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In its original rendition, *Degrees of Separation "Grandchild of Tree"* (1998) is performed with cactus on board. Digital effects, MIDI playback, and simple lighting. The work is a metaphor which portrays subtle transformations (or transmutations) in human existence precipitated by pervasive new technology. A new version consists of a performance with a video component

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(Revill 1993: 251). Cage's challenge to me: what is a cactus when it is removed from its natural environment, placed in a pot and brought into the concert hall?

} = structure (biological instruments - natural environment){

Paradoxes abound in modern existence. Through technology, the world is shrinking, yet isolation grows as this very technology which seems to bring us closer, often eliminates the option of personal contact: touch, vision and smell. Technology is also an insidious thing. One day we hear about an amazing new invention called the computer, and the next, we cannot imagine our lives without it. Most of us can not probably say the exact day, month or even year that we became dependent on the computer for work or play. I remember when I did not have a computer, and somewhere between now and then, it has become the one thing with which I spend most of my time. I communicate with more people each day via the computer than with the telephone (or even face to face some days). The disembodied voice of the telephone is taken one step further by the disembodied mind of the computer as it passes our thoughts throughout the world with a click of the 'send' button.

I visited a local high school with a guest composer last year, who spoke to 45 orchestra students about electroacoustic music. He began with the question 'If a tree falls in the forest, does it make sound?' The students enthusiastically debated this for a while, never reaching an agreement. Some said yes, others no. He then followed up with the question: 'if a tree falls in the forest, is it music?' Without discussion, they unanimously said YES! This experience shows

sound from the sound quality. Schaeffer suggested that we ignore any meaning from the recorded sounds we hear in musique concrète, and listen just to the beauty of the sound itself (the



Cage sought to eliminate. The important thing here is that the performer is allowed to rely on their memory and taste without either of these becoming the focus (as it is in jazz improvisation).

} (techniques \* technology) + (discovery \* environment) (context \* structure){

The visual and aural techniques extended, enhanced, and transformed by technology; the psychology of discovery extended by the environment, compared to the context transformed by the structure; all work together to create a new paradigm. All of the visual and aural elements initially rely on the traditional setting of performance with the audience as observer. The cactus on stage, and even the video projection orient the listener forward as if they are watching (and hearing) the work unfold from the outside (not unlike watching a string quartet performance). With spatialization, the final layer of the work seeks to move the audience from this external observer position, to a fictional location inside the cactus. The sound is gradually moved from the front (pan center) position, to surrounding the audience in at least four speakers with a stereo image. Occasionally I have used four contact microphones so the performer can spatialize the sound in real-time by moving around the cactus: literally placing the audience in the middle. In addition to engulfing the audience with sound, the types of sounds themselves are intended to elicit the fluidity of the liquid inside, as well as the incredibly slow growth cycle of the cactus. Like Cage's *Etcetera*, I attempt to immerse the audience in a new location. This new location, however, is not the 'real location' of Stony Point as in *Etcetera* (where an audience member could go if they so desired), but rather a fictional, imagined location inside the cactus, and even inside the sounds themselves. Cage's use of aural relocation in *Etcetera*, carries the meaning of 'this is where I composed the work,' while also allowing the listener to supply the visual image of their own specific outside location (inevitably queued by specific sounds which they relate to their own experience).

In my experience, aural relocation is one of the strengths of acousmatic music (or 'cinema for the ear'). Sounds from the real world can portray very specific concepts (and relationships) in a work of music. These specific sounds also invite (indeed require) the listener to supply the specific image associated with the sound, thus giving each person a unique experience with the work. An analogy would be with a good novel in which the author spends pages describing a character. After reading the description we know a certain number of general characteristics of the subject, but our imagination (and NOT the author) supplies the actual image of the character (and context), based on people with similar features that we know from our past, or that we simply make up. In sound, a ten page literary description can be expressed in a few seconds.

To use Beethoven's Sixth Symphony again, we can imagine the storm, but only if we know that is what Beethoven was trying to portray. Even so, the context is within the symphonic structure, which makes the rainstorm a mere novelty. Specific emotional reaction to the storm is accessed through intellectual processing of abstract musical gestures based on prior knowledge of a musical system (i.e. tonality, sonata form and orchestration techniques). On the other hand, in Jonty Harrison's *Unsound Objects* (1996), we actually hear the storm, and further, in the context of other 'real world' sounds, we envision a specific storm based on our own experience. This personal experience with a storm, allows us to formulate a narrative through the work based on our imagined scenes precipitated by the composers juxtaposition of 'real world' contexts. In this case, my emotional reaction is accessed directly through the sound (i.e. having been nearly struck by lightning three times, while not eliciting the fear of the real situation, the sound does produce the same adrenaline rush), even without understanding anything about the organizational system the composer has used. Recorded sounds from acousmatic works, in my experience, can

be very specific in eliciting responses such as the previous example. It can also be specifically descriptive: *In Unsound Objects*, it is not just a storm, but a country storm because of sounds making up the surrounding context.

In Beethoven's Sixth Symphony the 'storm' is originating from the two dimensional space of the stage which subtracts from it specificity while adding to its novelty. With proper speaker configuration, spatialization in electroacoustic music brings the most effective imprint of these real world sounds into compositional syntax by placing them outside of the artificial nature of the traditional concert hall (even when performed in such a space), and back into the real space of three dimensionality. We experience the storm happening around us because we've all been caught in rainstorms (rather than in front of us with double basses and tremolo strings merely imitating thunder). At the same time we can formulate structural relationships with the other sounds in the proximity of a composition, into one personally tailored narrative. The irony is that the more specific (and literal) the sound material, the more suggestive and interpretable that material can become in a sonic context.

In *Degrees of Separation*, the idea is to confront the audience with the slippery nature of abstraction. Throughout the work, the more the material is abstracted, the more the context becomes real. The artificial nature of the concert context of the opening (two dimensional traditional performance paradigm) is in direct contradiction to the realness of the cactus sound source (back to the original question: what is a cactus in the concert hall?). As the piece progresses, the cactus sound source gradually loses its tangibility through increasing artificiality, while the context becomes more based in reality (three dimensional sound space). The tension of this paradox becomes the new modality (replacing pitch and rhythm) which gives the work shape and structure, while propelling the listener from beginning to end. The separation paradigm relies heavily on the tension between context (concert hall versus real space) and source (natural versus artificial sound).

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musical language or system, only their willingness to accept sounds that they recognize, or don't, as part of a musical discourse, the specifics of which they themselves supply through their own experience and association. Unfortunately, this flies in the face of the musical establishment, who would rather maintain the class system of initiates (those who really understand a system like tonality, or dodecaphony), and the masses (this music is not for everyone, only those who understand it).

Cage made it possible for any sound to become a part of musical discourse, while removing the composers persona from the equation. Schaeffer made it possible to organize real world sounds into a musical context, but chose to remove the specific source identification from the sounds to focus on their beauty. I am interested in returning to, and combining both of these elements eschewed by Cage and Schaeffer. In short, I have invited my own personality back into the music and also enjoy beautiful sounds with all of their contextual reference and meaning. And, rather than limiting options, this new direction has dramatically expanded the possibilities for new musical discourse in the future.

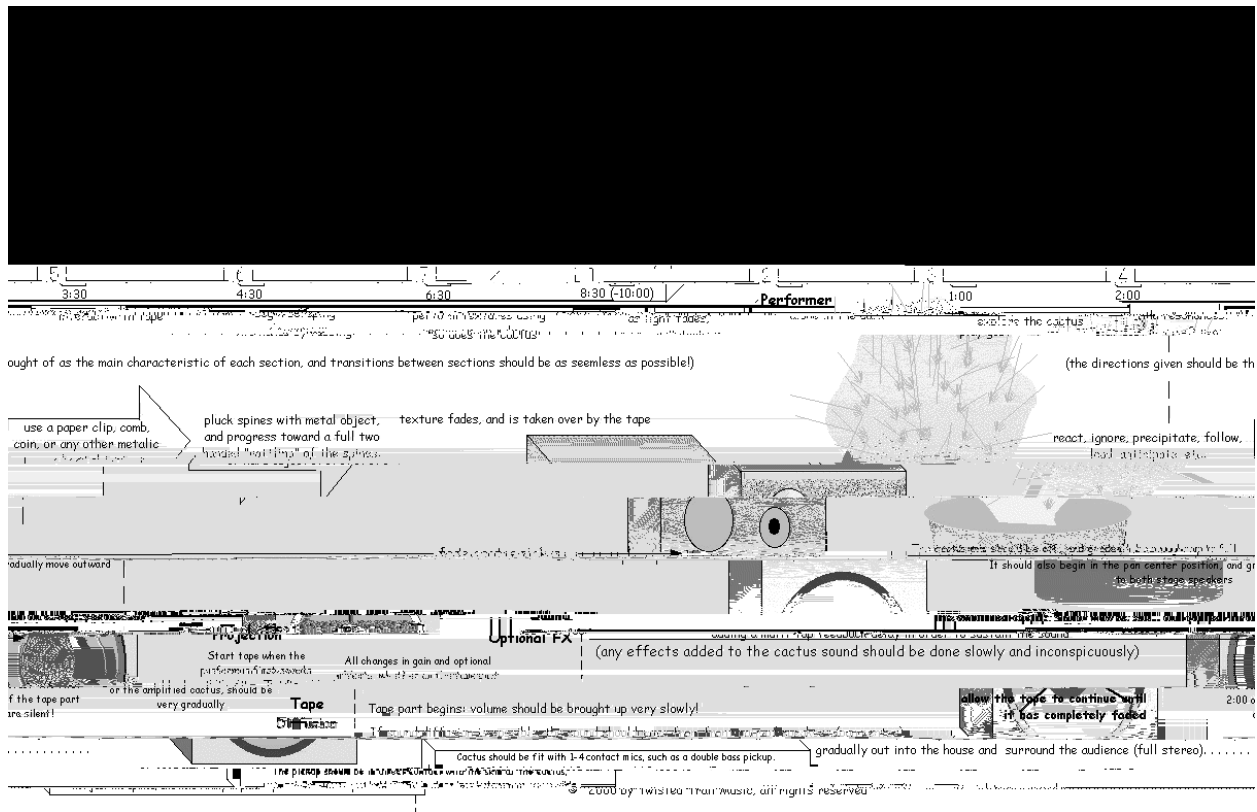


Figure 1: Degrees of Separation: "Grandchild of Tree" Score

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