a "Babel", where twenty different nationalities hated each other, "mainly because they spoke and thought in different languages" (Jacobs, 1991, p. 45). He survived the horror of the Nazi concentration camps of the Second World War and subsequently fled to China. His experience of the war and the way Nazi propaganda had duped the masses left Bliss disillusioned with language. He believed that Hitler thrived on misunderstanding and that he twisted language in ways that made his lies believable. In the concentration camps of Dachau and Buchenwald, he saw how "men can be induced by words to kill with a clear conscience" (ibid).

When Bliss came to China he became interested in the Chinese system of logographic writing. Despite the fact that many different dialects of Chinese are spoken, the entire nation can communicate through writing, as the same written characters are used throughout the country. Chinese written words are pictogram-based, and although time has removed most of the figurative values of the characters, each sign in the Chinese vocabulary still represents a word. This contrasts with alphabetic writing, where words are represented by different combinations of letters. This inspired Bliss to begin work on a "modern, simple, scientifically constructed" vocabulary of pictorial signs which could be read in any language "without translation" (ibid). The system, he thought, should contain a simple symbolic logic and semantics

which would make misunderstanding impossible. He likens this logical process of interpretation to that of mathematics, in which anyone can recognise the lie in the statement "1 + 2 = 4". In 1942, Bliss began to develop a system of ideographic writing but was some twenty-five years before he published the completed version in Australia. He called the system Semantography, a name which expresses his belief in its infallibility in conveying meaning. His book, *Semantographics - A Logical Writing for an Illogical World*, details one-hundred basic symbols which form the basis of a communication system.

Of the one-hundred basic symbols comprising Semantography, thirty were taken directly from standard international signs and typographic symbols. These include directional arrows, the "lightning" electricity symbol, the cautionary triangle of safety signs, musical notation, the "envelope" mail symbol, the diagonal bar of prohibition, a simplified Mercurius medical sign

(fig. 14) and numerals and punctuation marks. This use of established international symbols is one of the most commendable

 $\rightarrow$   $\checkmark$   $\land$   $\land$   $\checkmark$   $\checkmark$ 

FIG. 14. INTERNATIONAL SIGNS USED IN SEMANTOGRAPHY

aspects of Bliss's approach, as its consistency promotes an ease of understanding and does not contribute to the confusion and contradiction created by rampant and irresponsible symbol development.

Unlike the symbols of the ISOTYPE or DOT systems, Semantography signs are made of lines. Where a physical object is depicted, as in a representational sign, its form is simplified beyond that of a silhouette, so that it becomes either an outline or a stick figure. This approach was taken in order that the signs might not only be easily printed, but could also be hand-written without

difficulty. One result of this extreme reduction is that the figurative value of the signs is compromised to the point where it borders on the abstract, and indeed the signs often retain only the most minimal aspects of their referents. This result can be seen in the signs for "man" and "woman" in figure 15. Like the

FIG. 15. MAN AND WOMAN IN SEMANTOGRAPHY -THE CONSEQUENCES OF

EXTREME REDUCTION





corresponding DOT OF ISOTYPE signs, they rely on the indication of dress as the distinguishing factor between the sexes. Here however, the signs look little like representations of human beings and require more learning than more figurative depictions.

The most important feature of the sign system designed by Bliss is his attempt to cover the complexity and abstract thought inherent in human communication. The senses are catered for by using rather attenuated icons to represent the organs of sensation. Emotion is represented by the rather quaint heart icon. Thought and reason are symbolised with a dome presumably referring to the arc of the human skull. Inflexions of speech or various expressions related to the same subject are realised and differenti-

ated by the use of action indicators. The versatility of this approach is demonstrated in figure 16, showing different expressions which are associated with visual perception and cognition. Bliss provides a tool which he calls the "line letter" to allow for the creation of ideas which are not explicitly expressed within the system. This so-called "line letter" is simply a line which can be combined with other lines or symbols from the system to create agglutinative signs which express a broader range of concepts than the system alone can provide. The symbol combinations in figure 16 indicating "picture", "awake", "asleep" and "clear" show the line letter in use.



FIG. 16. THE USE OF ACTION INDICATORS, PUNCTUATION AND THE "LINE LETTER" IN BLISS' SYSTEM TO ALLOW VERSITILITY OF EXPRES-SION

Semantography has not been accepted as an international standard for sign-based communication because it has too many limitations. The arbitrary nature of many of its components means that, unlike the representational signs in the other systems we have explored, it requires extensive learning to almost the same degree as a written language. Bliss's symbols

are crude and are ill-conceived in their design, "more like graffiti than hieroglyphics" (Jacobs, 1991, p. 45), demonstrating a lack of any real concern for the semantic value of the signs themselves. In international sign development the emphasis is on the meaning of the sign being instantly recognisable without learning. The ability of the sign to be combined with others to form "graphic sentences" (Edworthy et al, 1996, p.83) is of little concern where signs are only needed for terse, rapid communication, as in warning, airport or traffic signs. Where a need for versatility of expression is needed, the only option is to learn the native language of the country you are in.

The success of Bliss's system is limited to a very particular field. Semantography has been found to be of great value in aiding people with severe communication difficulties and it is used for what is called a "symbol augmentative communication system" (Cole, part 5). This is a system which allows a non-speaking person to communicate easily and more speedily than is facilitated by written language. In this situation the symbols are commonly laid out on a board, containing approximately five-hundred symbols. Communication is achieved through this by pointing to different symbols in succession to articulate a sentence. The symbols are also used in conjunction with microprocessor technology which "speaks" the phrases indicated by the user. By 1979 a standard for the construction of over 1,400 symbols was instituted by the Blissymbolics Communication Institute in Canada, lessening the confusion caused by such whimsical elements as the aforementioned "line letter". It is true that the symbols are less representational than those of other symbol augmentative communication systems, and are therefore less intelligible, but the system has been found to be quite flexible and allows for the exploration of a greater variety of topics and ideas due to the "generic and concept basis" of its components (Cole, part 5).

It is clear from its success among the severely communicatively handicapped that the Semantography system does facilitate expression on the level of spoken language, something which none of the other sign



systems examined in this discourse can provide. Its only real problem, then, is one of graphic design. This becomes a fatal flaw which must be irradicated if it is to ever be used on a wider scale than it is at present, where it is only utilised out of sheer necessity.

17



## Chapter 4 The Opposition

So far in this discourse we have examined particular sign systems and the thinking behind them. All of the protagonists seem to agree to a lesser or greater extent that a set of signs can replicate language or at least convey basic concepts through the use of a consistent system. However, there are opponents to the idea of the image as something which can be controlled and manipulated to this degree. One of the most effective arguments against the idea of a single universal way of communicating through imagery is provided by a Swiss designer and teacher, Hans Rudolf Lutz. Lutz spent fifteen years gathering together an immense collection of graphic symbols from packing crates and boxes from all over the world. Unlike the research conducted by AIGA in the design of the DOT symbols, Lutz did not try to sort out the images he found in terms of their effectiveness, strength or efficiency. He published his collection as a sort of thesaurus of vernacular

signs, compiling and arranging them by their themes and ideas.

In Lutz's book, *Die Hieroglyphen von Heute Grafik auf Verpackung fur der Transport,* there are pages of full different signs, varying to different degrees, which convey the same concept. The examples of the "Keep Dry" and "Apples" signs in figure 17 demonstrate the visual effect of this compilation. It seems to speak of the richness and versatility of visual language which does not depend on confining its possibilities to the idea of a universal truth. In other words, one could invert the tired cliche of "a picture is worth a thousand words" to "a word is



FIGURE 17. COLLECTIONS OF SIGNS MEANING "KEEP DRY" AND "APPLES" FROM HANS RUDOLF LUTZ'S BOOK.

worth a thousand pictures" to convey the idea of the image as something which can express a concept without being confined to a particular form or style. Lutz expresses a discontent with the idea that visual language must conform to a stylistic consistency in order to be effective in conveying meaning: "I don't like the way the professional scene make pictograms. You can say the same thing in very different ways" (Jacobs, 1991, p. 47).

New technological developments provide a need for the production of new symbols, with the ever present necessity of communicating particular mechanical functions quickly and, due to wide distribution, across language barriers. The Apple Mac computer is a good example of this, being the pioneer of the "graphics user interface" in the early 1980s. The graphics user interface had a great effect on the accessibility of the new technology. Before this it was essential to have at least some basic knowledge of computer language in order to make the machine respond to the user's wishes. Control of a computer was only possible through the input of typed commands which were of a formulaic, heavily coded nature. The graphics user interface transformed these written commands into icons (fig. 18) which are displayed on the computer screen. The input of particular commands and access to certain functions is facilitated by simply clicking on the appropriate icon with the "cursor", the mouse controlled arrow. This symbol-



FIG. 18. ICONS FROM THE APPLE MACINTOSH "GRAPHICS USER INTERFACE"

based interface eliminated the necessity for the learning of computer language in order to use the machine. These symbols are intended to be usable in any language, but the most significant language barrier crossed is the technological one between human and computer.

Despite the obvious success of the graphics interface, its designers do not hold the belief in the universality of imagery. Susan Kare, who was the original designer of Apple Macintosh icons, proposes two kinds of icons that are effective. The first is a sign which is understood from the moment it is perceived. The other is one which is easily learned and its meaning is never

forgotten. Despite her belief in the efficacy of signs, she has little patience with the scientific study of them: "I think its a breath of fresh air to have pictures, things which don't take themselves seriously" (Jacobs, 1991, p. 46). Kare thinks that the icons serve their purpose: "If you get a good one, you can strike a chord - easy to recognise, a certain warmth, ease and speed of recognition" (ibid). Her approach, unlike that of ardent protagonists of scientific sign development like Neurath, AIGA and Bliss, is unassuming and reassuringly modest. In spite of her work in establishing the highly successful graphics user interface, she is sceptical of the idea of a universal language of signs. "There's a reason we don't use hieroglyphics [in normal written communication]. A picture language is okay when all you have in common is bears, fire and hunting" (ibid).

Avril Hodges is another designer for Apple Macintosh, but her past experience includes being a consultant to the World Health Organisation. In this work she collaborated in an experiment to establish if it was possible to teach illiterate village health workers through a visual language. The results, Hodges remembers, were disappointing: "We decided we can't do this, we can't teach something that complex. They have to have literacy" (Jacobs, 1991, p. 45). The conclusion she draws from this is that signs can prompt meaning, but they cannot substitute the depth of expression and contextualisation of concepts at the level that language allows.

Barnard and Marcel, in an extensive essay which examines the efficacy of symbols and images in promoting understanding, express the belief that through proper research, design, testing and development a comprehensive set of signs can be created that can fulfil practical qualities of communication across languages. However, they dismiss the possibility of a system of signs which can simulate the communicative properties of natural language. They voice the opinion that symbol systems should not be pursued and developed in ways that attempt to emulate the vocabulary and syntax of verbal language (Barnard and Marcel, 1984, p. 65). It is interesting that throughout the essay no mention is made of the "sign language" of

Semantography, the extensive pictogram-based writing system of the Chinese, or the symbol augmentative communication systems used by the severely communicatively handicapped. It would seem that Barnard and Marcel blinded themselves to the consideration of fully functional sign languages by focussing their research on sign systems for public information and pictorial instructions for mechanical operations, which are rigidly structured and do not need the facility of expression that natural language has.

The argument against the possibility for a universal sign language is well founded. It takes into consideration the fact that signs are nationally and culturally variable, and that an image is not bound to a particular form in order to convey a specific meaning. Signs, in their most popular form, lack the economy of articulation that literacy facilitates. However, even within these arguments there are elements which seem to support the idea that an image can bypass linguistic and cultural constraints. Lutz's collection of signs, while variable in design, depict the same basic forms and consequently, the same concept. These are signs from different parts of the world which all seem to have a certain figurative value in common. Despite the fact that the graphics user interface of the Apple Macintosh is a commercial selling point, its symbols demonstrate a warmth and accessibility of the sign which the written word lacks. It is Avril Hodges experience of trying to develop a way to teach through signs which provides the greatest difficulty. The difficulty here lies in the fact that sign literacy, in relation to a sign language, requires learning in itself - it is not something which can be automatically acquired. No-one can take for granted that a sign will communicate its intended meaning effectively, unless its meaning has been learned.

### Conclusion

The possibility of the development of a universal language of signs is obviously a controversial issue. Not only is there eloquent and well-informed opposition to the idea, but the fact that there are such diverse approaches to the development of such a system shows how difficult it is to pin down a single effective solution. It is, however, a little too soon to jump to conclusions as to whether a universal, utopian language is achievable or not. In terms of the history of written communication, the need to express concepts across languages is an issue which has only very recently been addressed. Non-linguistic sign-based communication only began to be developed in the early part of this century with Otto Neurath's development of ISOTYPE. It was not until after the Second World War that his ideas achieved widespread recognition and respect through the imitative symbols of Rudolf Modley and the success of his Pictograph Corporation of America. Since then Neurath's philosophy of the image as arbiter of meaning has been taken seriously by various organisations around the world and although the symbols he himself developed are largely unused in modern times, his design principles remain the most influential in the development of sign systems. These principles are reflected, over half a century later, in the design strategy of the signage system formulated by the American Institute of Graphic Arts for the United States Department Of Transport (DOT). The only significant difference of approach is that Neurath did not have the luxury of reflecting on sign systems which were previously developed, because such a thing had never been attempted at that time.

The possibility of a sign system which can be manipulated to the same extent as written language, and which can be used to communicate independent of phonetic language, has been widely ignored or even dismissed outright. An exception to this can be seen in Semantography. This is an attempt to form a basic system of signs which can be manipulated to form multitududinous statements in a way that replicates language. Its principles of operation, Bliss maintains, are comparable with that of

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mathematics, having a basic symbolic logic in its rules of combination. In his use of symbolic logic, Bliss's ideology reflects exactly that of Neurath. It is their application of this logic that differs wildly. Bliss's emphasis is on the interrelationship of elements within the system, whereas Neurath focuses on the ability of the individual signs to convey meaning. Unfortunately, Semantography is visually a very crude system and has nothing of the sophistication of the ISOTYPE or the DOT systems. It lacks the style of Rudolf Modley's symbols and is devoid of the endearing charm of Apple Macintosh icons.

Nonetheless, Semantography has been adopted by people who, whether through genetic mishap, disease or accident, would be bereft of the ability to communicate without such a system. The success of Semantography among the severely communicatively handicapped demonstrates that this symbol system is workable at a level that is both comparable and compatible with natural language. Its greatest drawback is in its visual style, which is so arbitrary and naively intuitive that it requires extensive learning of even its basic components. Only then can it be manipulated to convey meaning, but although this is governed by logical rules, it is a grammatological affair which also requires learning. Despite these great shortcomings, Semantography is the most successful attempt so far to develop a versatile and manipulable language of signs.

The signs within systems such as ISOTYPE or DOT provide a non-linguistic accessibility of meaning through their figurative, or denotative, values. Semantography, while severely lacking in this quality, allows for the potential of the sign as a vehicle of expression, which is something that the other systems do not provide. This provides a framework which facilitates an enormous variety of combinations of signs in the expression of linguistic concepts.

The differences in the efficacy of these sign systems allows us to form an important conclusion to our investigation of the potential for the development



of a sign system which communicates across language barriers. Such a system would not be intended to replace the various established writing systems of the world, nor to become yet another language. It would be a viable and versatile supplement to all languages, not only applicable to the phrase-book terminology of public information signs, through which it would be popularised, but it would also be usable as an eloquent mode of expression through writings intended for pan-lingual consumption. The use of the system in its true linguistic form would still require some degree of learning, because it would have basic syntactical rules of combination. In order to gain worldwide acceptance, the system would have to withstand rigorous testing and achieve the endorsement of the International Standardisation Organisation. If a system could be created with the linguistic capabilities of Semantography and the figural accessibility of systems such as DOT or ISOTYPE, people would be provided with a tool which could overcome the cultural bondage of conventional written language and finally allow communication on a truly global scale.

### Bibliography

BARNARD, Phil & MARCEL, Tony, "Representation and Understanding in the Use of Symbols and Pictograms", Easterby, R. & Zwaga H. (Eds.), <u>Information Design</u>, Chichester, John Wiley and Sons Ltd., 1984.

BARTHES, Roland, "The Rhetoric of the Image", Barthes, R. (Ed.), <u>Image -</u> <u>Music - Text</u>, New York, Fontana, 1977.

BERGER, John, "Semiological Analysis", Berger, J. (Ed.), <u>Media Analysis</u> <u>Techniques</u>, London, Sage, 1982.

BLISS, Charles K., "Semantography - One Writing for One World", Dreyfuss,
H. (Ed.), <u>Symbol Sourcebook</u>; An Authoritative Guide to International <u>Symbols</u>, New York, McGraw/Hill Book Co., 1972.

COLE, Rebecca, <u>Symbol Augmentatitive Communication Devices</u>, @ http://pursuit.rehab.uiuc.edu/pursuit/dis-resources/comm.html

DREYFUSS, Henry, <u>Symbol Sourcebook</u>; <u>An Authoritative Guide to</u> <u>International Symbols</u>, New York, McGraw/Hill Book Co., 1972.

DONDIS, Donis A., "Signs And Symbols", Williams, R. (Ed.), <u>Contact -</u> <u>Human Communication and its History</u>, New York, Thames And Hudson, 1981.

EDWORTHY, Judy & ADAMS, Austin, <u>Warning Design</u>; <u>A Research</u> <u>Prospective</u>, London, Taylor and Francis Ltd., 1996.

HERDEG, Walter, "Development of transportation signs by the American Institute of Graphic Arts, New York, for the United States Department of Transportation", <u>Archigraphia</u>; <u>Architectural and Environmental Graphics</u>, Zurich, The Graphis Press, 1978.



HOLLIS, Richard, <u>Graphic Design; A Concise History</u>, London, Thames and Hudson, 1994.

LUPTON, Ellen, "Reading Isotype", Margolin V. (Ed.), <u>Design Discourse</u>, Chicago, The University of Chicago Press, 1989.

LUPTON, Ellen, "Modern Hieroglyphs", Lupton, E. & Miller, J.A. (Ed.), <u>Design, Writing, Research</u>, New York, Kiosk - Princeton Architectural Press, 1996.

NEURATH, Marie, "Isotype - Education Through the Eye", Dreyfuss, H. (Ed.), <u>Symbol Sourcebook; An Authoritative Guide to International Symbols</u>, New York, McGraw/Hill Book Co., 1972.

SAUSSURE, Ferdinand de, <u>Course in General Linguistics</u>, Illinois, Open Court Publishing Co., 1986.

UNESCO (United Nations Educational, Scientific and Cultural Organization), <u>The Art of Writing</u>, Paris, UNESCO, 1965.

VÄKEVÄ, Seppo, "What Do We Need Semiotics For?", Vihma, S. (Ed.), <u>Semantic Visions in Design</u>, Helsinki, UIAH Publications (University of Industrial Arts Helsinki), 1990.

# Appendix

- i. Meanings of symbols in the DOT system:
  - 1. Telephone
  - 2. Mail
  - 3. Currency Exchange
  - 4. First Aid
  - 5. Lost and Found
  - 6. Baggage Lockers
  - 7. Elevator
  - 8. Men's Toilets
  - 9. Women's Toilets
  - 10. Toilets
  - 11. Information
  - 12. Accomodation
  - 13. Taxi
  - 14. Bus
  - 15. Road Transport
  - 16. Train
  - 17. Airport
  - 18. Heliport
  - 19. Naval Transport
  - 20. Car Rental
  - 21. Restaurant
  - 22. Cafe
  - 23. Bar
  - 24. Shops
  - 25. Ticket Purchase
  - 26. Waiting Room
  - 27. Baggage Handling
  - 28. Customs
  - 29. Immigration
  - 30. No Entry
  - 31. Smoking
  - 32. No Smoking
  - 33. Parking
  - 34. No Parking

