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John Wynne

Confidential Incident Report

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Auditory Warnings and the Assault on Silence

> Physical noise, mental noise and noise of desire – we hold history's record for all of them. And no wonder, for all the resources of our almost miraculous technology have been thrown into the current assault against silence.
> - Aldous Huxley[1]

Everything beeps or buzzes these days: microwave ovens, watches, cars, phones, computers, the doors on trams…. Auditory warnings, large and small scale, surround us in domestic and public spaces; many have strong, specific associations but are paradoxically difficult to locate spatially. Although auditory warnings are designed to grab our attention and make us *do* something or *not* do something, the more we hear them, the more likely we are to ignore them. In the urban environment, selective listening becomes a survival technique: if we were to snap to attention at every beep or alarm we hear we would soon lose our grasp on sanity, but failure to heed some warnings could easily lead to death or serious injury. In certain critical environments such as airplane cockpits or nuclear power plants, 'the net result of the many false alarms is a cry-wolf syndrome which leads to a lack of faith in the system and a casual attitude towards the constant presence of certain alarms'.[2]

The design of auditory warnings must take into account an often unacknowledged scale of urgency: failure by designers to make an alarm or reminder appropriate to the context in which it will be used can cause either unnecessary anxiety or a disregard of imminent danger. It is unnecessary – and indeed potentially counterproductive or even dangerous – to startle or alarm someone if the information you are trying to convey is something as simple as a warning that the lift door is about to close. Conversely, if the cabin pressure in an airplane has suddenly dropped, a pleasant musical chime would not convey an appropriately urgent need for attention. Schools in Australia have been experimenting with pleasant music to mark the end of classes rather than the traditional jarring buzzers or bells.

I was artist-in-residence for one year at Harefield Hospital, one of the world's leading centres for heart and lung transplantation,[3] and one of the environments I recorded there was the Intensive Treatment Unit. In the I.T.U., both the care and the sound are intense: it is an open ward, and in addition to the accumulated noise of the life-maintaining machinery and accompanying alarms and reminders, verbal communication between staff often conveys a sense of controlled urgency. When a range of new equipment was installed in the I.T.U., with

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1 Aldous Huxley, *Silence, Liberty and Peace* (New York, NY: Harper, 1946).

2 J. L. Seminara, W. R. Gonzalez, and S. O. Parsons, 'Human factors review of nuclear power plant control room design', Electric Power Research Institute Report NP-309 (1977), quoted in James P. Bliss, 'Investigations of Alarm Mistrust under Conditions of Varying Alarm and Ongoing Task Criticality' in Neville A. Stanton and Judy Edworthy (eds), *Human Factors in Auditory Warnings*. (Aldershot: Ashgate, 1999), pp. 173—99: p. 179.

3 Funded by Arts Council England and supported by Royal Brompton and Harefield Arts, I worked closely with photographer Tim Wainwright to collect materials for a diverse body of work including radio pieces for the B.B.C. and C.B.C. in Canada, a surround sound video piece entitled *I.T.U.* which premiered at TATE Britain, a video and sound installation entitled *Flow* at the Old Operating Theatre Museum and a 24-channel photographic sound installation which will exhibit in 2008.

alarms that were more thoughtfully designed and some of which (the non-critical warnings) could be reduced in volume by staff, the resultant lowering of tension in the facility was immediately palpable.

Different manufacturers of equipment used in environments like hospitals have historically had little or no co-operation between them with regard to the design of alarms, so there has usually been no overall consideration of the effect of the various sounds in relation to each other or their cumulative effect on the overall environment. One heart transplant recipient told me:

> […] with the Jarvik 2000 [an internally fitted ventricular assist device] there are a number of alarms, one of which is the power off alarm, which means that your heart pump has stopped, which is pretty dangerous if you haven't got sufficient back up. And that alarm, would you believe, is almost exactly the same as the alarm of the doctor's call, you know, the call alerts they wear on their belts, so whenever any of the doctors were alerted, of course, the first thing I would do was reach around in panic for the Jarvik controller to make sure that it wasn't me.
> - David Botting (heart transplant, 2005)

Another patient spoke of a particularly creative but not entirely effective strategy for dealing with the omnipresent alarms on the ward:

> Well, I guess as with whatever environment you become familiar with, you gradually lose the acute sensation that you first get. I mean, you can really be overwhelmed with the noises, especially if you have a room in the centre of the ward. As you know, there are loud alarm bells that clang and ring frequently; very loud, raucous buzzers for people that require nurses coming to their rooms. Gradually, that fades, and you can almost not notice it. I spent the first week trying to turn the bells into flocks of Greek sheep and goats and imagine them up mountainsides, but it wasn't really very successful and I ended up with great sympathy for Mohammed, who hated bells, didn't he – that's why he has towers with imams calling off them, because bells were out of favour. I can see why.
> - Kate Dalziel (heart transplant, 2006)

Audible alarms must be used in many critical environments because visual warnings are only effective if the intended recipient is looking in the right direction. Auditory warnings in helicopters came into use only after an incident in which a pilot flying in heavy fog ended up in the sea when he failed to see the flashing light telling him that his altitude was getting dangerously low because it was obscured by the control stick.

Warning sounds are useful because hearing is a primary warning sense. It does not matter whether operators are concentrating on an important visual task, or relaxing with their eyes closed; either way, if a warning sound occurs it will be detected immediately and routed

through on a priority line to the brain.[4] But there are also limitations and drawbacks to using auditory warnings: they can cause confusion and anxiety and thus interfere with clear thinking, and there is a limit to the number of auditory warnings whose specific meanings can be remembered, even with training.

There is also an unacknowledged abstract beauty in electronic warnings and reminders which is usually ignored because of their high annoyance factor. I construct synthetic alarms from basic wave forms (rather than sampling existing alarms), and have been using these auditory warnings of my own design in my work as a sound artist since 1997, when my first piece, *The Sound of Sirens*, was banned by the City Council of Copenhagen for allegedly 'frightening and confusing the public'. As Brandon LaBelle put it, 'the project became a site for debate between aesthetic value and the rights to public space, forcing sound and its presentation to become a civic and governmental issue'.[5] Perhaps I was naïve at the time, but this piece was not deliberately confrontational, and indeed in subsequent work I have become more interested in the paradox of producing work which can sit comfortably, and perhaps even with some beauty, in a public environment from a category of sounds essentially designed to irritate. *Response Time*, a multi-channel piece which had auditory warnings encircling and moving across a public square in Toronto, was described by one writer as 'an ambient, ghost-like presence'.

Confidential Report takes its text from an account given by an airline pilot of an in-flight incident[6] and is part of a set of text/sound pieces called *Do(n't)*.[7] All three pieces in this series were selected by the art curators of the Humber Mouth Literary Festival as a somewhat subversive intervention for the B.B.C.'s controversial 'Big Screen' in Victoria Square, Hull, which normally pumps out B.B.C. television broadcasts all day long. The B.B.C. flatly refused to allow one of the pieces, *Orange Alert*, to be screened on grounds of political sensitivity and public safety. I deliberately added a 30-second silence with a blank white screen to the end of another piece, *Auditory Warnings*, specifically for this site in order to introduce some sense of respite from the audiovisual bombardment, but the B.B.C. insisted on editing this out and returning directly to regularly scheduled broadcasting. They said that people would think the screen was malfunctioning. *Confidential Report* was allowed without edits and, along with *Auditory Warnings*, was played at regular intervals for two weeks.

The degree to which the post-modern urban environment is saturated with electronic auditory warnings and their unrivalled ability to destroy 'peace and quiet' – itself a highly subjective cultural construct – makes these powerful sonic signifiers useful artistic material in promoting a qualitative change in the way people experience the city, both through increased awareness of the sounds themselves and their psychoacoustic dimensions and through a renewed appreciation of the value and meaning of 'silence'.

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4 R. D. Patterson, 'Auditory warning sounds in the work environment', Philosophical Transactions of the Royal Society of London, Series B, Vol 327, 1990, p. 486.

5 Brandon LaBelle, 'Vandalism and Complaints: Sound's Other Mask', in *Sound Art*, ed. Anna Colin, 2005.

6 Anonymised confidential incident report by an airline pilot, quoted by Patterson, p. 485.

7 http://www.sensitivebrigade.com

Confidential Incident Report
Text programming by Tony Langford

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