

Mark Vaughn

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Dr. David Bard-Schwarz

**EXPLANATION OF THE APPLICATION OF SEMIOTIC THEORIES TO
INTERACTIVE MULTIMEDIA COMPOSITION IN THE FORM OF A WEBSITE**

My final project for our class on semiotics in music consists of a website, as yet unpublished, that draws its inspiration from the discussions, readings, and thoughts that I have come into contact with over the course of this class. This document is meant to clarify the way that this website relates to the theories surveyed during the class and to consider the resultant product as it relates to issues of interpretation by potential participants, the application of this process in artistic creation, and its relationship to music in general. It would be very difficult for me to cover every issue and question that this work has raised for me, but I will provide a brief summary and discussion of what I found to be some of the most interesting themes, features, and problems presented. The nature of this project was intended to be far-reaching. I hoped to move from a relatively simple concept into a wide range of associative terrain through the use of semiotic associations. I do not feel I achieved the scope I originally hoped for, but this project is open-ended. I plan to continue developing and working on it beyond this class, as it is a project that I think has almost unlimited potential for creative exploration.

This document is structured in two parts, not including the introduction and conclusion. In the first part, I give a description of the basic motivations, techniques, concepts, and structures I used to create the site and I give an overview of the relevant theories and influences on my thinking. In the second part, I provide an overview of my intentions as they relate to the experience of a participant or visitor to the website and consider the significance of these

intentions in the actual experience of the site. Following this, I examine the website's relationship to music itself.

PART 1: CONCEPT AND CREATION

The idea for this website was inspired by several things. Before this class, I was interested in Jennifer Walshe's *Historical Documents of the Irish Avant-Garde* and Walshe's treatise on her creative work, "The New Discipline."¹ Walshe's website and her ideas about music composition and musical experience treat these experiences as fundamentally extra-musical and employ signs in a variety of different mediums.² Particularly inspiring was her website where she creates a fictional history of the Irish avant-garde engaging in visual, musical, and historical fiction.³ I found the idea of a website as an artistic work to be an exciting prospect in its potential for incorporating a variety of media in a single place easily and allowing interactive participation by the audience.

In addition to my interest in Walshe, I had recently created a synthetic transcription of a field recording of a basketball game and a cricket chirping and used this along with the original recording to create a piece for stereo fixed media called *Basketball and Cricket*.⁴ I found myself highly interested in the relationship between the real and the artificial version of the recording, the artificial version's capacity for representation of the original, and the added aesthetic value of each when they are combined and caused to interact with each other. Both Walshe's website and my interest in the process of literally copying the events of a recording had predisposed me to be

¹ Jennifer Walshe, "Preserving the History of Ireland's Avant-Garde," Aisteach, Accessed December 9, 2019, <http://www.aisteach.org/>, and Jennifer Walshe, "The New Discipline." MILKER CORPORATION, Accessed December 9, 2019, <http://milker.org/the-new-discipline>.

² Walshe, "The New Discipline."

³ Walshe, "Preserving the History of Ireland's Avant-Garde."

⁴ Mark Vaughn, *Basketball And Cricket*, SoundCloud, Accessed December 9, 2019, <https://soundcloud.com/mark-vaughn/basketball-and-cricket>.

interested in the themes I covered in this website, but as I came to be more familiar with the theories of semiotics, I found these to be highly complementary to these already established interests.

The first interesting connection between the theories discussed in class and my prior interests was in the concepts of Charles Sanders Peirce, particularly Peirce's concept of the *icon*, a sign that literally represents something through its shared qualities with what it represents, such as a portrait of a person.⁵ An important distinction of this concept is that a sign is only an icon if we understand it as representing something else. Though Peirce initially considered *icons* to be worthy of less attention than his categories of *index*, and *symbol*, they are crucial to the artistic process, as they relate to repetition, representation, and development, a feature noted by Walter Benjamin in his essay "Art in the Age of Mechanical Reproduction."⁶ I find this concept to be fascinating as it relates to music. For instance, in music there are two types of transcription, that of learning something by ear and that of creating a new arrangement out of an older piece of music. In the first case, the transcription is seen as synonymous with the original, if it is a correct transcription, such as when a musician learns a melody through listening to a record. The music is known and owned if one has transcribed it accurately. In the second case, the music is acknowledged to represent the original, but is also intended to serve as a new aesthetic object. This is much more similar to portraiture and the creation of a new musical text from a prior one seems to inherently create a rich field of signification. On a musical level internal to many compositions, this same process can be observed in the process of thematic development.

⁵ Albert Atkin, "Peirce's Theory of Signs," Stanford Encyclopedia of Philosophy, Stanford University, November 15, 2010,

<https://plato.stanford.edu/entries/peirce-semiotics/#PeiEarAcc1868>.

⁶ Walter Benjamin, "The Work of Art in the Age of Mechanical Reproduction," Walter Benjamin, Accessed December 9, 2019,

<https://www.marxists.org/reference/subject/philosophy/works/ge/benjamin.htm>.

Though I was initially uncertain as to how it applied to music, I soon found that Pierce's concept of the *icon* is ubiquitous.

In addition to the theme of representation and repetition invoked by Pierce's *icon*, another area I was interested in was the transduction of a sign from one form to another. The term transduction was originally used by Gunther Kress referring to the change from one mode of semiotic significance to another, such as from the written word to speech.⁷ The transduction of signs from one form to another is inherent in all multimedia work and, I think, in all music and in that respect is a highly interesting feature to make the focus of an artistic work. One of my primary concerns in this work was the relationship between spoken language, written language, and sound quality which implies a visual, linguistic, and musical perspective in the comprehension of a single sign. Given that semiotics was founded in linguistics, it is not surprising that the readings of our class were frequently concerned with these levels of transduction including Dolar's "The Object Voice," Barthes' "The Grain of the Voice," and Saussure's categories of *langue* and *parole*.⁸ Understanding the categories proposed by each of these scholars helped me to focus on the unique characteristics of each of these modes and to think of them as both independent and connected. It was my hope to draw attention to this process of transduction in the mind of the participant by highlighting the ways that these layers of signs interact to form a concept. In the website, the quality of the voices that pronounce the words add layers of significance to the words, the fragmentation of the word introduce gaps in legibility that can be filled in by reference to the written word, and rhythmic and pitch features of

⁷ Diane Mavers and Denise Newfield, "Transduction," Glossary of multimodal terms, November 22, 2012, <https://multimodalityglossary.wordpress.com/transduction/>.

⁸ Mladen Dolar, *A Voice and Nothing More*. Cambridge, MA: MIT Press, 2006, and Roland Barthes and Stephen Heath, *Image, Music, Text: Essays*, New York: Hill and Wang, 2007, and Ferdinand de Saussure, and Roy Harris, *Course in General Linguistics*, London: Bloomsbury, 2016.

the words are highlighted through musical processes of repetition and development.

Aside from the successful process of transduction, I was also interested in highlighting failures and mistakes in transduction. The theories of Jacques Derrida were particularly influential in this. Derrida's insight that all meaning is established, as Silverman says "relationally," is exploited in looking for ways in which signs can be misinterpreted.⁹ Additionally, the work *The Telephone Book*, by Avital Ronell was discovered late in the process, but served to reinforce a feeling of confidence in the process of using a variety of semiotic modes to impart meaning and experience through its clever use of typography, image, and visual space, and allusion to telephonic features and communications to create a book of philosophy concerning this very topic.¹⁰ Through the process of intentional misunderstanding and non-functional interpretation this project acquired its far-reaching nature. For, when we interpret signs in ways that do not apply contextually, a multiplicity of byways and wormholes open up and very simple concepts can quickly diverge into unexpected areas and easily lead to the infinite semiosis described by Pierce and Derrida.

The three concerns of artistic representation, the transduction of signs from one form to another, and the potential for signs to be interpreted in an infinite number of ways leading into seemingly unrelated areas were my primary interests in terms of compositional exploration and many of the decisions made in the creation of the website related to these concerns specifically. I will now give a brief summary of the way these interests were explored in the construction of the website.

The concept of representation suggested by the Pierceian *icon* immediately suggests the concept of repetition, in that the same thing happens more than once. There is a difference

⁹ Kaja Silverman, *The Subject of Semiotic*,. New York: Oxford Univ. Press, 1994, 33.

¹⁰ Avital Ronell, *The Telephone Book: Technology--Schizophrenia--Electric Speech*, Lincoln: Univ. of Nebraska Press, 1989.

between these though, for in order to represent something, the representation must be different from the original, but a repetition does not necessarily mean there is a difference between the original and its repetition. The specific way that I engaged with representation and repetition was by creating pages that bore resemblance to each other, but also changed in each iteration.

The website itself is constructed (currently) of 25 unique html pages. Four of these pages are copies of (for lack of a better word) the homepage, which is titled “_Index.html.” The homepage consists of the collection of signs “b i r d”, which also forms a single sign. This word. Is repeated multiple times throughout the page and a note to the side saying “This started before you arrived.” Each of these words links to other pages or plays an audio file back when clicked. One link on this page leads to another page that is very similar in structure, but adds a new iteration of “b i r d” and changes in other less obvious ways. This process repeats multiple times and the various iterations of this page are in some sense repetitions of the homepage, but also representations in that they change. This change could be by having the page add another copy of the word “B I R D” when the next page is reached, to have the colors slightly change, or have the hover color change. In every iteration the links and parsing of the letters change, which is not immediately clear, but will become evident to the participant when links are clicked. The links themselves will often go to pages that are slightly similar to other pages that links from earlier pages went to, presumably leading to some confusion and making obvious the difficulty of distinguishing between representation and repetition.

The use of subtle change through repetition is meant to be a direct acknowledgement of the problem of actual repetition, which has been separately noted by both Gilles Deleuze and Walter Benjamin.¹¹ Deleuze says, “Repetition as a conduct and as a point of view concerns

¹¹ Gilles Deleuze and Paul Patton, *Difference and repetition* 1994, and Benjamin, “Art in the Age.”

non-exchangeable and non-substitutable singularities,” meaning that repetition can only truly occur when the object itself, in its full essence and actuality, repeats.¹² Benjamin calls the essence of an artistic work the “aura”, which is the thing that is unique to the original even in the case of perfect reproduction.¹³ Benjamin is talking about physical reproduction, but the issue persists in our current digital domain. A copy of a digital file is not truly a repetition of the object. As long as two identical objects exist there will be differences in space and time between them. If in the digital domain, you make a copy of a file and then delete the original file, then in one sense that qualifies as a repetition in that the file is exactly the same as the original but there is still only one. But, the original file did exist at one point and we know that and in that sense this is not a true repetition as the file we currently have still represents the original one we knew in a previous time.

My concern with this issue is found throughout the site and informed the techniques I used, such as copying and reusing structures that allude to resemblances between pages, but also become different. Apart from the creation of multiple pages with similar structures, this technique can be observed within individual pages, such as the “DarkCourier.html” page, which superimposes a screenshot of the Wikipedia page about Courier font multiple times over a background of the same image offset in slightly different ways each time. This is coupled with the words Dark Courier being spoken by the Macintosh speech assistant robot voices parsing the words Dark Courier in different ways when each individual image is clicked.

As it regards the transduction of signs from one form to another, one of the primary techniques I used was dividing words into letters and having the sound of the letters spoken played when they links are clicked. This foregrounds the letters as meaningful units in

¹² Deleuze, *Difference and Repetition*, 1.

¹³ Benjamin, “Art in the Age.”

themselves outside of the word, but also, upon repetition, foregrounds the letters as sounds in themselves apart from their function as meaningful linguistic units. The use of the Apple OS robotic voices (found in the Accessibility menu of the System Preferences) to pronounce most of the text in the website was an intentional choice, taken to draw attention to the illusion of objectivity in speech. These voices, which will speak any highlighted text on a webpage or document, give the illusion of objectivity in that they are created from an external, powerful company, speak in mostly neutral, legible tones, and they are not human, implying that their primary function is clarity of communication and a lack of emotion. But there are a wide variety of voices offered even in this sterile environment and each use emotional inflections. The change in character and inflection of these voices are both a key part of constructing linguistic meaning and in hearing the sound quality itself. Though the timbre of a letter being spoken is always similar in some ways in the mouth of every speaker, the timbre is also always different even in a “non-human” environment.

This phenomenon is made clear by Benveniste’s description of language as inherently subjective.¹⁴ Even when a voice created by a technology company, presumably to maximize clarity of diction, is used to communicate, specific features to that voice emerge, which draw attention to the sound, the emotions, and the potentials for misinterpretation present in all spoken language. It also invites empathy and identification. These are ways in which the transduction of signs from one form to another can be made evident, but these signs can also acquire further meaning as they move from one realm to another. For instance, when the Macintosh voice “Oliver” says the word *dark*, he sounds sad, which adds a layer of significance not inherent in the word.

In addition to Benveniste’s exposition of the essential subjectivity of language, Dolar’s

¹⁴ Silverman, *The Subject of Semiotics*, 44.

description of the object voice and Barthes' classification of the geno-song both concern themselves with the semiotic significance of the voice absent linguistic significance.¹⁵ In artistic, specifically musical realms, this is a crucial area of creativity and I found the given timbral structures of Macintosh robots to be exciting and enjoyable timbral objects to play with, both linguistically and musically.

As it regards misinterpretation, one of the primary techniques I used was to parse words differently or to focus on features of the signs that do not initially have priority in our perception. For instance, on the homepage, one of the iterations of “b i r d” leads to the color pink, which is the color of the word, rather than what the word means. This plays with a hierarchy that Derrida identifies within Saussure's philosophy that, in the words of Silverman “always...subordinate(s) the more material term to the less.”¹⁶ The linguistic significance of the word bird is prioritized within our traditional perception rather than the color of the word, leading the participant, probably mostly unconsciously, to expect something related to that word rather than its color. Culturally, color is much less prioritized in relation to meaning than the word and its literal signified. In one sense this might be called misinterpretation, but in another it could be understood as the logical decision. In this website, the use of this technique allows a different semiotic order to attain significance requiring the participant to reevaluate their method of interpreting the signs given.

A further example of this technique is on the page titled “R1.html”. The word “O U R”, (positioned about halfway down the page) when clicked, leads to an image of the R rating issued by the MPAA. This takes advantage of a misinterpretation that could occur in spoken language, but would not usually occur in written language, forcing the participant to shift from one

¹⁵ Dolar, *A Voice and Nothing More*, 3 and Barthes, *Image, Music, Text: Essays*, 182.

¹⁶ Silverman, *The Subject of Semiotics*, 34.

semiotic system to another unexpectedly and to reassess the priority they give to certain signifiers. This technique is meant to make explicit, shifts which happen frequently in the process of cognition, but usually go unnoticed. Ideally this can provide the ground for an understanding of thought through the intentional misunderstanding of given signs.

PART 2: INTENTIONS AND MUSIC

In addition to my compositional interests, I also had intentions as it concerned those who might interact with the website. The primary audience I intended this website for was that of my personal academic and artistic community, which I would define as people I know who appreciate experimental art or anyone else who may appreciate it. I have no particular investment in this website being appreciated by the vast majority of people, but at every step of the process, I have tried to account for all of the communities of which I am a part and for how this might be interpreted by them or other communities. It is geared towards people who are predisposed to appreciate non-traditionally oriented art, but I tried to leave the door open to anyone who might want to participate. As far as I'm concerned it can be appreciated by anybody and I welcome interpretations that have nothing to do with my intentions.

With that being said, I did have some intentions for how a participant might experience the website. I hoped to create a work that was entertaining, interesting, and emotionally affecting, mostly in the form of humor, but all emotional reactions are valid. I also hoped that participants would be encouraged to think about the nature of signs through their interactions with the website and would be challenged to trace the connections I have made. A third intention was to draw the participant's attention to the structures that condition their daily lives, particularly when it comes to technology. I did this by using common techniques employed by computer users, such as screenshots, gifs, and the robotic voices built into Apple operating

systems to pronounce most of the text.

Using these default structures in a creative fashion was meant to demonstrate the interaction between society, aesthetics, technology and ideology and finds a clear expression in Althusser's observation that we cannot escape ideology, but we can undermine certain forms of it and promote more beneficial forms.¹⁷ When a screenshot of a website is used in place of the actual website, as in the "Courier.html" file, it draws attention to the underlying structures that condition our experience. Ideally, this may prompt us to acknowledge the expectations and norms that are created through the technology we use. It accentuates the gap between image and environment that is usually elided when we use the internet. Additionally, when the speaking voices of accessibility bots operate in conversation with each other and their emotional inflections are highlighted, it draws attention to the human and subjective that exists within presumably sterile and objective environments, hopefully prompting participants to become aware of the fundamental lack of objectivity in our technological structures and the humanity and subjectivity of those who create the conditions of our daily experiences.

One issue, not yet addressed, is how this work relates to music composition and theory. There *are* particular moments where traditional (i.e. pitches and rhythms) musical material is used, but this is not the majority of the content. Some places where this does occur is in the various pages ("Pink.html", "LightPink.html", "HotPink.html", and "DeepPink.html") that are simply pink rectangular blocks set against a background of pink that is a slightly different shade. The use of musical material here, is meant to highlight the deep subjectivity present in a participants mind between color and sound in terms of semiotic significance. Another explicit use of music is found on the "DarkCourier.html" page. On the fifth image down, the robot voices, which are heard in preceding images deconstructing the words "dark courier", have their

¹⁷ Silverman, *The Subject of Semiotics*, 30-31.

previous deconstructions transcribed into pitches and rhythms (the audio file is “DarkCourierSung.wav”). This example traces a more gradual path from linguistic to musical signification and shows how music can be used to represent language, while becoming something new.

There are two other types of traditional musical materials used in this website. The first is the use of links to go to YouTube pages containing the music videos of extremely popular artists, such as Kendrick Lamar, Iggy Azalea, and Taylor Swift. This is an overt incorporation of the internet and pop culture as semiotically powerful. Though, I may not think of Iggy Azalea’s “Started” when I consider the potential meanings of that word, this is an association that could be potentially made by millions of people, judging by the number of views. This links my personal experience to the broader world as a whole. Shifts in cultural perspectives are extremely powerful semiotic occurrences and the use of music is a crucial signifier of multiple cultures.

The last explicitly musical technique used is found on the pages “Index_D3.html” and “Index_D4.html”. On these pages I parse out a recording of Ann Margret singing the phrase “Bye Bye Birdie.” On “Index_D3.html” I begin by only including the “er” and “d” parts of the sound, which actually sounds like “hee” when she sings it. This foreshadows the use of the words “Bye Bye” on “Index_D4.html”. What was interesting to me about this example is that using the “er” and “d” parts of the recording separately would probably not connote the original recording of this song and therefore all the signs a participant may associate with Ann Margret, but the use of the “Bye Bye” part seemed to immediately form that connection. This would not occur if I had simply had a robot speak the words “Bye Bye.” It is the musical qualities of the song that create that association. This is extremely interesting to me because it demonstrates how music functions as connotation Barthes’ sense of the word.¹⁸ The individual features and words

¹⁸ Silverman, *The Subject of Semiotics*, 27.

of the sound are simply denotative, but the music itself in conjunction with this is connotative, evoking associations with the film *Bye Bye Birdie*, which in turn has a host of associations, such as the 60s, silliness, Elvis, comedy, etc. Though this is a singular example, it is one that I found to be very interesting in constructing musical meaning.

Apart from these traditionally musical examples, many principles of music also apply in both the composition and the experience of the website. Regarding speech, the words that are spoken by the robotic voices are rearranged in musical ways, where repetition, looping, and fragmentation all occur to detract from linguistic significance and to draw attention to the sonic and rhythmic qualities of the speech. Additionally, on both the structural and visual levels, loops, lines, dynamicism, abstraction, connotations, movement, development, and inversion all take place. Each of these features are musical in their ability to use rational structures to evoke a pre-rational or extra-rational experience. In many ways, a lack of control is crucial to the musical experience and these techniques allow the participant to not only interact, but to be swept along, though in a more controlled way than is usually found in music.

A final interesting relationship between music and this website is the role of time. The time spent on any one page is always within the participant's control, but there are multiple time-based elements that, if allowed to run, take some of the control of the participant away. In this environment, there is a negotiation between personal agency and releasing control, which contrasts starkly with a traditional musical environment, where a participant is often more passive. In some sense, the experience of this website can be thought of as an improvisation by the person engaging with it, though this could be made more explicit and interactive, a feature that may be added in future developments.

CONCLUSION

The themes and issues discussed here are just a small portion of those that were prompted by my experience of creating this work. The application of the semiotic theories and concepts discussed here invited me to think in a highly expansive way about the possibilities for artistic and musical construction and the relationship between composer, performer, and audience member. The project, as a website, is inherently open to continuous development, which is an interesting feature when compared with the semiotic potential of other artistic mediums, which usually attain a state of closure at some point. Additionally, the relationship of freedom between composer and participant is something that could be explored to a much greater extent. One issue that presented itself when working in this expanded way was the tendency for the techniques to create the signs. In order to achieve the expansive scope that I feel this project can have, new techniques should be used to engage the participant in as wide a variety of semiotic systems as possible and further theories related to semiotics should be brought to bear on the work. This of course takes time and energy, but given the open-ended nature of the project, it is time and energy that could be applied over the course of years or even a lifetime. As a project that is fundamentally linked to the internet and the digital environment in which we all live, this project has the potential to include an endless array of signs, meanings, media, designs, images, sounds, musics, political and cultural associations, and societal confluences into its scope. Though this may in some sense seem universalist, there is no way it could be, but in its idealized form, maybe it could be a useful way to come into contact with the universe.

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