

debugging
the
early
warning system



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Marshall McLuhan's metaphorical Dew line, stretched out across a vast expanse, vigilant, constantly sending multiple signals, creates an acoustic space for artists to perform their therapeutic role. This space had been inaugurated by telegraphy—another line stretched out across and around the world.

The computer constitutes our new acoustic space, our new environment. And despite the distracting interfaces it's built on code. I wanted to take my art making into that code and *Processing* seemed the language perfectly adapted to negotiate that kind of an exploration.

If I was going to start at the beginning I should go back to the binary basics, and for sounding the acoustic space I was interested in, Morse code seemed apt. This meant conceptualizing, then building a Morse alphabet in the *Processing* language.

These first steps already showed that tasks can be imagined in several ways, initially seeming the same, but creating long term consequences. I imagined the letters as blocks, and arranging words with them like handling moveable type (it even seemed to take as much time to ‘set’ as lead and was just as physical!) Another approach might have been to conceive of a speedier process with a typewriter in mind.

These steps also introduced me to debugging. In an artistic context debugging takes on a wide role that includes correction, adjustment, experimentation, testing, and each one of these is repeated over and over in a feedback loop. I likened this feedback to resonance and debugging to a kind of tuning.

I wanted to embody this resonance in the work so I began a second alphabet that mirrors the first like an echo. This began the whole process of testing all over again. Debugging isn’t straightforwardly mechanical. You do wind up building virtual tools and jigs to make future tasks easier but this isn’t the result of correcting code as much as the debugging of your own concepts. Success stimulates ambition—why not have another font size for my alphabet as well as its echo?

I was ready to set a message (or massage?) and thought that something by McLuhan would be appropriate. I loved a description he gave of the prairies (in an interview) and turned some of his words into a kind of Zen poem—

western skies
no point of view
vast panorama
such tremendous space around us

This was modelled, with its echo, using my Morse alphabet. I wanted to avoid the mono vocal so I decided to introduce a second voice. Samuel Morse's first telegraphic message (1844) was a question taken from the Bible, "What hath God wrought?" This was modelled in the smaller alphabet and sent along the same information stream as Mcluhan.

The visual results were stark but 'muddy' and poorly articulated so I experimented with pure colour (red, blue, yellow, black) and transparency to better distinguish the signals. I also offset the echoes on their return journey so that they would remain visible.

Mcluhan's acoustic space describes an all-over field experience. I built the dimensions of the work to challenge the viewer's point of reference and ability to scan it easily—the virtual space of the piece is close to 8.5 feet by 5.5 feet which taxes most display screens. Viewers are forced to move in, out, over, and around the image.

In Adobe InDesign I built columns for the code. The alphabets, with each letter in its two sizes and accompanying echoes, are displayed above the line. It would be tempting to equate the different extents of the letters as representative of their frequency

in English but this is only partially true. The *Processing* code is displayed below (minus some repetitions). This 'outring' of what is usually kept behind the scenes is an important part of the piece. The code and its output are on an equal footing.

While Mcluhan never conceived of acoustic space as precluding the visual (and that had been the impetus for my piece in the first place) I still wanted to *hear* as well as see my structure. I was able to generate Morse code pulses from my original texts using an application designed by Stephen Phillips called CGI Morse Code Translator. The files were passed back and forth between Audacity and Garage Band where I used the same process of experiment, testing, and feedback loops. I altered the tracks with a variety of filters to add resonance, change pitch and speed, and of course, add plenty of echo. In the end I also doubled the number of voices to make the resonance polyphonic.

The two pieces are not translations of the same *Processing* code (that will have to keep for another day) but they are a translation of each other if you consider the text messages as the source code. They are however related by approach and concern for the implications of seeing/sounding acoustic space.

image file: <http://tinyurl.com/6btgdu8>

sound file: <http://tinyurl.com/3ne5xco>