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The Incorporated Observer

Ranulph Glanville

Abstract

"Everything said is said by an observer" (Maturana, 1981)
"Anything said is said to an observer" (von Foerster 1979)

Keywords:
Extension, interaction, instrument, neutral, observer, record

Extensions

Human beings may be characterised as creators and users of extensions. A classic distinction between human and non-human is often made by reference to tools. Tools are, in the sense intended in this paper, extensions. Writing, building, telling stories are also extensions. In this paper, two particular extensions are considered: instruments and records. I compare how these are supposed to be and how we actually experience them, making suggestions about how taking on board the difference between these might benefit us. Then I explain how I used these understandings to make an audio-visual piece, "Generation."

Instruments

We use instruments (in the sense intended in this paper) as amplifiers, to extend our range. We use them to help us observe what we otherwise cannot, that is, to find new, extended limits of resolution. We use them to help us observe what we cannot, without their assistance, observe.

We also use them to broaden our sensory sensitivity. Thus, x-rays are extensions of our visual system, not in terms of detail, amplification and resolution, but in terms of the range of the visible spectrum we can perceive.

Words often associated with the notion of instrument include:

> neutral, accurate, unobtrusive, having no effect (changing nothing in what is observed)

Instruments are intended to transcend the limits of the human sensorium.

But this is not how we experience our instruments. In spite of our insistence to the contrary, experience tells us that the camera does lie: its optics do not match the optics of our eyes, and, when they do, the results don't look to us to be as we see. What we see in life becomes, when we see it in photos, a parallax distortion which we correct with very expensive lenses that make the picture seem similar to our experience, even if optically quite different.

In similar manner, zooming a lens distorts the spatial relationships between the objects observed through that lens; and lens coatings subtly change colouring.

Yet we remain largely unaware of these effects when viewing (even if we know them). And those who don't know them seem to remain in glorious ignorance.

Our instruments are not neutral. They modify (which we usually call distort). They are, therefore, not accurate. They have an effect, for what is observed changes in ways that indicate the instruments are not neutral: in the changes that occur, we cannot know whether the changes reflect changes in the object, the observer, or the instrument, or some combination.

Observers

Simon Penny (Penny et al, 2001) remarks, "In head mounted display VR, you cannot see your hand in front of your face: This erasure sets up a perceptually inconsistent and contradictory situation…."

Relevant to this paper in what Penny says is the notion of absence. The instrument of the head mounted display omits the presence of the observer's hand. This is not only censorious—it denies the observer: a trick often used to create a semblance of neutrality and objectivity, a major feature of classical science. Although not necessarily or always so, we frequently exclude the observer.

Second-order cybernetics teaches us we can't actually omit the observer. Humberto Maturana reminds us: "Everything said is said by an observer" (Maturana, 1981). Von Foerster added his own twist: "Anything said is said to an observer" (von Foerster 1979)

I have argued the centrality of the (present) observer on many occasions (e.g. Glanville 1999) and will not do so here. I just remind the reader: instruments are designed and used by observers, just as we will find records are.

Records

We use records (in the sense intended in this paper) as amplifiers, to extend our range. We use them to help us remember what otherwise we cannot, that is, to find new, extended limits of permanence. We use them to help us remember what, without their assistance, we cannot remember.

We also use them as materials, to broaden the range of material available for us to work with. Thus, photographs are records of visual memory, not just because they supposedly preserve a view of what was, but because this (photographed) view can become a resource from which we make the new, e.g. by collage.

Words often associated with the notion of record include:

> fixed, neutral, objective, accurate, correct, unchanging and permanent (constant)

Records are intended to destroy time and remove interpretation.

Yet records are not fixed, neutral, objective, accurate, correct, unchanging or permanent. They are not constant. In the first instance, any record is a product of selection (and intention) made by an observer. There is no record without an observer to originate it (even if the observer is remote), and the observer chooses not only what to record but how to record it, what "angle" to give it.

Records are often changed. Think of the legendary photograph from which Trotsky has been airbrushed out. (Incidentally, although it is now obvious something has been removed, apparently it was not at the time. Photographs were sold as objective—the camera never lies—and so the concept of the perversion of a photo was alien. As methods of masking have improved, our level of expectation regulating our perception has changed.)

In records that contain a temporal element, there are other difficulties. In a well-known experiment with many variants one of which we must all have experienced (the version quoted here is reported in von Foerster 1973), a single word—in this case "cogitate"—smoothly spliced into a loop and played, produced no less that 758 alternates after 2 minutes of repetition, as reported by about 200 subjects. The change in what is heard starts after 20 to 30 repetitions. I have reported the lack of constancy I heard in a chord that had been playing "unchanged" for 7 years in a LaMonte Young piece in New York's TriBeCa district (Glanville 2001a).

For a record to be effective, it must at some time be used—by an observer, who will get out of it according to his/her wishes. So not only is the recording determined by an observer, but so is the use of the record recorded. (This is one reason it makes no sense to say such things as "Obviously!" or "I have made it perfectly clear:" The hermeneutic task of interpretation lies not with the person making the record or the comment, but with the listener. Thus can a "record"—such as a prerecorded tape—be performed! (Glanville 2001b))

Development

Contrary to myth, in our usage

> Instruments are not neutral (or accurate, unobtrusive, having no effect (changing nothing in what is observed)).

> Records are not fixed (or neutral, objective, accurate, correct, unchanging and permanent (constant)).

Since they are not as we thought, how could we benefit from them?

I have long argued we should learn from what is on offer through interaction, letting it inform us rather than insisting on our demands. To fail to do so is to deny interaction. I have gone so far as to propose we treat eg computers as conversational partners in our processes of creation (Glanville 1994, 2000). I believe that this approach offers us a way forward: we can consider not what we demand or expect from our extensions, but what they offer: and that has to do with how we understand them.

Consider our use of an instrument —eg., a paint brush. This might be seen as a specialised, extra digit (and thus an extension of the hand). We have learnt that it does not produce the effect a finger does (hence our delighted surprise at the outcome of finger painting by Australian Aboriginals). A paint brush changes what we do with paint and we learn to benefit from what it offers us rather than what we demand.

Similarly, although recordings purportedly remain the same, constant and unchanging, as we hear them over time, they change. There may be many reasons for this, mostly concerned with how we ourselves change: each experience we have may change us. I doubt there are many who, returning to something apparently fixed (a novel, a CD), have not found something new it in. Our explanation has traditionally been that the record is fixed and accurate, although we have no way of knowing this: what we find, is that it is changed.

It may be difficult to determine what the different qualities of these extensions might be, especially in a manner which leaves them open so we can discover more and/or differently, later. But it will be far harder to discover what these qualities might be while we insist that they are neutral, fixed, etc.

And there are qualities to be used. It could be said that Michael Snow's 1967 film "Wavelength," consisting, in one description, simply of a zoom slowly operated from wide angle to telephoto over a long time period while the camera remains fixedly focused across a room, is a prime example of the use of the instrument as a creative participant in the making of a movie.

As a first move, I assert we should make involvement apparent, so we can benefit from it. Penny's remark is an pointer. The explicit presence of the extension gives new possibilities. The mere fact of the acknowledged presence gives both instruments and records qualities.

What can we rely on, if not our instruments and our records? This is a question to consider carefully. If we wish to benefit from them, we could do worse than celebrate them and their presence, to treat them as incorporated in our observings. Thus can they become incorporated in our understanding, rather than remaining excluded. Below, I describe how I have tried to do this, in the video "Generation."

There remains an associated question. What does this understanding mean for science—a way of examining the world dependent on extensions, that is, on instruments and records?

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Generation

Generation is an audio-visual piece made from hi-8 video recorded in the Europa Hotel in Prague.

I have been for a long time fascinated by slowly changing sounds, and the beats and harmonics that they generate. I used to listen to the generators in the power station across the bay in Helsinki during balmy summer nights. I share this taste with LaMonte Young.

There was a generator in a shaft at the start of an immensely long corridor leading from the Europa Hotel's Atrium to some of the bedrooms. I didn't have a tape recorder with me, but I had a video camera, and determined to record some of the sound using this.

Thus, there was an incidental visual stream. This was accidental, and I had not intended to use it: I thought of just transferring the sound track to DAT. However, as I stood as still as I could manage in the dark corridor in the mid evening (when I calculated there would be few people moving through so I wouldn't arouse suspicion) and looked through the viewfinder, I was reminded of the slow zoom that is "Wavelength" and noticed the light at the end of the corridor was having strange effects on the camera's autofocus.

So as I recorded the sound, I played with the image: the zoom, the (blurring of the) autofocus, and the view at the end of the corridor where a door appeared in close up and where the focusing behaved bizarrely.

When I returned home, I played an excerpt as part of a lecture. I had intended to point out that the camera, in focusing as it did, was giving its own component to the video image: the image was not mine, not of the built corridor, not of the camera, but of each working together in a loose collaboration that was unplanned and unforeseen.

However, in playing the tape back, my colleague Dick Bunt and I noticed the click of the tape catching on the spool in the drive mechanism was, at these levels, very clearly audible. It punctuated the continuous sound with a discrete and regular beat. Although I had heard this sound while recording, I had not expected it to be so apparent on playback. The instrument was making its presence apparent.

Thus, the camera contributed not only to the formation of the visual image, but also to the sound. In both respects, the contribution was unexpected and scarcely predictable, and in both it was creative.

I had wondered for a long time about the instruments by which we see and hear: cameras and electron microscopes and gun microphones and subsonic sensors. They are not neutral yet we pretend they are objective and can be ignored. In science this is explicit and intentional. In the arts the position is more ambiguous. The camera frames. Yet Warhol used one in his deadpan manner as the neutral interrogator.

The discovery of what had been recorded in this tape opened up new understandings to me. In the piece I have played with the material and with process and editing, to find out more.

The piece is made from the sound track. The visual track is layered on it. The main visual image was stabilised by Severi Glanville at Digital Film Finland in Helsinki. I have been left the freedom to overlay some of the original hand shakes, the flickers.

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Biography

Ranulph Glanville's speciality is not having one. He has studied the horizontal, obsessed about lines and boundaries, found traces of the organisation of Finnish language in Finnish farmhouses, taken 2 PhD's, married twice, divorced once, never voted conservative, developed cybernetic thought systems, made music, taught architecture, design and cybernetics, and is currently adjunct professor of odd jobs in the Faculty of the Constructed Environment, Royal Melbourne Institute of Technology University, Australia, where he commutes twice yearly. Don't ask…! Contact him at ranulph@glanville.co.uk