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Toward the Universal

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Virginia Commonwealth University
Toward the Universal
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Introduction

Perhaps the earliest evidence of human use of symbolism can be seen in the Paleolithic and Neolithic cave paintings and engravings of nearly thirty thousand years ago, exemplified by findings in Lascaux, France as well as in Africa and Australia. By 4,000 B.C. the Sumerians were using two thousand pictograms in their clay-tablet writing. In contrast, two thousand years later, Egyptian pictographic writing was made up of just twenty-four signs. In pre-modern Europe, pictorial symbols were the main visual guides for strangers who came into town and needed to find the shops of the baker, the barber, the apothecary, or even the pawnbroker. Pictorial symbols were so potent that it was said, in words attributed to Confucius, “signs and symbols rule the world, not words or laws.” Eventually various cultures began to replace picture writing with phonetic writing; symbols no longer stood for concrete objects but for words and sounds, and languages evolved as abstract systems describing anything that had to be communicated. With hundreds of languages and thousands of dialects in use today, communication is as a result more complex than ever.

About three hundred years ago, the German philosopher and mathematician Gottfried Von Leibnitz imagined a future in which there would exist a universal system of pictorial symbols that could be read in all languages without having to be translated. Since that time, many efforts have been made to produce written communications that are universally understood. Semantography, invented by Charles Bliss in 1949, is an attempt to create a semi-abstract pictorial ‘alphabet’. The ISOTYPE system, created by Otto Neurath, consisted of international pictograms especially useful in industry and commerce, and for use in statistical diagrams.

The modern shift toward symbols is an inevitable outcome of several trends: the desire of exporting nations to sell goods in many countries without redesign, of cities to accommodate foreign tourists, and of computer manufacturers to make computers “user friendly” for all who use them. Some scholars maintain that certain symbols are commonly understood and possess similar meanings across diverse situations, in extremely distinct cultural and societal systems, and even unique historical eras. Among language scholars outside of the discipline of visual communications, the study of universal symbols often falls under the head of the archetype. An archetype can be said to exist when an image appears in different contexts, through different media, by different sources for different ends, and in diverse generations and eras.

This creative project is concerned with archetypal forms expressed in art, design and
"Through the symbol man can detach himself from raw perception, from the experience of here and now, and make abstractions. Without abstraction there can be no concept, and without abstraction there can be no symbol."

Umberto Eco

morphology

a systematic catalog of structural possibilities; by placing a form and its relationship to other forms in a matrix of possibilities, a morphology offers an overview for the kinds of transformations that can be applied to form communication, from Neolithic rock carvings and native American Indian petroglyphs to individual graphic languages that look to the 'primitives' like those of Joan Miro and Neville Brody. It is my belief that through the study of this diverse collection of graphic signs and archetypal forms, one can develop a system of signs that cross barriers of language and culture. A morphology, a collection of possibilities, derived from such archetypal forms, could provide designers with a foundation for the development and use of symbol signs and sign systems.
Classification of Graphic Symbols

Signs are among the millions of “messages” which are directed to humans in any given moment by other humans, by living organisms, or even by inanimate matter. Symbols are created by humans to communicate with others and with themselves. The term symbol used by this author means something that stands for or suggests something else by reason of relationship, association, or convention. A symbol is visually precise; it attempts to get at the essence of an idea - either by being a miniature, almost literal representation, or by being a non-literal, visual metaphor. This study is concerned primarily with image-related and, even more so, concept-related graphic symbols. A simple classification system of graphic symbols is given here.

Phonograms are graphic symbols which convey mere speech sounds, and do not concern us in this study. All other graphic symbols, which are independent of speech sounds, are logograms. The advantages of logograms are legibility of the whole, speed of reading, speed of identification. Arbitrary graphic symbols do not resemble real objects; their shape is arbitrarily assigned to the concepts they represent. This study is less concerned with these graphic symbols than with the remaining two classifications. Concept-related symbols have to do with perceptual concepts more than real objects. They refer to the object, but are more stylized versions than image-related graphic symbols, which refer to the real objects by resemblance. These latter two types of graphic symbol can also be referred to as pictograms.

[Diagram of classification system]

Figure 1a and b: Graphic symbols diagram and example using the Zodiac Taurus, the bull.
“Learning that builds from a solid foundation is state of the art.”
Kenneth Hiebert

Language
the manner or means of communication between living creatures;
a system of words, signs, symbols or gestures formed by such combinations and patterns, used by a group of people who share a common nationality, history or set of traditions.

Justification
There are several thousand different languages and dialects in the world. Even if these languages were all written with the same alphabets, which they are not, people could not communicate freely. A few graphic symbols, if universally understood, could overcome some of these language barriers. Graphic design is about making connections, not only between form, content, and context, but also between various disciplines and cultures. It is equally important, as a visual communicator, to realize the connections between our personal concerns and interests and the decisions we make as designers.

My interest in globes and maps, artifacts, travelling, and other cultures, led me to perhaps the most universally understood means of communication - pictographic signs. Many efforts have been made to produce pictographic languages that are universally understood, but few, if any, have drawn from the vast collection and investigation of recurring archetypal forms. If there truly exists a collective unconscious, or a common thread that binds together all human existence, then this connection can and should impact communications. This study is of value to me and to the field of visual communications in many ways; it has informed my own design processes, it provides us, as form-givers, a deeper understanding of graphic signs and symbols, and it may serve as a tool for education and practice in the development and implementation of symbols.

Figure 2 Various attempts to translate the terms “fragile” and “this side up”
Problem Statement

This creative project is concerned with the development and use of symbols drawing from archetypal forms expressed in art and print-based media. A set of prototype symbols and several morphologies were developed, derived from such archetypal forms, to serve as a methodology for the use of graphic symbols in visual communications.

The creative project is not intended to be a system of symbols ready for use, but a set of prototypes and a methodology that could be applied to the development and implementation of symbols. The creative project is therefore made up all three parts, as diagrammed below. (The complete process diagram can be found on p. 14)

Delimitations

The realization of this creative project is not intended to be a totally pragmatic system of symbols ready for use, but a set of prototypes and a methodology that could be applied to the development and implementation of symbols.

This creative project is not intended as an end-all solution for all graphic problems involving symbols, but specifically for those that could most benefit from an in depth investigation of archetypal forms.

This study is not intended to be focussed upon a comprehensive investigation of existing sign systems or semiotics.

The scope of this study does not reside exclusively within the field of visual communications, but will draw from related areas including cultural anthropology, psychology and visual arts.

This study will not specifically address the use of 'icons' in conjunction with such technological tools as computers and the internet.
The more fundamental or basic is the idea one has learned, almost by definition, the greater will be its breadth of applicability to new problems."

Jerome Bruner

The Archetype - an affect image

The concept of the archetype is derived from repeated observations of universal myth and fairy tales

Outerworld images from repressed personal life contents

Archetypal reality: psychic images from the inner world

figure 3 Affect Image, Harry A. Wilner, Pracica Jung
The collective unconscious can be thought of as being inhabited by motifs, images, ideas, personalities, moods, places, visions, and spirits we have never known in day-to-day life. These images are known as archetypes.

According to psychologist Carl Jung, the archetype is experienced in projections, powerful affect images, symbols, and behavior patterns such as rituals, ceremonials, and love. This thesis addresses specifically symbols. In archetypal psychology, symbols are infinitely variable expressions of underlying archetypes. Archetypes (collective) endow the individual (personal) with strong affect. Another way to explain this theory is that archetypes are psychic instincts of characteristic inborn behavior patterns and potential images.  

One might ask why, in this ever-changing world, would it be beneficial to look back as far as prehistoric man, in the context of the archetype, for the syntax of a universal graphic language. There are several reasons for the importance of seeking archetypes; Jung would assert that “there is not a single important idea or view that does not possess historical antecedents. Ultimately they are all founded on primordial archetypal forms whose concreteness dates from a time when consciousness did not think, but only perceived” thus, the archetype is “a piece of life, an image connected with the living individual by the bridge of emotion.”

Archetypal forms are therefore an obvious choice in the attempt at developing a universal language, as they transcend east and west, black and white, and are rooted in the primal. The archetype, in a sense, serves as the “tradition to unify us in a changing world.”

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Figure 5: Conventionalized human figures from Spanish petroglyphs, compared with similar designs from the painted pebbles of Mas d'Azil, Ariège.
The art of Joan Miro exemplifies personal, expressive languages rooted in primal and archetypal forms. It is expressed by penetrating to the core of the known and visible and by returning to origins. Miro's interest and familiarity with prehistoric art is well-known; Henri Breuil's books, documenting his explorations of the caves and rock shelters in Spain and France, were standard references. The feature which bonds Miro's Surrealist and primordial tendencies, and gives evidence of the full scope of his inspiration from prehistoric and anthropological sources is his creation of a sign language. The term sign here denotes a pictorial element envisioned at a primary, sensory stage, a stage where an element is neither purely abstract nor clearly representational. As expressed in André Breton's 1928 "Surrealism and Painting" essay, "...a savage aye senses invisible and unfixed images, follows an undetermined and instinctive course, and is eroused emotionally..." It is this freedom that Breton termed "our integral primitivism."

To him and others the word primitive signifies a revered, natural state where innate urges were allowed free expression. The Surrealists believed that language at the stage of symbol formation is comparable to primitive thinking. Furthermore, they believed that this stage exists in all humans, thus supporting Jungian theory of the Collective Unconscious. So a connection can be drawn between the focus of this study and Miro's 'image-concepts' that make up his visual sign language. As in the development of a set of signs in this creative project, Miro individualized essential elements and omitted or generalized all else.

Paul Klee's pictorial practices can also be viewed in the context of the nature and status of the sign. In his word and image juxtapositions, emphasis on the material aspects of art, and his deconstructions of the dominant symbols of pictorial representation, Klee liberates painting "from its traditional, 'naturalized' function: as representation of reality, expression of self, or construction of pure forms. In place of these stubborn fictions, Klee proposes painting as sign, and thus as cultural praxis whose meanings and effects emerge diacritically," in the manner of linguistic semiotics theorized by Ferdinand de Saussure.

Signs in Yellow (figure 6) consists of hieroglyphic forms assuming a variety of shapes, from a simple dot to a complex figure, but all seemingly speaking the same language. Klee himself said about his art, "for the most part we deal with combined forms. In order to understand combined forms one must dismember them."

The importance of Signs in Yellow lies in the relationship of figure to ground, as in semiotics since Saussure language and writing are regarded as being meaningful insofar as they are expressed within a relation, i.e. between signifier and signified.

"And, moreover, what about these conventions of language? Are they really the products of knowledge, of the sense of truth? Do the designations and the things coincide? Is language the adequate expression of all realities?"

Friedrich Nietzsche


ibid.
figure 7 Neville Brody, symbols designed for *The Face* magazine layout

figure 8 Matt Mullican, Untitled posters, 1984

figure 9, 10 Paul Rand, Symbol created to suggest both musical instrument and player; playful interpretation of IBM logo used for a poster, 1981
Matt Mullican is an artist who has established a solid reputation for work whose central image is the sign. According to Peter Clothier of ARTnews, Mullican’s “highly stylized, logolike notations, often enclosed in simple circles, range in reference from the familiar international airport and highway insignia for necessities like food and rest rooms to recurrent personal designs invoking such universal abstractions as subjectivity, God, and death.” As posters, banners, rubbings on canvas, and stained glass, their “enigmatic presence among other occupants of the world of signs seems to challenge interpretation even from the casual observer.” In Mullican’s ever-growing vocabulary of symbols, some are borrowed directly from the international transportation system, and others are recycled from old texts, encyclopedias, and popular mythology. He recognizes the ‘real’ world is made up of signs and symbols; the world of art and the world have a kind of interchangeability. Mullican’s interest is in addressing the issue of communication through a common pictorial language.¹

British graphic designer Neville Brody began his design career with the intent of communicating to as many people as possible, while also making a popular form of art that was more personal and less manipulative. In the development of corporate logos, brand identities, and visual callouts in magazine layouts, Brody often abstracted letters to the point where they were no longer regular letterforms, but symbols that promoted an overall recognition. He took the manipulative language of advertising, street signs, and other information language and “used them in a context where normality does not neutralize our awareness of them.”²

Paul Rand is well known for his ability to manipulate form and his skillful analysis of content, reducing it to a symbolic essence while retaining strong visual impact. To Rand, the symbol is the common language between artist and spectator. “It is in symbolic, visual terms that the designer ultimately realizes his perceptions and experiences; and it is in a world of symbols that man lives.” Rand believes it is the goal of the designer to discover a means of communication between himself [or herself] and the spectator, that is, to discover an image universally comprehensible that translates abstract ideas into concrete forms. Symbols are potentially very versatile devices; by juxtaposition, association, and analogy a symbol can be utilized to effectively fulfill a specific function. In other words, it’s a matter of context. The juxtaposition at left (figure 9) of a silhouette of a hand and a simple representation of musical instrument keys successfully and directly communicates as a symbol for both player and instrument. According to Rand, a symbol may be depicted as “an abstract shape, a geometric figure, a photograph,

¹Peter Clothier, “Sign Language,” ARTnews 88, no.6, (Summer 1989): 144 - 146.
a sign which refers to its object because it is in dynamical connection with the individual object and with the sense of memory it serves.
an illustration, a letter of the alphabet, or a numeral." Rand’s enormous success as a designer is in part due to his ability to effectively and dynamically compose messages combining all those variations.

I look to these designers to examine, and to illustrate, how graphic symbol languages have been implemented in diverse design problems, retaining a bit of the identity of the individual designer while, at the same time, successfully communicating to a large audience.

Authoritative Precedents

Otto Neurath developed graphic symbols because of his interest in education and economics. His 1930 pictographic creation, ISOTYPE, drew from cave paintings at Lascaux, France and at native American petroglyphs. The International System Of Typographic Picture Education consisted of pictograms intended for international communication, especially useful in such areas as commerce and geographical and statistical documentation.

Semantography, invented in 1949 by Charles Bliss, is an honest attempt to create a pictorial “alphabet.” The semi-abstract images were designed to be used on an interchangeable typewriter ball. It operates with about one hundred basic symbols which can be combined for any meaning needed in communication, commerce, industry and science. Many scholars believe Bliss’ system to cross language and culture barriers; the lines and curves of his symbols, reminiscent of actual objects and actions, are translatable into all tongues.

In the 1960s, Margaret Mead and Rudolf Modley established a nonprofit organization for the development of universal graphic symbols. They campaigned for an archive of existing symbols and cooperation among designers of the world for a synthesis into a truly universal system. Mead and Modley were especially interested in the effectiveness of symbols and our ability to assimilate them. They foresaw what were then examples of a growing trend. Many architectural and design offices develop their own pictorial communications systems - while they may be well designed, these systems can confuse the public who have become inundated with too many different if not conflicting symbols. One only has to look at the many symbol systems created for various Olympic festivals. Since the sixties/seventies, no individual has pushed for standardization of graphic symbols as Mead and Modley did.

Within the discipline of education, specifically early childhood development, studies on pictorial imagery support the concept of graphic symbols transcending language

Divergence
Process of ideation where many possibilities and different directions are considered.

Convergence
Process of ideation and synthesis of ideas approaching closure.
barriers. One such study, (Kindler / Darras, 1994,) regards the emergence and development of pictorial imagery as a semiotic process, comprised of biologically propelled unfolding of cognitive and pictorial abilities, and socially and culturally mediated learning. Kindler and Darras found in very young children the recognition of the potential of graphic forms to stand for actions and objects. Arnheim claims that "shapes are carriers of basic rather than explicitly taught meanings, and that substitution rests on the invention of forms that become structurally or dynamically equivalent to the object." Representation does not rest on the identity of the elements but on prototypical or abstract properties."

**Process and Methodology**

As stated in the delimitations portion, the realization of this creative project is not intended to be a totally pragmatic system of symbols ready for use, but a set of prototypes and a methodology that could be applied to the development and implementation of symbols. The creative project is therefore made up all three parts, as illustrated in the process diagram at left. Many stages of my process are as important as methodologies, if not more, than the prototype symbols and applications. It has always been my intention for this study to serve as a tool, and therefore leave room for personal interpretation to yield a different realization. As form-givers, visual communicators can learn, through the morphologies to come, how a graphic symbol may be interpreted based on its component parts by a general audience.

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# Catalog and Comparison of Symbols

<table>
<thead>
<tr>
<th>Human</th>
<th>Day</th>
<th>Night</th>
<th>In</th>
<th>Out</th>
<th>Go</th>
<th>Stop</th>
<th>Earth</th>
<th>Sky</th>
<th>Fire</th>
<th>Water</th>
<th>House</th>
<th>Journey</th>
<th>Movement</th>
<th>World</th>
<th>Wind</th>
<th>Birth</th>
<th>Death</th>
<th>Time</th>
<th>Medicine</th>
</tr>
</thead>
</table>

**Bliss Symbols**
- Chinese
- Japanese
- Australian

**Native Signs**
- United States
- England
- Sweden

**Astrology**

**Southwestern Petroglyphs**
- Arizona
- California
- Colorado
- Oklahoma
- New Mexico
- Texas
- Utah

**Other**

*Figure 14: Symbol Comparison Chart*
A preliminary independent study was conducted in 'primitive' sign-making, in which formal experimentation, analysis, and research were conducted without a particular established order or process. Allowing a looser, more intuitive process to emerge was an integral element of the study, making more of a connection to theoretical ideas of the collective unconscious and archetypes.

What is 'primitive'? expressive, loose, gestural, rough, essence, primeval, crude, unpolished, unrefined, basic, primal, intrinsic, abstract, primary, elemental, foundational, original, primordial, barbarian, savage, uncultured, ancient, prehistoric, raw

According to the Surrealists, reflected in Andre Breton's 1928 essay "Surrealism and Painting," the word primitive signifies a revered, natural state where innate urges were allowed free expression. In experimental mark-making it is this state I attempted to reach. My experiments throughout this study taught me that analyzing 'doodles' produced some time ago was more valuable than engaging in the conscious goal of producing such 'primitive' marks. To truly tap into the intuitive, or subconscious, one must not be aware that this is the explicit goal.

Archetypal analysis is a useful method of examining universal, historical, and cross-cultural symbols. The archetypal examples were ‘tested’ by a) tracing their use in diverse situations and contexts, cultural and societal systems, and historical eras and b) recording and identifying the concepts associated with the recurring image, including this researcher’s personal aesthetic and emotional sensibilities. Several questions this process also addresses are: ‘What is the form and essence of an archetype?’ ‘How can an archetype be isolated and identified?’ ‘What archetypes can be used in universal communication which directly tap into the experiences of the majority of the population, while not negating the important heritage of symbols in different cultures?’

Example: labyrinth (figure 15)

*Labyrinth* means “house of the Double Ax,” from *labrys*, the sacred ax of Crete. The word was originally applied to the Minoan palace at Knossos, home of the fabled Minotaur, who guarded the central underground chamber as his Asian counterpart, bull-masked Yama, guarded his underworld. The journey into this central chamber seems to have been a death-rebirth ritual.

The labyrinth is an ancient symbol. Its complexity of passages represents confusion and lack of direction. As a metaphor for life, it symbolizes the choices necessary to reach the safety of the center (or of the outside). The terrible power of the labyrinth is symbolized in Greek mythology by the labyrinth in which the Minotaur roamed, which was finally overcome by Theseus (who found his way out using Ariadne’s guiding string). In common with the mandala, in religious analogy, passage through the labyrinth symbolizes a spiritual journey in the quest for unity with the absolute. In psychological interpretation, however, the labyrinth represents the confusion and contradiction of the unconscious mind. Again, arriving at the center or emerging into the light of day signifies personal individuation and the discovery of self, while wandering blindly in the labyrinth of the psyche signifies a loss of direction. While we associate the term with a maze-like structure with many potential paths, it is not the same as maze; a labyrinth has only one path, winding but branchless, heading inevitably toward the goal. A labyrinth can also take on the form of a spiral, its winding shape representing a mystery which the initiate can only discover by following its sinuous path. The spiral labyrinth is connected with the idea of death and rebirth: entering the mysterious earth womb, penetrating to its core, and passing out again by the same route.

<table>
<thead>
<tr>
<th>geographical / cultural context</th>
<th>historical era</th>
<th>associated concepts / meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>scratched or carved on Stone Age monuments and gravesites; coins, tiles, floor patterns, tombs and sacred caves.</td>
<td>Stone Age</td>
<td>the soul's journey into the center of the uterine underworld and its return toward rebirth; ritual walking of the pattern was sometimes said to represent a pilgrimage to the Holy Land and back again (Walker)</td>
</tr>
<tr>
<td>Etruscan vase decoration</td>
<td>late 7th cent. BC</td>
<td>representing the famous labyrinth in Knossos</td>
</tr>
<tr>
<td>found on coins, Crete</td>
<td>300 BC</td>
<td>circular or dynamic movement</td>
</tr>
<tr>
<td>swastika labyrinthine floor mosaic, Roman villa in Sparta</td>
<td></td>
<td></td>
</tr>
<tr>
<td>inlaid mosaic floor, Chartres Cathedral, France</td>
<td>1220 - 1230 AD</td>
<td>a movement from what is outside and visible to what is inside and invisible; may be regarded as a return to the womb, a descent into the underworld, or a journey to the center of the world (Moon)</td>
</tr>
<tr>
<td>Petroglyph, Hopi Indian mesas, Arizona</td>
<td>1000 - 1500 AD</td>
<td>the 'Mother Earth' symbol symbolizing emergence, spiritual rebirth from one world to the succeeding one, also the universal plan of the Creator which man must follow on his Road of Life (said to have substantially the same meaning to other Indian tribes in North, Central and South America) (Patterson)</td>
</tr>
<tr>
<td>Baroque labyrinth emblem</td>
<td>1702</td>
<td>search for the center</td>
</tr>
<tr>
<td>'Siuhu's House' basket, Pima Indians, Arizona</td>
<td>1880 - 1900 AD</td>
<td>mountain home of Siuhu, legendary Pima deity, protected the people and brought them crops and rain; his benevolence was frequently abused (killed several times, he came back to life) so he surrounded himself with a labyrinth for protection from enemies; the design reflects his mystery, distance, power, willingness to reemerge to help his people</td>
</tr>
<tr>
<td>'Nandyavarta' - Hindu labyrinth design based on the lunar swastika</td>
<td></td>
<td>a penetration of &quot;inner mysteries,&quot; that is, a revelation to be found in the Holy of Holies in a temple, or in the womb, or in the unconscious mind (Walker)</td>
</tr>
<tr>
<td>poster, American artist Matt Mullican</td>
<td>1984</td>
<td>‘God’</td>
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### Morphology: Syntactic Variable and Resulting Semantic Effect

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<th>Rotation</th>
<th>Transformation</th>
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<td>Balance</td>
<td>Structure</td>
<td>Security</td>
<td>Structure</td>
</tr>
<tr>
<td>Instability</td>
<td>Balance</td>
<td>Structure</td>
<td>Instability</td>
<td>Entrapment</td>
</tr>
<tr>
<td>Structure</td>
<td>Level</td>
<td>Precise</td>
<td>Construction</td>
<td>Stability</td>
</tr>
<tr>
<td>Construction</td>
<td>Incomplete</td>
<td>Tension</td>
<td>Extending</td>
<td>Active</td>
</tr>
<tr>
<td>Upward</td>
<td>Direction</td>
<td>Active</td>
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<td>Downward</td>
<td>Direction</td>
<td>Active</td>
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<td>Tension</td>
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<td>Instability</td>
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<td>Active</td>
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<td>Flexible</td>
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<td>Tension</td>
<td>Active</td>
<td>Tension</td>
<td>Active</td>
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<td>Union</td>
<td>Intersection</td>
<td>Balance</td>
<td>Active</td>
<td>Shelter</td>
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<tr>
<td>Intersection</td>
<td>Focal Point</td>
<td>Active</td>
<td>Center</td>
<td>Locality</td>
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Figure 16: Morphology 1
morphology

By placing a form and its relationship to other forms in a matrix of possibilities, a morphology offers an overview for the kinds of transformations that can be applied to a form. Before creating the prototype symbols, an important step was to diagram a morphology for using and understanding the basic elements of all symbols - square, circle, line, point. I created such a morphology, drawing from the study of archetypes as well as many other sources of the meaning of symbols. There are many considerations when using such a morphology - syntactic: direction, shape, weight, rhythm, joinery, tone, texture; and semantic: hierarchy, tension, kinetics, conventionality. Of course, many variations in these categories affect both the syntax and semantics of a symbol.

According to Adrian Frutiger, archaeological evidence shows that humans seem to have an innate feeling for geometry. The square’s primary associations are as a representation of an object, a built structure, a boundary, or protection. As it becomes a rectangle, the meaning shifts depending on the difference between height and width. Vertical rectangles with a much greater height than width begin to be read as pillars or poles, representing strength or support. When a square is turned on one of its points, it seems unstable but intentional; many traffic signs use this symbol as a background for important information. The circle carries a connotation of continuation, movement, encompassing, and totality. We associate the circle with wheels for motion, cyclical events and systems like the cycle of life and the measurement of time, objects from a ball to the world, and a hole to enter or leave from a manhole cover to the womb. Lines can signify many things, depending on their relationship with other lines and other signs. A vertical line implies movement up and down, as well as something upright with respect to the ground, and a horizontal line implies movement left to right, or the ground plane itself. Combinations of lines create corners, crosses, joinery as in construction, counting systems, barriers, etc. The point, or dot, represents a precise locality, an intersection, or a minute object. It is almost always used in conjunction with other signs, and takes on many meanings contingent on its placement. A multitude of points creates a screen, a cluster, or even clutter. Since ancient times, humans have reacted to points by drawing imaginary lines between them, like those stars that make up constellations.\footnote{Adrian Frutiger, Signs and Symbols: Their Design and Meaning (New York, NY: Van Nostrand Reinhold, 1989): 23 - 29, 45 - 47.}
### Symbol Incorporations and Combinations

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Symbol" /></td>
<td>man / woman: upward / active + stability + orb (head)</td>
</tr>
<tr>
<td><img src="image2" alt="Symbol" /></td>
<td>day: orb / wholeness + horizon / radiating / shining</td>
</tr>
<tr>
<td><img src="image3" alt="Symbol" /></td>
<td>night: incompleteness + orb + above</td>
</tr>
<tr>
<td><img src="image4" alt="Symbol" /></td>
<td>in: shelter / inviting + direction / movement / action</td>
</tr>
<tr>
<td><img src="image5" alt="Symbol" /></td>
<td>out: shelter + direction / movement / action</td>
</tr>
<tr>
<td><img src="image6" alt="Symbol" /></td>
<td>go: upward + direction / action + direction / movement</td>
</tr>
<tr>
<td><img src="image7" alt="Symbol" /></td>
<td>stop: &quot;go&quot; / see above + passive / grounded</td>
</tr>
<tr>
<td><img src="image8" alt="Symbol" /></td>
<td>ground: horizon / stable + organic / natural</td>
</tr>
<tr>
<td><img src="image9" alt="Symbol" /></td>
<td>sky: horizon / extending + organic</td>
</tr>
<tr>
<td><img src="image10" alt="Symbol" /></td>
<td>fire: upward rising / aggressive + organic / active</td>
</tr>
<tr>
<td><img src="image11" alt="Symbol" /></td>
<td>water: horizon / extending + fluid / organic</td>
</tr>
<tr>
<td><img src="image12" alt="Symbol" /></td>
<td>house: structure / earth bound + inviting + shelter</td>
</tr>
<tr>
<td><img src="image13" alt="Symbol" /></td>
<td>movement: movement / journey</td>
</tr>
<tr>
<td><img src="image14" alt="Symbol" /></td>
<td>psychological journey: lack of direction, choices, search for the center</td>
</tr>
<tr>
<td><img src="image15" alt="Symbol" /></td>
<td>earth: totality / completeness + active</td>
</tr>
<tr>
<td><img src="image16" alt="Symbol" /></td>
<td>wind: active + active / flexible + organic / fluid</td>
</tr>
<tr>
<td><img src="image17" alt="Symbol" /></td>
<td>birth: woman + shelter + small human</td>
</tr>
<tr>
<td><img src="image18" alt="Symbol" /></td>
<td>death: orb (head) + crossed out / eliminated</td>
</tr>
<tr>
<td><img src="image19" alt="Symbol" /></td>
<td>time: totality + measurement + portion</td>
</tr>
<tr>
<td><img src="image20" alt="Symbol" /></td>
<td>medicine: active / upright + organic / active + balance / order</td>
</tr>
</tbody>
</table>

*figure 17 Symbol Combinations Diagram*
Next, there was a phase of synthesis of formal and theoretical findings with personal formal explorations into a set of prototype symbols, engaging in a process of informed play yielding a form which felt right intuitively. In evaluating these symbols, I referred back to associated meanings found through the first morphological exploration. By breaking down the symbol into its component parts and combining the respective associations, I was able to illustrate the ‘building’ of each symbol and create a visual language by which they could be understood.

For example, the symbol for fire is made up of two independent symbols, the upward pointing triangle and the organic vertical line. Individually they represent upward movement, aggressiveness and organic vertical activity, respectively. The final symbol combines these concepts, which indeed describe fire, as well as serves as an indexical sign in that the form resembles that of a flame. The same referential quality is also evident in the symbol for water, and it, too, is made up of two distinct symbols. The straight horizontal line refers to a flat horizontal plane, or the horizon, and, due to the law of continuation, one tends to imagine the line extends perhaps indefinitely. An organic, or curvilinear, horizontal line references something organic and fluid. Thus, the water symbol is a logical representation of these concepts.

The combining of signs, beyond just a formal transformation, creates a new emotional, psychological or intellectual impression. This is how a visual language is achieved and, according to Frutiger, “we will constantly come across this aspect of the signs becoming language, through juxtaposition and combination.”

denotative
the most specific or direct meaning of a sign; closed.

connotative
associate implications constituting the general sense of a sign beyond its literal sense; open.

\(^{15}\)Ibid., 53.
**Figure 18: Morphology 2: Structural Possibilities**

<table>
<thead>
<tr>
<th>Basic Elements</th>
<th>Human</th>
<th>Stay</th>
<th>Night</th>
<th>On</th>
<th>Out</th>
<th>Get</th>
<th>Slip</th>
<th>Ground</th>
<th>Sky</th>
<th>Fire</th>
<th>Water</th>
<th>House</th>
<th>Sun, Moon, Stars</th>
<th>Movement</th>
<th>World</th>
<th>Body</th>
<th>Birth</th>
<th>Death</th>
<th>Tree</th>
<th>Medicine</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><img src="human.png" alt="Human" /></td>
<td><img src="stay.png" alt="Stay" /></td>
<td><img src="night.png" alt="Night" /></td>
<td><img src="on.png" alt="On" /></td>
<td><img src="out.png" alt="Out" /></td>
<td><img src="get.png" alt="Get" /></td>
<td><img src="slip.png" alt="Slip" /></td>
<td><img src="ground.png" alt="Ground" /></td>
<td><img src="sky.png" alt="Sky" /></td>
<td><img src="fire.png" alt="Fire" /></td>
<td><img src="water.png" alt="Water" /></td>
<td><img src="house.png" alt="House" /></td>
<td><img src="sun-moon-stars.png" alt="Sun, Moon, Stars" /></td>
<td><img src="movement.png" alt="Movement" /></td>
<td><img src="world.png" alt="World" /></td>
<td><img src="body.png" alt="Body" /></td>
<td><img src="birth.png" alt="Birth" /></td>
<td><img src="death.png" alt="Death" /></td>
<td><img src="tree.png" alt="Tree" /></td>
<td><img src="medicine.png" alt="Medicine" /></td>
</tr>
</tbody>
</table>
Implementation of a morphology with the prototype symbols was then necessary to understand the variation and meaning potential of the basic structural elements of each symbol. This morphology focuses on subtle structural variations, taking into consideration clarity and consistency among the symbols. A morphology is simply a type of matrix, a useful tool in design problems. Whereas Morphology 1 was a matrix used in the development of symbols, the second matrix is used to contain and display the final morphology of symbols.
Figure 19: Prototype Symbols
• production of prototypes

In the production of the prototype symbols for display, I was concerned with veering away from the structured, methodological nature of the morphology portion of the creative project. Not only to show more of the designer’s hand, but also to make a connection to the origins of mark-making on cave walls, etc., the final presentation was in oil pastel on canvas. I experimented with tools and media to create a rough, textural quality while maintaining clarity and consistency. Ultimately, the symbols were drawn in oil pastel on small canvases.
To illustrate potential applications to graphic design problems, I developed three symbol and image problems using several of the prototype symbols. The first example juxtaposes symbols for natural environments and weather conditions with an ancient rock painting of a skier. The vertical columns group families of symbols, and the emphasized symbols illustrate the conditions which are necessary for the sport:

- day (vs. night)
- mountains (vs. flat ground, forest, swamp, sand)
- snow (vs. clear, rain)

The second example places symbols that could be used for navigation in the context of world travel: world (international), go, man/woman (restrooms), stop, out, in, time (arrival, departure).

Example three implements symbols that can be considered issues in the cycle of human life: birth, time, house, movement, man/woman (marriage), psychological journey, medicine (health), and death.

For the purpose of this study, the applications are purposely abstract in nature. The intention of this study was to provide a methodology by which a designer, given a specific design problem, could create new or use existing applicable symbols with a thorough understanding of their connotations.
Exhibition

All graphic symbols originate from some combination or transformation of four basic elements:
- square
- circle
- point
- line

These essential elements are believed also to be understood innately, part of a shared human structure in the unconscious. The structure, or grid, on which exhibition materials were organized was derived from these essential elements. The circular lines and construct were used to create an environment in which the viewers themselves were ‘inside’ a symbol. The progression from left to right (beginning to end of exhibit) illustrated the ‘building’ of a symbol by transforming from dotted line to solid line to the third dimension. In this way, the exhibition was experienced as a cohesive whole on a macro level, then the individual parts experienced on a micro level.

Public response to the exhibition was noted in a guestbook, and overall was very positive. Many of the comments revolved around the small prototype symbols and their display. The success of this display was in large part due to its intentional violation of the square space and the interaction required of the audience to identify the symbols.
Figures 24 - 26: Completed Exhibition
Evaluation

It is important to reiterate that the intent of this study was not to prove whether or not a truly universal symbol language is possible, but to establish a way for myself and other visual communicators to approach this universality. Many of the responses to this study from other individuals focus on the issue of personal experience and bias. Of course, we all interpret visual (and other) stimuli based on our own cultural, social, religious, and psychological make-up. Despite such conditioning, this study brings to light a common ground, deep in our sub-conscious. Whether we label it the ‘collective unconscious’ or the ‘archetype’ after Carl Jung, the evidence of common connotations of forms is undeniable. As Paul Rand reminds us, “the circle as opposed to the square, for instance, as a pure form evokes a specific aesthetic sensation; ideologically it is the sign of eternity, without beginning or end. A red circle may be interpreted as the sign of the sun, the Japanese flag, a stop sign, an ice-skating rink or a special brand of coffee...depending on its context.”

With an understanding of the pure forms which make up the symbols designers create and use, graphic symbols can effectively supplement language to communicate to a large audience. The simple steps used to develop prototype symbols in this creative project can be applied to many design problems, from logo design, to package design on merchandise for export, to posters promoting global awareness or international events. This study has proven to be extremely informative to my personal process of ideation and form-giving. However, the time limitations, with respect to a creative project study, do not allow for the breadth of the subject matter. It is an area of investigation that deserves much more attention.

Outside of the realm of signs and symbols, but strongly related, is the issue of typography. It would be impossible for a study such as this one not to inform my use of letterforms. Since the time of the ancient Greeks, letterforms have consisted of simple geometric forms based on the circle, triangle, and square. Thus, any revelations made throughout this creative project concerning those shapes’ connotations can only inform my sense of the semantics of a typeface. Of course, a sans serif, highly geometric font such as Futura or Kabel carries a very different set of connotations than an old style font such as Garamond. The pure circle, prevalent in Futura and Kabel lowercase letterforms, connotes wholeness, universality, movement, precision, machinery. Old style type, however, connotes something more organic, personal handwriting, historical tools and techniques. The analysis of the basic elements that make up signs and letterforms - square, circle, triangle, point and line - has reinforced my intuitive sense for type design, as well as sign-making.

Conclusions

Lawrence Frank asserts that a symbol “becomes meaningful and evokes human responses when, and only when, a perceiver of that symbol projects meaning into it and responds to in terms of the meaning which he has learned as appropriate for that symbol.” Thus a symbol must be group-recognized and commonly used, either by tradition or, if it is newly created, by general acceptance. What has been neglected, however, in much analysis of symbols, is the fact that this ‘tradition’ that guides our perception has become ingrained through the centuries to achieve archetypal status. That is, human response to form, and visual stimuli in general, is as much inherited as it is learned. The two are co-dependent, as archetypes are dormant forms to which our culture and life experience give substance.

Expression and mutual understanding between groups of people has always been one of the most important aspects of human life and a basic condition for survival. Until a few hundred years ago, when Gutenberg introduced mass production of texts, communication between people was dependent on a strong oral tradition, accompanied by pictures, symbols and signals. The spread of script and phonetic alphabets through all levels of society has almost entirely wiped out the use and understanding of this wealth of pictures and symbols.

Every blink of the eye brings a picture to the human mind. Our thoughts and concepts, memories and dreams, our whole experience is played out in pictures. This is not a reference to photographic reproductions but to mental pictures, which are not of well-defined objects but rather of archetypes of things that we have seen and experienced, once or many times, and through the piling up of impressions something in the nature of stylized drawings has remained behind, without any sharp outlines, for these pictures, as in dreams, have become somewhat schematic, something that approaches the nature of a sign.

It is no mystery, then, why there is a necessity in contemporary society for the renewal of the use and understanding of pictographic symbols. Who better than today’s visual communicators to close the circle that takes us back to the rock paintings of our ancestors.


Further Directions

“The vitality of a symbol comes from effective dissemination...by the state, by the community, by the church, by the corporation. It needs attending to get attention.” The value of any symbol system cannot be truly assessed without keeping in mind the importance of education and distribution. In the 1960s Margaret Mead and Rudolf Modley co-directed Glyph, Inc., a non-profit organization with the sole purpose of standardizing and disseminating international symbols. The more symbols that are generated for individual projects by designers, architects, etc., the more confusing and overwhelming the presence of symbols in our society.

In the final stages of this creative project documentation, I discovered the first evidence of a contemporary campaign for the standardization of pictograms. “The International Pictograms Standard” book, CD-ROM, and website (http://www.pictograms.com) is about “a quest to improve communication within today’s global metropolis, bridging language barriers and simplifying basic messages.” Within the CD-ROM and book are scoring sheets allowing designers and other communicators to vote on pictogram candidates for future updates of the Standard. Todd Pierce of Design Pacifica International leads this campaign with the goal of introducing an International Pictograms Standard throughout the world. I will surely participate, as I hope many others will do.

To achieve a truly successful standard of symbols, it is of course necessary to involve as many people's input as possible: young and old, disabled and able-bodied, a diversity of cultures. One problem we face, of course, is the overall insufficient level of visual literacy. In this country, a primary and secondary school visual education program is greatly needed. It would be my goal, if this study was to extend into the future, that the study of symbols be incorporated in the introduction to color and form, without neglecting the common use of many symbols throughout the history of the world.

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A critical analysis of existing symbols and their potential to confuse viewers.

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