

Ghosts in the Machine

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ABSTRACT

Electronic Voice Phenomenon recordings are made by recording controlled static. Occasionally, one hears sounds that are like human speech. For some the voices are simply subjective interpretations, for others, the voices are a possible means of communication with the dead.

This paper briefly describes a recent work of the Einstein's Brain Project referencing the ideas in EVP to examine ways in which we transform worlds, and bodies in worlds, through pareidolia, apophenia and the gestalt effect. The work uses the strategies of EVP, voice and pattern recognition, and face tracking to generate voices, and images from apparently closed, silent and empty spaces and systems.

Categories and Subject Descriptors

J.5 [Arts and Humanities]: Fine arts.

General Terms

Algorithms, Measurement, Performance, Experimentation, Theory.

Keywords

Art, art and science, electronic voice phenomena, pattern recognition, face tracking.

1. INTRODUCTION

This work uses the ideas inherent in Electronic Voice Phenomenon (EVP) to examine ways in which we construct the world through pareidolia, (a psychological phenomenon involving a vague and random stimulus - often an image or sound - being perceived as significant), apophenia (the seeing of connections where there are none) and the gestalt effect (the recognition of pattern and form).

EVP is the recording of errant noises or voices that have no explainable or physical source of origin. These recordings are made when the recorder is alone, or under controlled circumstances. Most often white or pink noise is used as a medium that is acted upon by other electromagnetic forces. This electromagnetic medium produces forms that are, occasionally, like human speech. For some the voices are simply subjective interpretation - that we tend to hear voices in random patterns of sound, in the way we recognize animals in clouds or stains on a wall. For others, the voices open up the possibility of communication with the dead.

Interest in spirit communication through electronic recording dates back to at least the 1940s and has its roots in the turn of the century Spiritualism movement (1840s-1920s). Originally labeled "Raudive Voices", after parapsychologist Konstantin Raudive, recordings thought to be spirits were later renamed "electronic voice phenomena" [1]

1. THE INSTALLATION

In Ghosts in the Machine (2008) two projectors project large images onto the walls of a room. One projection shows video static overlaid with text and the outlines of bounding boxes, [Figs. 1. and 2.], the other shows black and white images of what appear to be blurry and indistinct images of human faces. Ambient noise fills the space. Just at the threshold of recognition can be heard what appear to be human speech in different languages.

A CCD camera is turned on but enclosed in a light tight box. Its input is adjusted with maximum gain and brightness to reveal the video noise inherent in the system. This noise forms the optical equivalent of audio noise and is used in a similar way to provide a medium that can be modified by external forces to produce images and sounds. The video noise is mapped to audio by sampling pixels in a QuickTime matrix and using the values to manipulate a stream of pink noise. Voice recognition software parses the modulated noise and translates any sufficiently voice-like sounds into its nearest vocal equivalent.

Face tracking algorithms using a cascade of Haar classifiers scan each video frame and look for any combination of pixels that form the basic characteristics of a human face. These are areas that are loosely characterized as eyes, nose and mouth with a sufficient degree of symmetry. When the software finds

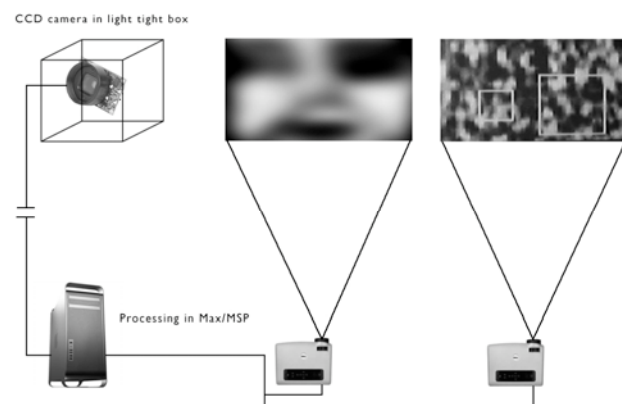


Figure 1. Ghosts in the Machine 2008

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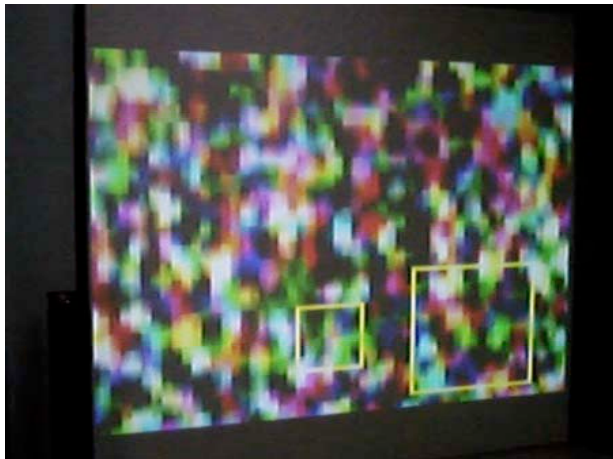


Figure 2. Static analyzed for facial arrangements

such a combination of pixels and symmetry, the software draws a bounding box defining the area and zooms the area to full screen, its contrast and brightness is adjusted, blurred and desaturated to clarify the found images.

The images produced are only occasionally reminiscent of human faces. More often than not, the images produced are recognized as indeterminate organic forms with volume and space, but fail to resolve themselves into anything recognizable. But occasionally, images are produced that are

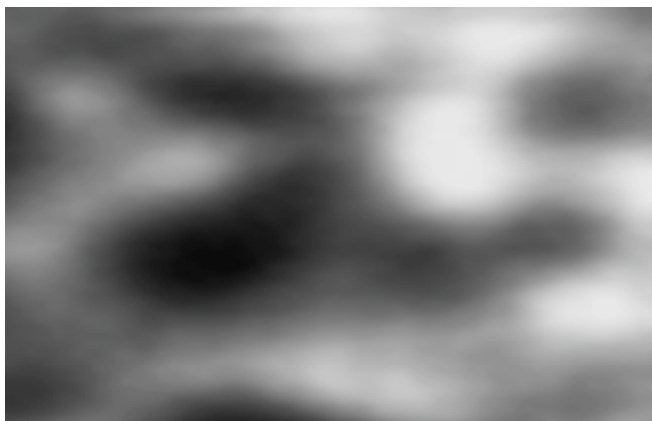


Figure 3. Face from Ghosts in the Machine 2008

strikingly like a face although in actuality containing only the barest possibility of being so. [Fig 3.]

2. AUDIENCE

An audience's response to the sounds and images in Ghosts In The Machine is, like all apprehension of works of art, a complex interplay of expectation and desire dependent entirely on a contextual and located body. In addition to an exploration of how the expanded body/machine field might develop meaning, the Project's interest extends to how place and history play an essential role in meaning making in the face of the indeterminate. In this work, location, and the visibility of its recent and distant past, establishes just what an audience brings, and consequently takes away.

An early incarnation of the piece was first shown in the Centro Popular de la Memoria in Rosario, Argentina. This building contained a former illegal detention center that was used by

the provincial police between 1976 and 1979 to hold people without formal charges and torture them, under the pretense of fighting radical left-wing political subversion and terrorism. It was informally termed El Pozo: The Pit. The Sound of Silence was installed in a room directly above The Pit.

Naturally enough the images and sounds that observers saw and heard in what was generated by random noise from the camera related directly to the horrors inflicted on those incarcerated in El Pozo. Noise was interpreted in the context of the lost and invisible bodies that had been incarcerated. Another installation occurred at a mental hospital in Trieste, Italy. Here the noise was characterized differently and altogether different content was built within the work.

Such contextual imagining is not unusual – works of art are never autonomous, but always part of a contextual continuum. But in this work content is so completely dependent on context for the any meaning that might be generated, that it might be seen as a visualization of a momentary and located epistemological unconscious.

3. CONCLUSION

In this installation the computer does the hard work of analyzing a complex visual field, but the task of meaning making is left to the observer as discovered faces barely meet the requirements of a facial arrangement, consisting only of blobs and indeterminate grain.

Seeing, representation and the interpretation of external phenomena has never been a matter of objectivity. Seeing is a complex activity, and the perception of visual forms, aesthetic experience and cognitive interpretation are more at home with the aleatory, the misperceived and the phenomena of indeterminacy than with the notion of the world as a fixed reality. It is these that drive the installation Ghosts in the Machine.

The installation is a generative, closed system. Noise from a CCD camera is analyzed for patterns. An algorithm looks for patterns that match the basic geometry and physiognomy of the human face. What it actually finds are pixels on a screen that have no indexical relation to a real world face. They are not images of people, but another kind of image loaded with meaning, which arises accidentally, but irresistibly, from the hybrid interaction between machine and body. To all intents and purposes when these patches of pixels look like faces, they are images of faces. That such obscure images resolve themselves into faces without conscious effort, and that remain even when attending closely to them, suggests that it is paradoxically their lack of objective meaning that generates their form. It is the very ambiguity and indetermination of the images that allows the brain to reconfigure them as indexical.

4. REFERENCES

- [1] In addition to paranormal investigations there have been numerous artistic explorations over the years, including Joe Banks' *Rorschach Audio Project*, and work by Leif Elggren, and Carl Michael von Hausswolf amongst others. *Ghost Orchid* (compiled, edited and produced by Justin Chatburn and Ash International) provides an in depth look at EVP.