Ancient art and modern language

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Art in its purest state is driven by an overwhelming desire to express something which the artist finds profoundly meaningful. The fact that the meaning of a certain piece of art may be communicated to someone else is merely a by-product of the artist's effort. In my mind, there has never been any question that ancient markings like the Bhimbetka Glyphs (rock engravings of ancient India, c.270.000 years old) are works of art which were probably motivated by the same compulsion for self-expression which continues to motivate the artists of today.

The Glyphs convey a wealth of visual information about the inherently meaningful nature of arcs, lines, and circles. A painted reproduction of the glyphs would not seem out of place in a gallery of contemporary art (Fig.1). The visual logic of the markings is timeless.

Academic researchers who doubt that ancient artists possessed the capacity for language are generally not basing their reasoning on any lack of visual logic in the markings themselves; their doubt arises from ideas about language which were

Fig.1. Artist's rendering of the 270,000-year old rock art glyphs at Bhimbetka, India

first expressed a century ago by Ferdinand de Saussure (a founder of modern linguistics). Saussure concluded that since there was no consistent relationship between the sounds for words and the things or concepts they conveyed, their relationship must be arbitrary. Saussure's theory of "the arbitrariness of signs" was later extended to written language, and it is now almost universally accepted by psychologists, philosophers, and cultural theorists.

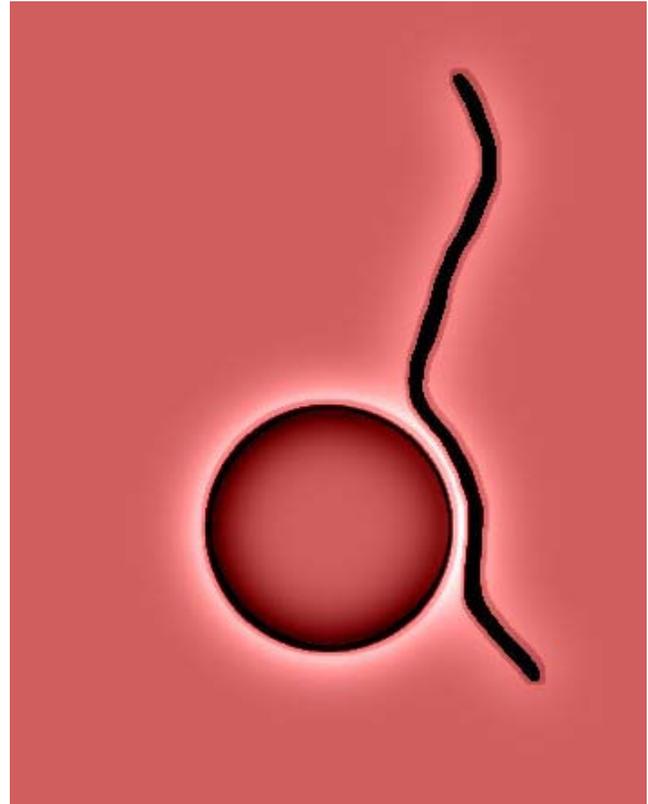Psychologists embraced Saussure's theory of arbitrariness because it aligned with Bouma Theory, a long-standing theory of word recognition based on the belief that we read words by their overall shape rather than reading their individual letters. Contemporary philosophers then jumped on the bandwagon by theorizing that since we had learned to associate specific meanings with the arbitrary shapes of written words, all expressions of meaning must be arbitrary, even images.

Cultural theorists such as Roland Barthes championed this philosophical viewpoint. The theory seemed to suggest that a visual artist can-

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"The spelling of a word…can be visualized in uppercase, lowercase, script, Braille, Morse Code, or even spelled verbally with no effect on the meaning of the word."

not express a level of meaning equivalent to a writer or poet unless they use words as their images. The result was that in the 70's visual art comprised primarily of words began to appear in all the major museums.

This focus on linguistic philosophy as the critical foundation for visual art continued; a major exhibition entitled "Word as Image" was mounted by the Milwaukee Art Museum in 1990. It has been very difficult to challenge the current academic viewpoint because any argument based on inherently meaningful aspects of signification was treated as irrelevant. But quite recently, the cornerstone of the accepted theory cracked, although no one seems to have noticed.

It turns out that Bouma Theory is incorrect; advances in eye-tracking technology have shown that we actually do read the individual letters of written words (Parallel Letter Recognition [1]). Additionally, brain injury studies seem to indicate recognition of speech is more dependent on the ability to decipher the sequencing of the vocalic gestures than the characteristics of the sound itself [2]. These new discoveries tell us that the aural or visual features of a word are only relevant in relation to transmission of its sequencing; the meaning is actually being conveyed by the encoded content of the sequence. This means that in language, as in the genetic code, the visual form of the letter-characters is irrelevant. We know this is true because we can transmit spelling sequences using characters of any form without affecting meaning. The spelling of a word, for instance, can be visualized in uppercase, lowercase, script, Braille, Morse Code, or even spelled verbally with no ef-

fect on the meaning of the word.

Since the identity of a letter is defined by its role in spelling rather than its letter-character, Saussure's observation that a written word doesn't visually resemble the concept it conveys is very much like an observation that the genetic letter-sequence for the human hand doesn't look like the visual form of a human hand. To actually determine if there is any inherent relation between language and meaning, we would need to look for a logical patterning encoded within the spelling sequence.

English spelling did not evolve according to any conscious plan so any logic present in its sequencing would have to result from a purely innate tendency to replicate some deeply-rooted principle of patterning associated with meaningful conceptualization. Since isolated instances of coincidental structure can arise in arbitrary formulations, we would need to uncover "thematic" features of structure. Another challenge to uncovering structure is that living languages are in a constant state of evolution, words can have competing uses relative to meaning— any perceptible structure might not appear to be entirely consistent because spelling is no longer permitted to evolve in relation to changes in word use (it is now fixed as a result of education and mass media).

Looking for inherent patterning in the sequencing of spelling also seems highly problematic because the patterning is linear. But surprisingly, a solution is conveyed by the design of the Bhimbetka Glyphs: the line tracing a portion of the arc of the circle maintains its integrity by never actually

touching the circle; the glyphs visually illustrate how a line can become a circle while retaining its linear identity and structural content. The visual expression of logic conveyed by the glyphs provides us with insights which are applicable to uncovering the patterning of language.

If we curve a line of language until it touches end to end, the linear sequence assumes the spatial form of a circle. The structural content of the line remains intact. All 700,000 words of the English language are spelled using only 26 letters so the patterning of all English words can be visualized by means of a simple process: **the letters of the Roman Alphabet are arranged in a circular configuration of 26 letter-points (the consonants are spaced between an equal spacing of the 5 regular vowels). When lines or chords are inscribed according to the spelling of words, a pattern emerges** (see Fig.2 on Page 3 for examples)**.** Although the entire configuration is rotated so that "E" rather than "A" is at the top (to orient our view of the symmetry); the 26 letter-points always remain in their fixed locations. Consequently, all variations in the patterning from word to word result entirely from the differences in their spelling.

References:

1. Rayner, K. (1998). Eye movements in reading and information processing: 20 years of research. *Psychological Review*, 124 (3), 372-422.

2. Vesna Mildner (2008). The Cognitive Neuroscience of Human Communication. *Language Arts & Disciplines*.

Ancient art—modern language (contd.)

A-E-I-O-U-A **AXIAL** **ABAXIAL** **COAXIAL** **EXTENT**

THESE SHAPES ARE LEXICAL STRUCTURES.

NO AWKWARD OR AMBIGUOUS RANDOM-WALK

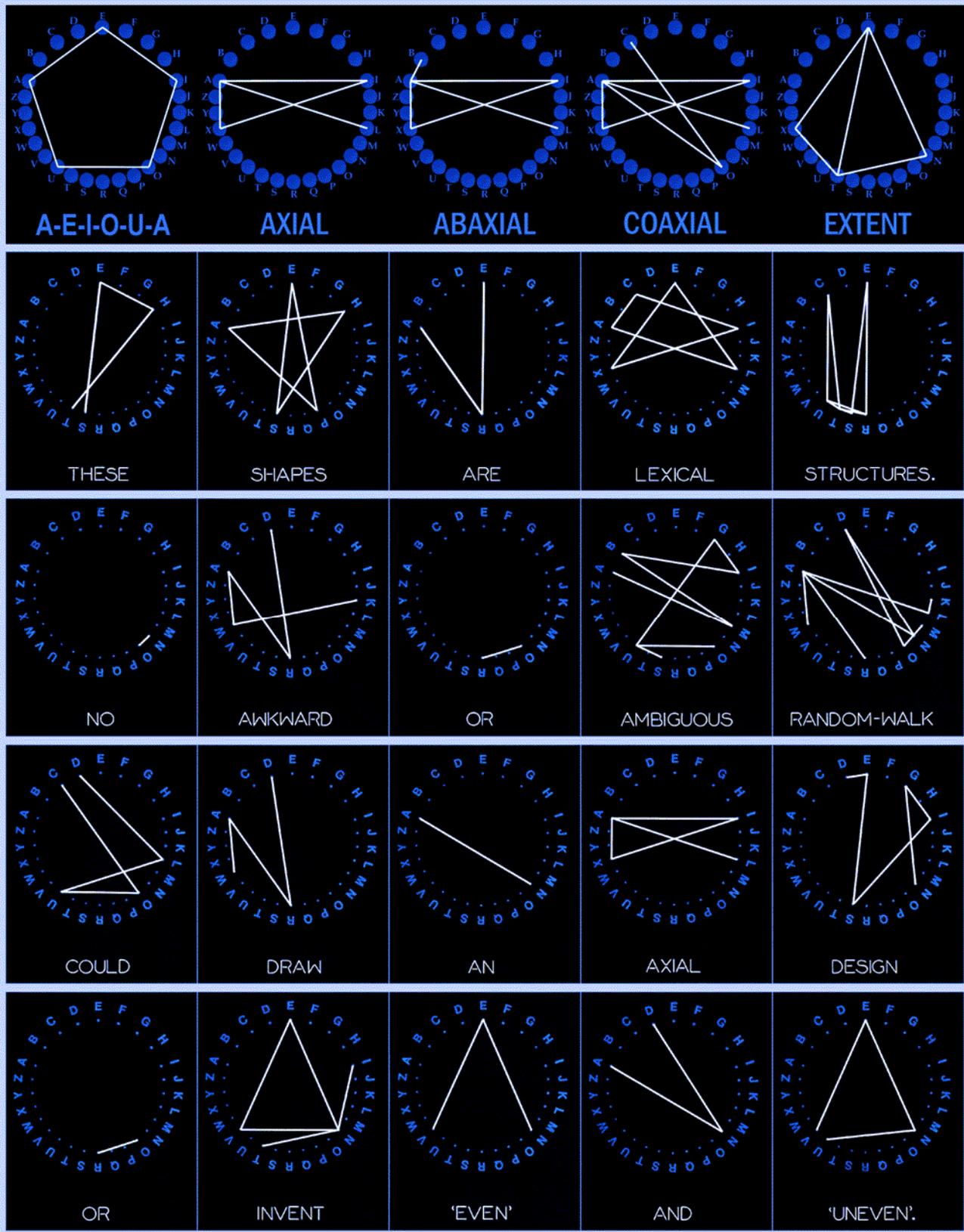COULD DRAW AN AXIAL DESIGN

OR INVENT 'EVEN' AND 'UNEVEN'.

Fig.2. The letters of the Roman Alphabet arranged in circular configuration. Patterns emerge when letters connect to form words.