

ALTERNATIVE THEORETICS (Arts & Culture)

Article

New Discoveries Should Reopen the Discussion of Signs

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Abstract: Some recent scientific discoveries regarding the signs of language, which impact my own ongoing project as a visual/conceptual artist, also dramatically impact the Saussurian foundation of the prevalent cultural theories which underlie the curatorial priorities of many major art institutions.

Keywords: Signs; Semiotics; Art; Culture; Saussure; Gesture; Linguistics; Orthography;

Introduction

My ongoing project as a visual/conceptual artist attempts to pose the question: is there any possibility that a word's meaning could have unintentionally influenced our cultural ancestor's choices when they created the signs for words. Most cultural theorists believe the question has already been answered. Their view is that it is not possible for an innate or intuitive aspect of awareness to unknowingly influence the structuring of signs during the evolution of language, because the signs of language are arbitrary. Their view was first expressed over 100 years ago by Ferdinand de Saussure, a founder of modern linguistics. Saussure noted that, except for rare instances of onomatopoeia and sound symbolism, the overall sound of a spoken word and the meaning of the word are not related. He formulated the logical assumption that the connection between the sign for a word and its meaning is fundamentally arbitrary. Saussure's assumption was later applied to written language because it aligned with the prevailing conception of how we read words; Bouma Theory stated that we read words by recognition of their overall shape or outline. And just as with spoken words, no connection between a written word's abstract shape and its meaning had been found. Saussure's assumption that the signs of language are fundamentally arbitrary became a foundation of modern linguistics. Cultural theorists then further expanded the idea to include all other signs, even images (making Saussure's assumption a foundation of 'Semiotics', the study of all signs) [1-4]. The idea that all signs are arbitrary aligned with

a popular philosophical theory of the human mind as a blank slate, a tabula rasa with no inherent structural dynamics. If the mind can learn to connect language-based meaning to arbitrary shapes and sounds, then it seemed reasonable to assume that all meaning is connected arbitrarily to a perceptual stimulus. The theory boils down to the basic conception that all forms of meaning are comprised of arbitrary relational networks arising between arbitrary signs. Networks of meaning emerge simply as the result of the focus of our attention. Some networks are then reinforced by a cultural context of existing relationships which, although initially assembled arbitrarily, are culturally reinforced to become treated as discrete phenomena. Although many philosophers and cultural theorists continue to subscribe to the idea of the mind as a blank slate, many scientists point to discoveries which they believe make the idea implausible [5]. Also, if there is no inherent stimulus, our capacity for being attentive to the field of sensory input would not exist. Later in this article, the relationship between language and consciousness will be discussed a bit more, but the article's focus is the nature of signs.

The most important point is, all questions relating to the structure of signs have become irrelevant and all discussion of the inherent nature of signs is now closed. If we accept the idea that all signs are arbitrary, there is no fundamental difference between the perception of: a material object; the word for the object; or an image of the object. As a result, the signs from one discipline can be used in another discipline without referencing the critical history of the sign's origin. Placing text on a gallery wall is treated as an appropriate means of creating work in a visual arts context, and the text need not be subjected to a literary critique. Statements which might be considered insignificant from a literary arts point of view are celebrated as ground breaking when presented in galleries, because they are new additions to the cultural and historical dialogue within the context of the visual arts. The distinction between the inherent nature of signs of different disciplines has dissolved to the extent that an exhibition in an art museum can now be comprised entirely of non-visual content, such as recordings of spoken words. Academic critiques now focus on the hermeneutics of the social, cultural, and historical context surrounding the use of the various signs, and the stated intention behind their choice, but disregard the construction of the signs. As a consequence, many museums are relegating 'art for art's sake' to a less important position because it is most often concerned with the construction of the signs/images themselves. Social commentary surrounding a work of art has often become more important than the work. And it is now entirely acceptable for artists to appropriate work created by others, treating it as a sign within the context of their own message (we accept the idea that these artists are creating a new work by repositioning the borrowed sign in a different cultural or sociological narrative). But this paper brings to light recent discoveries which demonstrate that the Saussurian foundation of these trends is rooted in a false perspective of the nature of linguistic signs.

Recent discoveries make it clear that the logical basis of Saussure's assumption is groundless.

Remember, Saussure never offered any proof whatsoever that the signs for words were arbitrary. It was merely an assumption based on the observation that the overall sound of a spoken word didn't seem to have any relationship to its meaning. Unfortunately for all those who have built their theories on Saussure, his observation was based on an inaccurate conception of linguistic signs. Psychologists studying language have recently uncovered evidence that the overall sound is not the sign for a spoken word, what we recognize as a spoken word is the patterning underlying the sequencing of the vocalic

gestures [6-9]. The same vocalic gesture can be reflected in widely varying forms of phonetic sound. Consequently, it is not the sound, or even the gestures themselves which comprise the sign; it's the pattern of the sequencing of the gestures. It's similar to Morse Code in that the signifier is not manifest in the dots and dashes which the telegraph operator hears as long and short tones but rather in the temporal pattern they reconstruct (the continuous gestural events have only been artificially dissected based on research criteria--any naturally discreet units of the sequential phenomena remain unidentified). However, Saussure's conception of the sign for a spoken word was clearly incorrect. He never examined the sequencing of vocal tract gestures to look for a connection to signified meaning.

Just as we can send Morse Code visually using flashes of light, we can also transmit words visually. The signs for written words are easier to analyze than the signs for spoken words, and a similar discovery has been made about how we read written words. Advances in eye-tracking technology have led to the discovery that we don't read words by their overall shape or outline as had been thought; we read the sequences of individual letters. Bouma Theory was another incorrect assumption--the new theory is Parallel Letter Recognition [10]. Despite these new discoveries, which tell us that image-based and language-based signs are experienced very differently, all discussion of the inherent nature of signs has remained closed because Saussure's assumption has been treated as fact. The difference between the two classes of signs is profound. The sign for a word is one-dimensional while an image-based sign is two-dimensional. The signs of spoken and alphabetic language are a linear pattern of temporal relationships which have no spatial form. The perception of images is not inherently involved in the reading of words (the symbol for a letter can be read by touch in Braille, or as sounds in Morse Code). We only need to recognize 26 different symbols to read over 750,000 English words; and although we need to be able to distinguish one symbol from another, the symbols can be of any mutually agreed upon form (uppercase or lowercase type, script, Braille, Morse Code, or any other visual, textual, or auditory symbols we might wish to invent). The characters or symbols used to convey the individual alphabetic components are arbitrary but the symbols do not establish alphabetic identity. Each alphabetic letter-component (not to be confused with the purely arbitrary letter-names or letter-characters) has a specific identity which is based entirely on its role within the alphabet, as it relates to the lexicon of the language (identity is based on relative alphabetic location). Most importantly, the characteristics which define each alphabetic component's identity are not arbitrary because different components of the alphabet play different roles within the structure of language. Some alphabetic-components consistently affect the meanings of many different words, such as changing tense, pluralizing, or creating prefixes which dramatically alter meaning. Since the alphabetic components have particular roles with regard to aspects of meaning, it is undeniable that some level of relationship exists between the assemblage of meaning and the relative structure of the alphabet. But an individual alphabetic component is not the sign for a word (English has two instances), the sign resides in their sequencing (spelling)--the question posed by my project is not implausible. It is possible that there is an innate or intuitive structure underlying senses of meaning; and to some extent, it influenced the choices of the vocalic/alphabetic system comprising the signs of language. Since our cultural ancestors choices of gestural or alphabetic sequencing were not made according to a plan, innate senses of the formulation of meaning were free to influence the choices unintentionally.

The new discoveries indicate that the question of the inherent nature of signs should never have been treated as resolved. The signs for words are the manifestation of language, and language is the

very foundation of culture; so no question is more significant with regard to gaining insights into the cultural aspects of human experience. Since the signs for words are assembled intuitively by the collective choices of many generations of our linguistic ancestors; the signs themselves are essentially a collaborative work of art. As such, the 'spelled-forms' which are the focus of my project are not fundamentally my own artistic creation. I am simply a translator who makes an existing temporal work of art visually experienceable. I accomplish this by using a rigorous process which translates the linear code of the alphabetic sequences of spelling into an information-preserving geometric configuration which can be viewed as an abstract image. The process is quite simple: lines are drawn which interconnect letter-points according to the spelling of words within a circular configuration of the alphabet (Figure 1). The alphabetic points are not spaced equally around the circle. The consonants are

Figure 1. "Lexicological Structures" 2015, acrylic and pigment print on paper, 22 x 22 inches

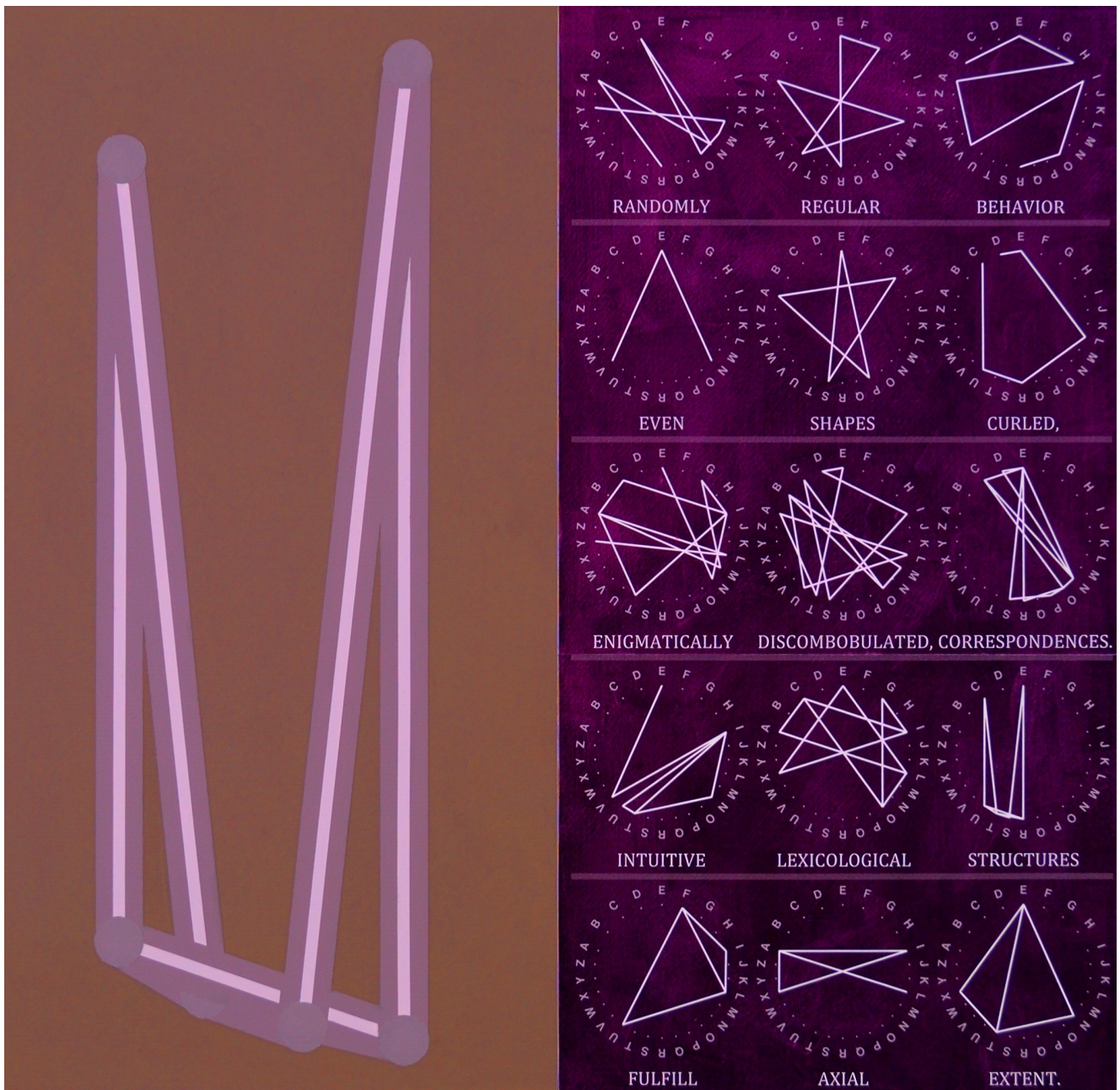
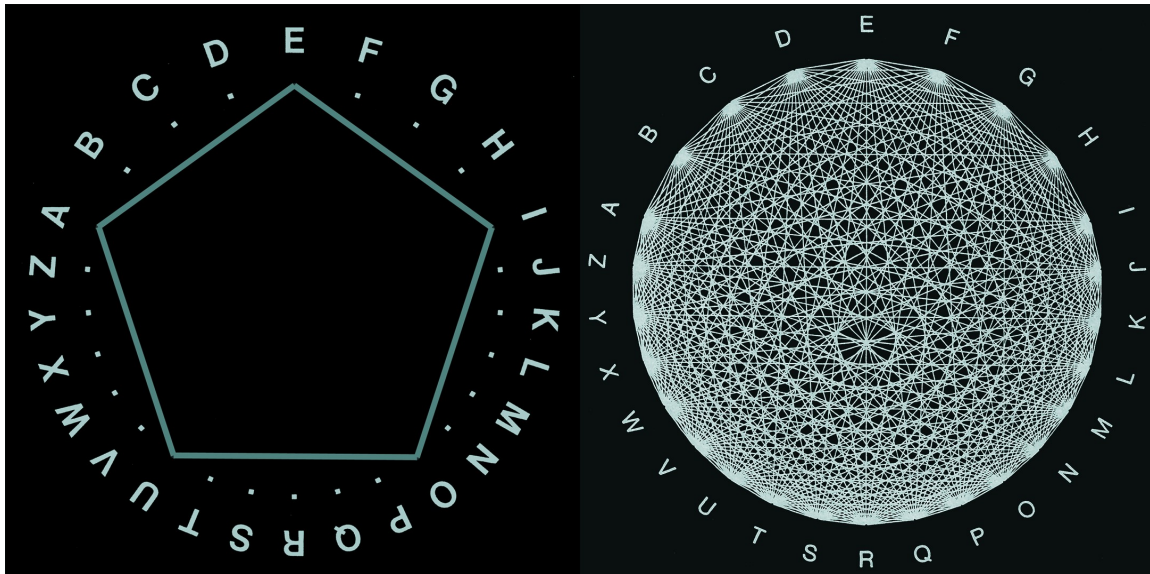
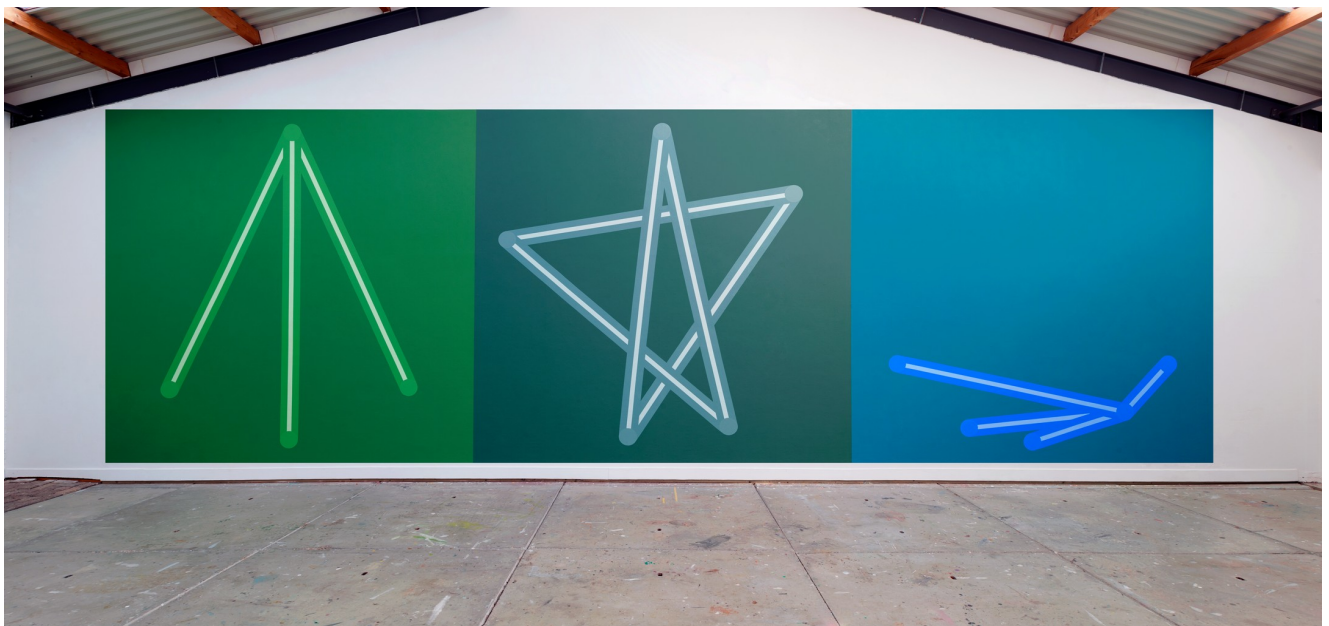


Figure 2. (Left) Illustration of the fixed alphabetic configuration of letter-points organized around an equal spacing of the 5 regular vowels. (Right) 'All WORDS'--325 straight lines illustrating all the possible letter-relationships of the Roman Alphabet



spaced equally between an equal spacing of the five regular vowels (Figure 2). The configuration is based on a circle because it is the only geometric shape which does not have inherent spatial variation along its perimeter (the same reason a circle is used for a pie chart). The spelled-forms created using the process are often presented as abstract paintings (Figure 3). Viewing the temporal code as abstract

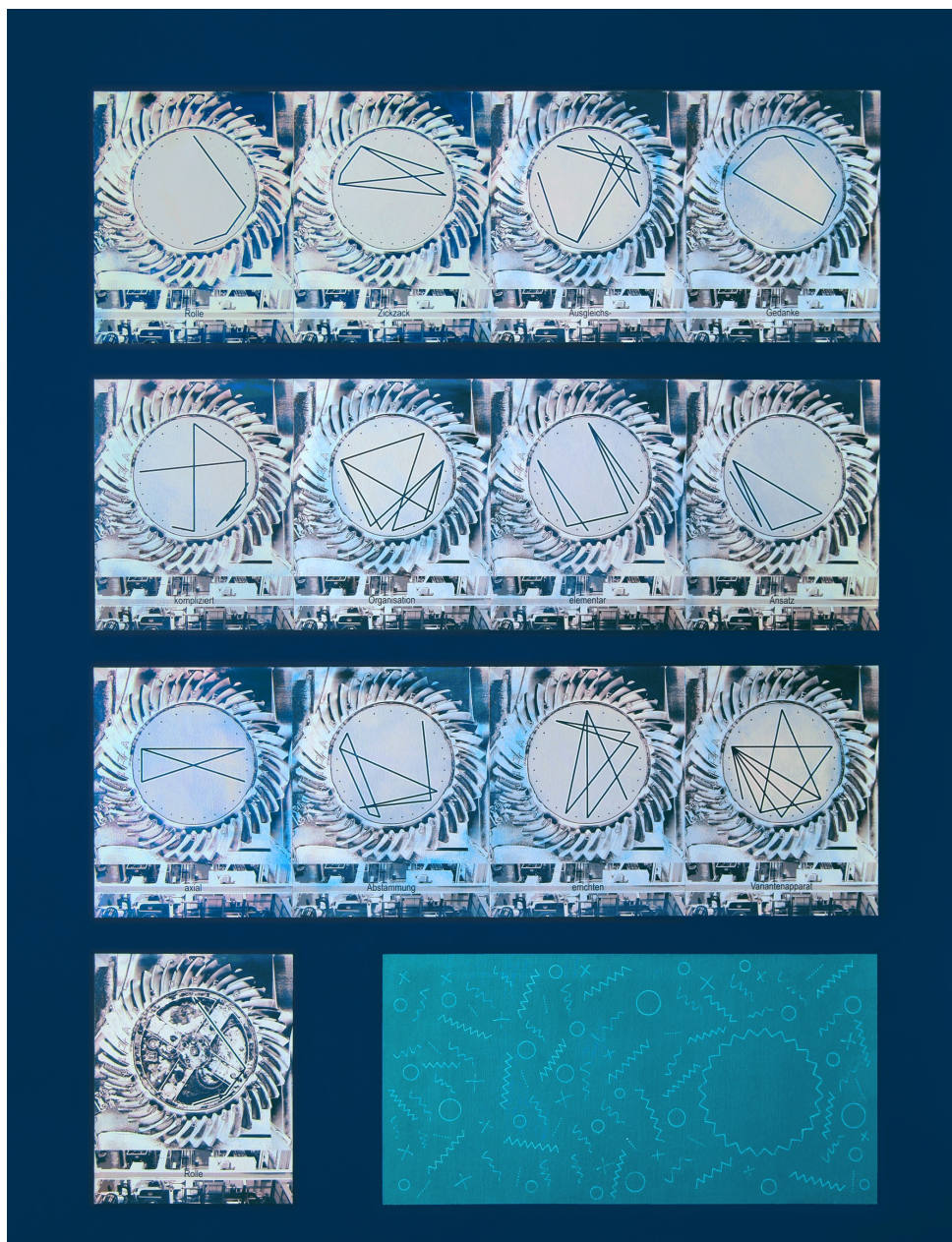
Figure 3. "Never Shapes Tomorrow" 2013, Acrylic, 13 x 39 ft. (Spelled-Forms of the title's words)



art facilitates intuitive assessment of the sign. Intuitive assessment is the most valid means of evaluation because the choices comprising the signs of language were formulated innately or intuitive-

ly, rather than rationally. As we read words, the alphabetic sequences of spelling are being recognized but the recognition immediately recalls the associated meaning. Our rational mind is not aware of the features of the patterning of the sequence which made its recognition possible. When I create a two-dimensional visual map of the patterning, the structure of the temporal sequence becomes apparent because it can now be perceived as a visual rather than linguistic sign. My work is entirely concerned with rigorously transforming a linguistic sign into a visual sign, so the current cultural theory is in direct conflict with my project because it inappropriately treats the written word itself as a visual sign (or a sign which is not inherently different than a visual sign). This paper has focused on the English Language but the spelled-forms of many other Romanized languages have been explored (Figure 4). If

Figure 4. An untitled work commissioned by Daimler Mercedes-Benz, 2015, mixed-media on canvas, 72 x 56 inches (spelled-forms of 12 German words: Rolle, Zickzack, Ausgleichs-, Gedanke, kompliziert, Organisation, elementar, Ansatz, axial, Abstammung, errichten, Variantenapparat).



the choices comprising the signs of language were influenced by innate or intuitive factors, we would expect to see some similarity between different languages. As it happens, a significant number of the world's languages are so similar that it is believed they all evolved from the same earlier language, Indo-European. But no hard evidence has ever been found that an Indo-European Language or culture existed (an attempt at finding genetic evidence was unsuccessful). Even languages which appear radically different show some similarity (in Chinese Ideograms, the overall image is not the sign, what is read is a sequence of strokes taken from a basic alphabet of calligraphic gestures).

Although this paper draws upon language research to support its argument, it is unlikely that most members of the linguistics community would support it. Saussure is still an acknowledged founder and key figure in modern linguistics. And linguistics researchers will be uncomfortable with my project's focus on written language rather than spoken language. They generally view spoken language as the primary version of language, and treat written language as a derivative of spoken language. At its origin, written English was unquestionably modeled based upon spoken English, and in modern society there is an ongoing cognitive interaction between the two versions of the language. However, although the signs of the two versions of English may have once had an exact correlation, the factors which played a role in the evolution of their signs are not entirely the same. This becomes obvious when you look at the distinction between the basic classes of letters of the Roman Alphabet, vowels and consonants. In spoken English, the vowels are preferenced over the consonants. The majority of vowels must be present for spoken words to be intelligible. However, in written English, it is the consonants which must be present for readability while the vowels may often be omitted. In written English, the vowel/consonant distinction is not phonetic; yet, it is obviously a very important distinction between the alphabetic components. The signs of written language are formulated from a natural alphabetic system of discreet components which function perfectly even when there is no familiarity with the spoken version of the language (no access to spoken English is required to learn written English). And written language is the only version of language with natural alphabetic components. There is no evidence that the underlying principles of natural organization in spoken language have any inherent relationship to the artificial segmentation into the components of the International Phonetic Alphabet (a pseudo-alphabet created by language researchers). The conception of an alphabet is based entirely on the natural evolution of written language. We can't study the natural organizing principles underlying the signs of spoken language because we don't know what they are.

The mechanisms specific to speech may not be a key factor in the human capacity for language. All versions of language seem to have a common dependance on gesture. Several studies have demonstrated that "gesture paves the way for language development" [11-13]. Before children learn to use speech, they have the ability to understand language and communicate through deictic and iconic gestures. And as previously discussed, vocalic gesture is the basis of speech. We even have a documented instance of simple gestures naturally evolving into a fully syntactical language (Nicaraguan Sign Language emerged naturally based on a syntactic expansion of simple gestures within a population which had no access to spoken language) [14,15]. Gesture is also involved in written language because movement of the eye is fundamental to the act of reading, and the alphabetic symbols which unfold before the eye are comprised of the same patterning as simple gestures. Also, the gestural movement of the hand is fundamental to the act of writing (in Braille, the act of reading is also based on movement of

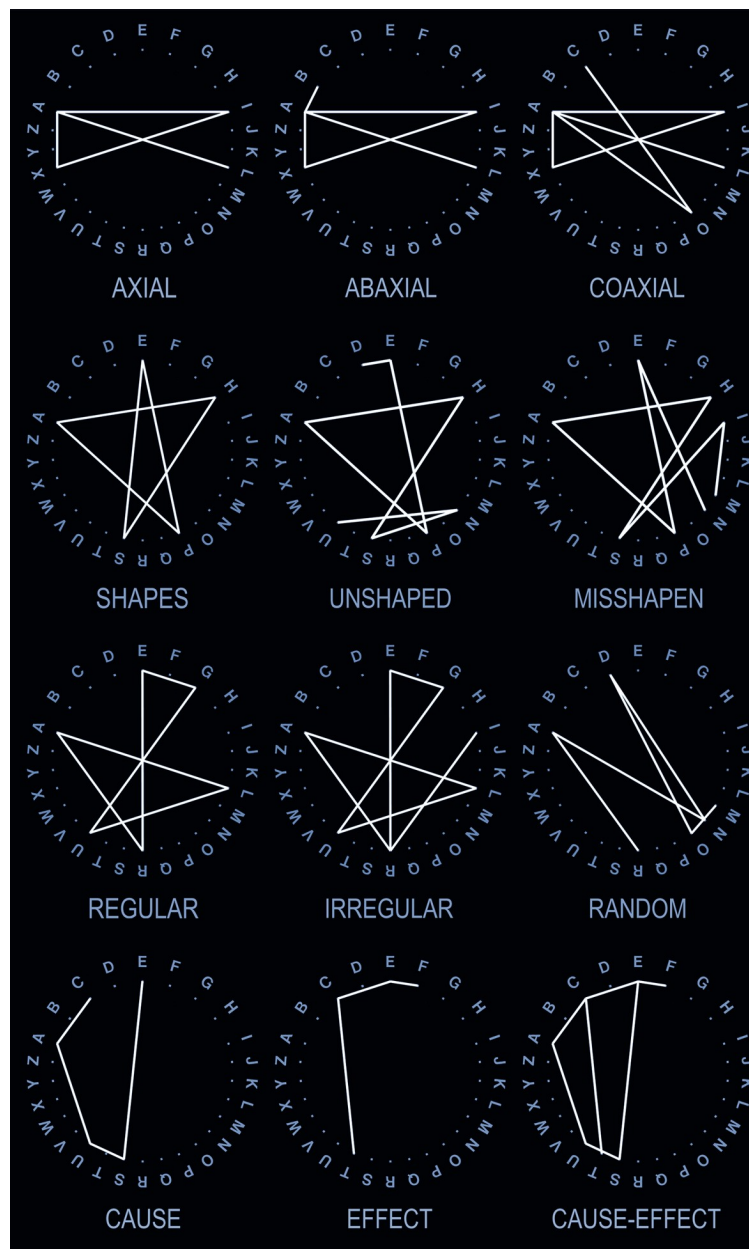
the hand). We tend to think that only spoken language becomes hard wired into the brain during the process of learning language; however, our rational minds are generally also unaware that we are deciphering the complex codification of strings of letters during the reading process, so clearly the mechanism for decoding written signs also becomes hard wired in proficient readers. The actions of the vocal tract could be like the actions of the human hand; a highly evolved physical dexterity which, when studied, tells us very little about the neuro-psychological impulses initiating the actions. The fundamental cognitive prerequisite for language is not speech, it is the collective conception of a shared sense of meaning which we all agree upon prior to its naming.

We haven't yet identified the neuro-psychological foundation of the structure of our shared sense of meaning. However, it is obviously based on a symbiotic relationship between the mechanism of human perception and the physical environment of meaningful objects, beings, and interactive events which comprise the world around us. Our sensory awareness ties the physical manifestation of our own bodies to the material environment we inhabit, and it is that relationship upon which the capacity for naming a shared conception is fundamentally based. All materiality is a manifestation of codified structure. Our senses simultaneously summarize and fractionalize the din of the sensory field's particles and waves into recognizable objects and beings. Our senses accomplish this task by means of an innately formulated process of decodification. When our cultural ancestors collectively formulated the strings of alphabetic code during the complex evolution of written English, they had no conscious intention of designing the code to reflect senses of meaning. However, nothing prevented their innate capacity for the sensory decodification of meaning from influencing their choices as they collectively developed the code of the alphabetic signs. Our letter-characters have evolved to reflect a basic vocabulary of forms which are identical to Entoptic Forms (dots, lines, circles, spirals, meanders, crosses, grids, etc spontaneously produced by the Central Nervous System at the optic nerve during: sensory deprivation, natural and drug induced trance states, or as a result of head injuries--presumably the Central Nervous System is checking the sensory network using the basic patterns of visual perception to see why the CNS is not receiving sensory information) [16,17]. Furthermore, the method of alphabetic codification is also applicable to expressing the information which guides the construction of the human body and the mechanics of the neuro-psychological foundation of human awareness (the Human Genome is described using basic alphabetic sequences).

I don't want to give the impression that the goal of my project is to foster scientific research. Although my process is nearly identical to the process used to construct the initial model of the double helix, I am not a scientist. My process meets the standards of a scientific method of model-making: all variations in form result entirely from spelling because the process is fixed or constant (it does not change from word to word), so the geometric patterning revealed by the spelled-forms is an isomorphic or information-preserving transformation of the structure of the code underlying the spelling of words. However, although the spelled-forms are a rigorous depiction of the patterning of our cultural ancestors choices when they constructed the signs for the words, the reason these particular choices felt the most appropriate remains unknown. The spelled-forms reflect a meaning-centered activity of collective consciousness spanning centuries (it was an ongoing and continually evolving activity until spelling was standardized); but beyond that, there is little that can be said about the spelled-forms with any certainty. If the spelled-forms appear to be meaningfully structured in

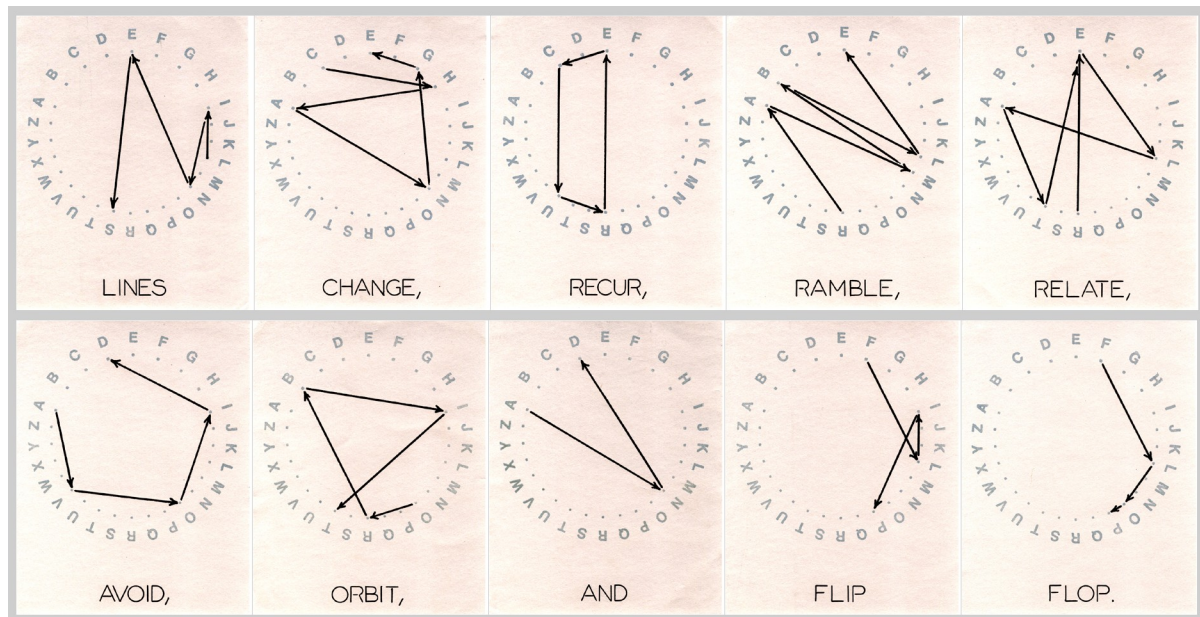
relation to the words which generate them, it is not proof that some aspect of the mechanism of meaning influenced their design. The odds of coincidence are reduced when a meaningful sequence of variations is observed (such as in Figure 5), but the possibility of coincidence still exists. The point of my argument is that the possibility that some aspect of the mechanism of meaning played a role in our

Figure 5. detail from "The Book of Spells" 2014, offset printed limited edition artist's book.



cultural ancestor's choices cannot be ruled out either. As an artist, I see the ambiguity created by these two different possibilities as a source of conceptual beauty. I'm not interested in resolving the question. And it is important to make it clear that the cultural theorists who believe the question posed by my project has been resolved are wrong. Figure 6 illustrates how the movement of the spelling sequence from alphabetic-point to alphabetic-point can convey meaning. It is possible that this phenomena is simply a profound coincidence. But it is also possible that it arises from a gestural foundation at the or-

Figure 6. detail from "LIGNS" 2007, limited edition artist's book & print series.



-igin of language. Other explanations may also be plausible. The question posed by my project opens the door to the fundamental question of the nature of meaning in the context of human experience. A question which, in my view, is better addressed in the realm of art than the realm of science. We can never step out of our own perception of meaningful awareness to examine it from a scientific perspective. It is said that experiencing a work of art is different at every viewing and for every viewer, and the same can be said for any meaningful experience. The goal of my project is to facilitate the viewer's examination of their own senses of meaningful awareness in the context of their own relationship to the use of the words and their own direct experience of the visual phenomena.

The personal perspective of a meaningful experience is the only perspective which is authentic. Language tricks us into believing we share identical senses of meaning, but the experience of a word is like the experience of a work of art (great writers use language which engages our own perspective of meaningful experience, rather than trying to tell us what they experience). A literary assessment must always play a role in the critical assessment of a work of art which relies on language to convey its meaning. Whether or not a text is presented in a gallery or on the pages of a book, the very act of reading recalls the critical context of literature because the written word is a literary rather than a visual sign. Interdisciplinary art should first be critiqued from the perspective of all the disciplines involved, then it should be critiqued based on how well the disciplines are synthesized to convey a unified message (otherwise the work is simply a multidisciplinary assemblage of signs rather than being genuinely interdisciplinary). The last level of critique should focus on the hermeneutics of the social, cultural, and historical context surrounding the artist's intentions and use of the various signs.

Conclusion

Whether or not my project is of any interest, the question of the inherent nature of signs needs to be reopened. Although a theory of culture need not be based on scientific discoveries, it must have some

kind of logical foundation which does not directly contradict what we have discovered about the mechanisms of human experience. Also, current trends need to be re-evaluated now that their Saussurian foundation is known to be an unsupported assumption based on a false conception of the signs of language.

Conflicts of Interest

The author declares no conflict of interest

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Note Re: 1-4. Barthes draws his conception of signs from de Saussure's theory but he applies it outside the realm of linguistics to a social and cultural context. Barthes approach is further extended by Baudrillard (de Saussure, Barthes, and Baudrillard are the key figures in contemporary cultural theory).
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