Technology and Pierre Schaeffer: Pierre Schaeffer's *Arts-Relais*, Walter Benjamin's *technische Reproduzierbarkeit* and Martin Heidegger's *Ge-stell*

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Pierre Schaeffer's notion of *Arts-Relais* highlights aesthetic fissures in the passage from manual to mechanical techniques of sound production, fixation and reproduction. The *Arts-Relais* 'instrument' is a case of what Walter Benjamin terms *technische Reproduzierbarkeit*, and there is a close resemblance between the two roles of that instrument and the two manifestations of *technische Reproduzierbarkeit* as expounded by Benjamin. Furthermore, the *Arts-Relais* instrument materialises the shift from 'older handwork technology' to that technology which, in the words of Martin Heidegger, unlocks, transforms, stores up, distributes and switches about the energies of nature, and whose essence he terms *Ge-stell*. Heidegger's 'sinking of the object into the objectlessness of the standing reserve' (a feat of *Ge-stell*) intersects Benjamin's 'decline of the aura' (a feat of *technische Reproduzierbarkeit*), but while the decline of the aura paves the way for art as political praxis, the sinking of the object into the objectlessness of the standing reserve elicits from Heidegger an invitation to a return to the golden age of Greek *techne*. Is this not praxis too? And how does Schaeffer respond to Heidegger's invitation?

As befits an Homage to Schaeffer, this essay improvises 'new uses for things originally meant for something else' (Schaeffer and Hodgkinson 1987: 5), according to the rule of *bricolage*: to make do with whatever is at hand (Levi-Strauss 1962: 17). A new structure is invested with disused remnants of old structures (Genette 1963: 37), as practised by the savage mind, structural thinking, *musique concrete* and Oswald de Andrade's *antropofagia* (Andrade 1928). One saves up by not making it to measure at the cost of a double operation: analysis (extraction of various elements from organised ensembles) and synthesis (organisation of these elements into a new ensemble where ultimately they will be entirely detached from their original functions).

> Because the essence of technology is nothing technological, essential reflection upon technology and decisive confrontation with it must happen in a realm that is, on the one hand, akin to the essence of technology and, on the other, fundamentally different from it. Such a realm is art.
>
> (Heidegger 1954a: 35)

1. SCHAEFFER'S *ARTS-RELAIS*

'Schaeffer died at 85 in Milles, France, two days ago', states the daily *O Estado de São Paulo* of 21st August 1995 on page two of its culture-and-entertainment section. 'He was one of the chief theoreticians of contemporary music', readers were informed; 'the causa mortis has not been disclosed'. On the back cover, the caption of a much larger article showing Boulez's photograph reads: 'Pierre Boulez dominates the week with a festival and lectures at University of the São Paulo State [UNESP].'

The antagonism between Herbert Eimert's *elektronische Musik* and Schaeffer's *musique concrete*, which galvanised the European electroacoustic scene in the early 1950s, has been presented elsewhere (Palombini 1993) in the light of two contrasting approaches to technology. For Eimert and Boulez new tools were the ideal means to perfecting Western musical tradition. For Schaeffer, new sounds were primarily an inexhaustible repository of novel sense data: they implied new thinking, the calling into question of that tradition. Presenting his view of IRCAM, Tod Machover attributes the diversity of musical outlook there 'also to the neutrality of technology, which offers powerful tools for exploration and creation, but does not orient the composer in any particular musical direction' (Machover 1984: 1, 2). Yet, according to Heidegger, 'we are delivered over to technology in the worst possible way when we regard it as something neutral; for this conception of it, to which today we particularly like to do homage, makes us utterly blind to the essence of technology' (Heidegger 1954a: 4).

Schaeffer's approach to technology was formulated in 1941. In it, the tension between direct art, i.e. the traditional arts, and relay-arts (*Arts-Relais*) manifests itself in three phases. In the first of these, the relay-arts instrument deforms direct art, since it is still primitive, while, at the same time, the novelty within it causes forgiving admiration. In the second phase, the instrument evolves enough to be able to

transmit direct art, but not enough to do it with the required fidelity and efficiency. In the final phase, the instrument is mastered, knowledge of its limitations and possibilities allow it not only to retransmit direct art – 'what we used to see or hear directly' (Pierret 1969: 92) – in a very particular and individual manner, but also to find possibilities of expression by means of that which was not previously considered pertinent to direct art or was not possible before the existence of the instrument – 'what we used not to see or hear' (Pierret 1969: 92). As a result, the relay-arts instrument becomes capable of informing art. When asked by Pierret, in what way do relay-arts inform the traditional arts, Schaeffer replied:

> First by their existence alone: the evolution of painting has been thus conditioned by the influence of photography. Then, as regards production and distribution, the activity of cinema, radio, and television influences the other arts in so far as it transforms society: it creates new techno-artistic professions and renews the volume, the nature and the share out of the artistic production which already exists; it remodels the public, its composition, its demands . . . Finally, as regards expression itself, we note genres gliding from one domain to another . . . You see, you are talking to me and you intend to make a book out of what we are saying. Why? Because first there have been radio interviews of long duration, which were subsequently edited and then the public has taken to the formula . . . The funny thing is that I am your direct precursor. (Pierret 1969: 92, 3)

Though art exists in the artwork and what art is has to be apprehended from the artwork, what the artwork is can only be experienced from the nature of art (Heidegger 1935, 6: 18), which is not itself a work of art that can be encountered among all other works of art. Would Schaeffer have remained attached to a conception of art rendered obsolescent by the very proliferation of mechanical reproduction?

2. BENJAMIN'S *TECHNISCHE REPRODUZIERBARKEIT*

The double role of the relay-arts instrument – namely, retransmission in a certain manner of what we used to see or hear directly and expression in a certain manner of what we used not to see or hear – perfectly matches the double outlook of Walter Benjamin's *technische Reproduzierbarkeit* (mechanical reproduction):

> Around 1900 mechanical reproduction reached a stage where, besides beginning to tackle all conventional artworks and effecting the deepest transformations in their action, it also conquered its own place amid artistic procedures. For the study of this stage, nothing is more enlightening than the manner in which its two different manifestations – artwork reproduction and the art of film – have reacted upon art in its traditional form.
>
> (Benjamin 1936: 475)

Yet Benjamin shows that artwork reproduction, of itself, changes the very nature of art. Though apprentices and counterfeiters have always copied the masters, mechanical reproduction is a relatively new phenomenon which has developed in successive booms interspersed with ever briefer rests. The Greeks knew casting and coinage. In the Middle Ages, xylography started copying drawings, the press changed literature completely and etching also appeared. Early in the nineteenth century lithography began reproducing visual images on an unprecedented scale. It was soon superseded by photography, the silent movie and the talking film. Today, Xeroxing easily copies, reduces and magnifies images which can be quickly sent by fax to wherever a fax machine is switched on.

However, even the most perfect reproduction lacks the unicity of the original's presence at the place where it dwells. The history of the artwork is linked to this presence. Mechanical reproduction may not alter the content of the artwork, but it devalues the *hic et nunc*. The *hic et nunc* determines the authenticity of the artwork. It is based on material duration and power of historical witness. When duration is tampered with, power of historical witness lessens and the authority of the artwork is weakened. A handmade fake is dependent on the original. Mechanical reproduction may unveil hidden aspects of the original and take the copy to formerly inaccessible places. Rather than abandoned, tradition is gradually undermined: copy multiplication turns a unique object into a mass phenomenon; omnipresent display grants permanent actuality to the artwork. Benjamin sums up these changes by saying that, in the age of mechanical reproduction, the artwork is impaired in its *aura*: that singular appearance of a remoteness, however near.

On the one hand, the masses demand things to be both spatially and humanly closer to them, which may mean that social functions are disregarded. On the other, they tend to overlook the character of what is given only once. A perception so attentive to what repeats itself identically over the world lays the object bare and destroys its aura. This process is the intuitive counterpart of the growing importance ascribed to statistics in contemporary theory. Thus reality and the masses shape one another.

As cult objects and exhibition objects, artworks display two inversely proportional values. Originally, cult expressed the belonging of the artwork to an

ensemble of traditional relations. The oldest among them served magic and subsequently religious rituals. The Renaissance exchanged these rituals for the cult of beauty. The cult of beauty was replaced with the cult of art for art's sake. The decline of the aura therefore comes to pass when little remains of ritual function. For Benjamin, the release of the artwork from ritual prepares art for another form of praxis, namely politics.

3. MARTIN HEIDEGGER'S *GE-STELL*

In the history of mechanical reproduction, Schaeffer's relay-arts instrument materialises the shift from older handwork technology to that technology which, in the words of Martin Heidegger (1954a), unlocks, transforms, stores up, distributes and switches about the energies of nature. 'The Question Concerning Technology' seeks to prepare a free relationship to technology. The relationship will be free if it opens human existence to the essence of technology. Once humans are able to respond to this essence they should be able to experience the technological within its own bounds. According to ancient doctrine, the essence of a thing is considered to be what the thing is. Heidegger seeks the true by way of the correct. The correct always fixes upon something pertinent in whatever is under consideration, but, in order to be correct, this fixing by no means needs to uncover the thing in question in its essence. 'Only at the point where such an uncovering happens does the true come to pass. For that reason the merely correct is not yet the true, and only the true brings us into a free relationship with what concerns us from out of its essence.' (Heidegger 1954a: 6)

The usual definitions – technology is a human activity, technology is a means to an end – belong together, for to posit ends and procure and utilise the means to them is a human activity. 'The manufacture and utilisation of equipment, tools, and machines, the manufactured and used things themselves, and the needs and ends they serve, all belong to what technology is. The whole complex of these contrivances is technology. Technology itself is a contrivance, or, in Latin, an *instrumentum*.' (Heidegger 1954a: 4, 5) The instrumental definition of technology even holds for modern technology and therefore conditions every attempt to get humans into the right relationship with technology. Everything would depend on the proper manipulation of technology as a means, getting it 'spiritually in hand', mastering it. Heidegger points out the tension between the will to mastery and the threat of technology slipping from human control. But how would technology stand with the will to mastery if it were no mere means?

A means is that whereby something is effected, and whatever has an effect as its consequence is called a cause. Nonetheless, a cause is not only that by means of which something else is effected: the end, in keeping with which the kind of means to be used is determined, is also a cause. Heidegger refers to the fact that since ancient Greece, philosophy has taught that there are four causes: '(1) the *causa materialis*, the material out of which, for example, a silver chalice is made; (2) the *causa formalis*, the form, the shape into which the material enters; (3) the *causa finalis*, the end, for example, the sacrificial rite in relation to which the chalice required is determined as to its form and matter; (4) the *causa efficiens*, which brings about the effect that is the finished, actual chalice, in this instance, the silversmith' (Heidegger 1954a: 6). The four causes are the ways, all belonging at once to each other, of being responsible for something else. We have nevertheless grown accustomed to representing cause as that which obtains effects, brings about results. The *causa efficiens*, but one among the four causes, sets the standard for all causality.

The four ways of being responsible bring something into appearance. They start it on its way towards complete arrival. Being responsible is an inducing to go forward, an occasioning. It should be construed neither moralistically as a lapse nor in terms of effecting. 'Occasioning' is Heidegger's term for the essence of causality, thought as the Greeks thought it. The four ways of occasioning let what is not yet present arrive into presencing. This bringing-forth is *poiesis* as defined in Plato's *Symposium*. Not only handicraft manufacture, artistic and poetical bringing into appearance and concrete imagery are *poiesis*: *physis*, the arising of something out of itself, the bursting of a blossom into bloom, is also *poiesis*. *Physis* is *poiesis* in the highest sense, for what presences by means of *physis* has the bursting open belonging to bringing-forth in itself. On the contrary, what is brought forth by *techne* has the bursting open belonging to bringing-forth not in itself, but in another.

Techne reveals whatever does not bring itself forth and does not yet lie here before us, whatever can look and turn out now one way and now another. It designates not only the activities and skills of the craftsman, but also the arts of the mind and the fine arts. From earliest times until Plato the word *techne* is linked to the word *episteme*, both meaning knowing in the widest sense. Such knowing affords an opening up and, as an opening up, it is a revealing.

> Whoever builds a house or a ship or forges a sacrificial chalice reveals what is to be brought forth, according to the perspectives of the four modes of occasioning. This revealing gathers together in advance the aspect and the matter of a ship or house, with a view to the finished thing envisioned as completed, and from this gathering determines

the manner of its construction. Thus what is decisive in *techne* does not lie at all in making and manipulating nor in the use of means, but rather in the aforementioned revealing. It is as revealing, and not as manufacture, that *techne* is a bringing-forth.
(Heidegger 1954a: 13)

Modern technology is said to be different from all earlier technologies because it is based on modern physics as an exact science. Conversely, modern physics, as experimental, is dependent upon technical apparatus and upon progress in the building of apparatus. The establishing of this mutual relationship is correct, but it says nothing about that in which the relationship is grounded. Of what essence is modern technology that it happens to think of putting exact science to use? Modern technology too is a revealing. And yet the revealing that holds sway throughout modern technology does not unfold into a bringing-forth in the sense of *poiesis*. This revealing is a challenging which puts to nature the unreasonable demand that it supply energy that can be extracted and stored as such.

Heidegger stresses the difference between revealing which brings forth the essence of nature and revealing which challenges and exposes it. The former utilises energy supplied by nature in its original form as it is supplied – like in the case of a windmill, where the turn of the sails is 'left entirely to the wind's blowing' (Heidegger 1954a: 14) – while the latter unlocks it in order to store it – like in the case of coal mining, which reveals the essence of the earth as a mineral deposit rather than soil for organic growth, unlocking its energy and storing it as coal, which constitutes a 'standing-reserve' to be utilised in the future. He also establishes the difference between setting-in-order (*bestellen*) to take care and maintain a natural resource – a type of relationship which may be found, for instance, in pre-industrial agriculture – and setting-upon (*stellen*) nature in order to further something else, characteristic of industrial use of technology which is primarily driven by economic concerns. The latter may chain various processes to achieve results which contradict the essence of nature, such as the extraction of ore from the earth, the extraction of uranium from ore, the production of atomic energy from uranium and the potential use of the latter for destruction of nature itself. Heidegger uses the term 'expediting' (*Fordern*) to identify setting-upon which challenges and exposes nature.

Thus, the energy concealed in nature is unlocked, transformed, stored up, distributed and switched about. Unlocking, transforming, storing, distributing and switching about are ways of revealing. Yet this revealing never simply comes to an end or runs off into the indeterminate. It reveals to itself its own manifoldly interlocking paths through regulating their course. This regulating is everywhere secured. Regulating and securing even become the chief characteristics of the challenging revealing. Everything is ordered to stand by so as to be on call for a further ordering. And whatever stands by in this sense no longer stands over against us as an object. Heidegger exemplifies copiously (Heidegger 1954a: 16–18).

Modern physics is not experimental because it applies apparatus to the questioning of nature. Instead because physics, already as pure theory, sets nature up to exhibit itself as a coherence of forces calculable in advance, it orders its experiments for the purpose of asking whether and how nature reports itself when set up in this way. Accordingly, the ordering attitude and behaviour display themselves first in the rise of modern physics as an exact science. Modern physical science begins in the seventeenth century. Machine-powered technology develops only in the second half of the eighteenth century. But already in physics the challenging gathering-together into ordering revealing holds sway, though it does not yet come expressly to appearance.

The essence of modern technology – that unconcealment in accordance with which the work of modern technology reveals the real as standing reserve – is termed 'Enframing' (*Ge-stell*) by Heidegger, and modern physics is the herald of Enframing, a herald whose origin is still unknown. In all its retreating from the representation turned only towards objects which has alone been standard until recently, modern physics will never be able to renounce this one thing: that nature reports itself in some way or other which is identifiable through calculation and that it remains orderable as a system of information. This system is determined out of a causality which has changed once again. It seems as though causality is shrinking into a reporting challenged forth of standing reserves that must be guaranteed either simultaneously or in sequence.

Only to the extent that humans are already challenged to exploit the energies of nature can this ordering revealing happen. Being already challenged, ordered to do this, humans belong even more originally than nature within the standing reserve (see current talk about human resources, the supply of patients for a clinic, etc.). As the ones who are challenged forth by Enframing, humans stand within its essential realm; they can never take up a relationship to it which is only subsequent to its imposition. 'Thus the question as to how we are to arrive at a relationship to the essence of technology, asked in this way, always comes too late. But never too late comes the question as to whether we actually experience ourselves as the ones whose activities everywhere, public and private, are challenged forth by Enframing. Above all, never too late comes the question as to

whether and how we actually admit ourselves into that wherein Enframing itself comes to presence.' (Heidegger 1954a: 24)

The essence of modern technology starts humans upon the way of that revealing through which the real everywhere, more or less distinctly, becomes standing reserve. 'To start upon a way' means 'to send' in ordinary language. Heidegger terms 'destining' that sending-that-gathers which first starts humans upon a way of revealing. Enframing, as a challenging forth into ordering, sends into a way of revealing. Enframing is an ordaining of destining, as is every way of revealing. Bringing-forth, *poiesis*, is also a destining in this sense. The unconcealment of that which is goes upon a way of revealing. The destining of revealing always holds complete sway over humans. However, it is never a fate that compels, for humans become truly free only insofar as they belong to the realm of destining, and so become the ones who listen and hear (*Horender*), rather than the ones who are simply constrained to obey (*Horiger*).

> Freedom governs the open in the sense of the cleared and lighted up, i.e. of the revealed. It is to the happening of revealing, i.e. of truth, that freedom stands in the closest and most intimate kinship. All revealing belongs within a harbouring and a concealing. But that which frees – the mystery – is concealed and always concealing itself. All revealing comes out of the open, goes into the open, and brings into the open. The freedom of the open consists neither in unfettered arbitrariness nor in the constraint of mere laws. Freedom is that which conceals in a way that opens to light, in whose clearing there shimmers that veil that covers what comes to presence of all truth and lets the veil appear as what veils. Freedom is the realm of the destining that at any given time starts a revealing upon its way. (Heidegger 1954a: 25)

Experiencing Enframing as a destining of revealing humans are already sojourning within the open space of destining, a destining which in no way confines them to a compulsion to push on blindly with technology or, what amounts to the same, to rebel helplessly against it and curse it as the work of the devil. The holding sway of Enframing belongs within destining. Since destining at any given time starts humans on a way of revealing, they, thus under way, are continually approaching the brink of the possibility of pursuing and pushing forward nothing but what is revealed in ordering, and of deriving all their standards on this basis. Through this the other possibility is blocked, that humans might be admitted more, sooner and more primally to the essence of that which is unconcealed and to its unconcealment, in order that they might experience as their essence their needed belonging to revealing.

Placed between these possibilities, humans are endangered from out of destining. The destining of revealing is, in every one of its modes, necessarily danger. In whatever way the destining of revealing may hold sway, the unconcealment in which everything that is shows itself at any given time harbours the danger that humans may quail at the unconcealment and may misinterpret it. Where everything that presences exhibits itself in the light of a cause–effect coherence even God can lose all that is exalted and holy, the mysteriousness of his distance, and sink to the level of a *causa efficiens*. Likewise, the unconcealment in accordance with which nature presents itself as a calculable complex of the effects of forces can indeed permit correct determinations. But precisely through these successes the danger can remain that in the midst of all that is correct the true will withdraw. However, out of all modes of destining, Enframing is the most dangerous; not only because it challenges humans, forcing them to be orderers of the standing reserve and thus to belong themselves to the standing reserve, but also because it leads them to believe that all that exists is a human construct and deludes them to think that they can find only themselves always and everywhere, while, in truth, they lose touch with their own essence.

Enframing is the essence of technology but not in the sense of *quidditas*, whatness, generic type, genus or universal. It rather designates the ways in which technology holds sway, administers itself, develops and decays; the way in which it 'essences'. Enframing and *poiesis* are ways of revealing which have the character of a destining: the destining that challenges forth and the destining that brings forth. Enframing, as a destining, has its origin in bringing-forth, but at the same time, as a destining, Enframing blocks *poiesis*. As the essencing of technology, Enframing is that which endures primally out of the earliest beginning. It conceals not only a former way of revealing, but also revealing itself and with it that wherein unconcealment, that is, truth, comes to pass. Enframing blocks the shining-forth and holding-sway of truth. The destining that sends into ordering is therefore the extreme danger.

What is dangerous is not technology. There is no demonry of technology, but rather the mystery of its essence. The essence of technology as a destining of revealing is the danger. The threat to humans does not come in the first instance from the potentially lethal machines and apparatus of technology. The actual threat has already affected humans in their essence. The rule of Enframing threatens humans with the possibility that it could be denied to them to enter into a more original revealing and hence to experience the call of a more primal truth.

'But where danger is, grows the saving power also' (Holderlin cited by Heidegger 1954a: 28). The frenziedness of ordering harbours within it the saving

power in so far as humans may thus emerge as the ones who are needed and used for the safekeeping of the coming to presence of truth, not only by means of technology, but also by virtue of the *poiesis* of Art. In Heidegger's own words:

> There was a time when it was not technology alone that bore the name *techne*. Once that revealing that brings forth truth into the splendour of radiant appearing also was called *techne*.
>
> Once there was a time when the bringing-forth of the true into the beautiful was called *techne*. And the *poiesis* of the fine arts also was called *techne*.
>
> In Greece, at the outset of the shining of the West, the arts soared to the supreme height of the revealing granted them. They brought the presence [*Gegenwart*] of the gods, brought the dialogue of divine and human destinings, to radiance. And art was simply called *techne*. It was a single, manifold revealing. It was pious, *promos*, i.e. yielding to the holding-sway and the safekeeping of truth.
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> The arts were not derived from the artistic. Art works were not enjoyed aesthetically. Art was not a sector of cultural activity.
>
> What then was art – perhaps only for that brief but magnificent time? Why did art bear the modest name *techne*? Because it was a revealing that brought forth and hither, and therefore belonged within *poiesis*. It was finally that revealing which holds complete sway in all the fine arts, in poetry, and in everything poetical that obtained poiesis as its proper name. (Heidegger 1954a: 34)

Heidegger's 'withdrawal of reality into the objectlessness of the standing reserve' intersects Benjamin's 'decline of the aura', but while the decline of the aura paves the way for art as political praxis, the withdrawal of reality into the objectlessness of the standing reserve elicits from Heidegger an invitation to a return to the golden age of Greek *techne*. How does Schaeffer respond to Heidegger's invitation? What role do Enframing and *poiesis* play in his *demarche*?

4. SCHAEFFER'S 'RESPONSE'

So far as the *solfège* (Schaeffer 1966: 387–597) presents itself as a reporting challenged forth of standing sonic reserves that must be guaranteed either simultaneously or in sequence for the sake of a musicality which is conceived as universal, it comes under the aegis of *Ge-stell*. However, because the *solfège* sets sound up to exhibit itself as a coherence of forces which is not calculable in advance, a whole poietical realm opens up.

The notion of 'acousmatic listening' takes us to the heart of Schaeffer's *demarche* and to the Presocratic setting of Nietzsche's and Heidegger's visions. After

Pythagoras' death, his disciples split into mathematics and acousmatics. The former developed the scientific teachings of the master, while the latter cultivated the mystical aspects of his doctrine. Schaeffer (1966: 91) presents the acousmatics as listening, for years, to Pythagoras' voice from behind a veil, and this situation metaphorises an increasingly common event: listening – on telephone, radio, CD, sampler – to sounds whose original source remains hidden. From the acousmatic situation Schaeffer evolves the practice of 'reduced listening' whereby he creates a 'sonic object' and seeks to approximate it to the independent and self-supporting 'sonic thing' (cf. Heidegger 1954b). The 'old cry of Husserl' (Hofstadter 1971: xvii) – 'Back to the things themselves!' – rallies Schaeffer and Heidegger. This is praxis too, as Nietzsche has it:

> Thinking and believing is a burden which oppresses you in addition to all others and more than them. Do you say that food, place, air and society transform and determine you? All the more so do your opinions, for they determine you as to your choice of food, place, air and society. If you incorporate this thought into your thinking, it will change you. For everything you want to do, the question 'is it in this way that I want to do it countless times?' carries more weight than any other. (Nietzsche 1881: 394, cited by Deleuze 1965: 92, 3)

In 1945 the United States exploded the first atomic bomb. The first electronic computer appeared in 1946. The Soviet Union tested its atomic bomb in the same year. In 1947 the United States exploded the first hydrogen bomb and the Census Bureau bought the first commercial computer. James Watson and Francis Crick discovered DNA in 1953. Between 1954 and 1962 the new powers were put to use within traditional human economic and political frameworks with increasingly conflicting results. Then came a period of trying to adapt or alter those frameworks, punctuated by more technological disasters (Mitcham 1994: 3). 'The late 1960s and early 1970s were a watershed in increasing consciousness of problems associated with technology and in attempts to develop mechanisms for social control.' (Mitcham 1994: 6) The relay-arts draft shows that, in 1941 already, art was for Schaeffer the realm of that decisive confrontation which Heidegger advocated in 1954, when he also portrayed a world flattened by an abolishment of all distances entailing no nearness:

> Man puts the longest distances behind him in the shortest time. He puts the greatest distances behind himself and thus puts everything before himself at the shortest range.

Yet the frantic abolition of all distances brings no nearness; for nearness does not consist in shortness of distance. What is least remote from us in point of distance, by virtue of its picture on film or its sound on the radio, can remain far from us. What is incalculably far from us in point of distance can be near to us. Short distance is not in itself nearness. Nor is great distance remoteness.

What is nearness if it fails to come about despite the reduction of the longest distances to the shortest intervals? What is nearness if it is even repelled by the restless abolition of distances? What is nearness if, along with its failure to appear, remoteness also remains absent?

What is happening here when, as a result of the abolition of great distances, everything is equally far and equally near? What is this uniformity in which everything is neither far nor near – is, as it were, without distance?

Everything gets lumped together into uniform distancelessness. How? Is not this merging of everything into the distanceless more unearthly than everything bursting apart?

Man stares at what the explosion of the atom bomb could bring with it. He does not see that the atom bomb and its explosion are the mere final emission of what has long since taken place, has already happened. Not to mention the single hydrogen bomb, whose triggering, thought through to its utmost potential, might be enough to snuff out all life on earth. What is this helpless anxiety still waiting for, if the terrible has already happened? (Heidegger 1954b: 165, 6).

From the objectlessness of the standing reserve, Schaeffer extracts a 'sonic object'. The flow of distanceless uniformity where all is carried away and mixed up is halted thereby. That remoteness, however near, is the 'sonic thing' itself. In order to capture it . . .

It is necessary to fasten the mike to the tip of the fingers, and that everything one experiences reach the mike and be formulated by the mike . . . This is the musical exercise par excellence. Always the mike at the tip of the fingers, and that each 'thought', that each movement of the back of the throat, of the cerebellum (?) be transcribed into suitable sounds on tape by the mike.

Formulation as one goes along.

So far as I do not have the perfect use of this means, of this instrument, so far as I have not acquired the automatic manipulation of this instrument, I shall not be able to call myself a composer.

Alas, this is not achievable without patient exercises (if at all achievable)!

But how, by what continued aberration, does it happen that I become suddenly aware of it only going on for my fortieth year? (Paraphrased from Ponge 1961: 69)

The importance of the essence of the object as opposed to its use as standing reserve is reinforced by Ponges's comments on compositional technique:

At each moment of the work of expression, as recording unfolds, sound reacts, proposes its own solutions, incites, elicits ideas, helps the formulation of the piece.

No sound is employed without being immediately considered as a person. Without the use of the light it carries with it; and the shadow it carries too.

When I admit a sound at the output, when I let a sound come out, I must immediately treat it, not as an element whatever, a piece of wood, a fragment of puzzle, but as a pawn or a figure, a person with three dimensions, etc . . . and I cannot play with it exactly as I please. (Cf. Picasso's phrase on my music.)

Each sound imposes upon myself (and upon the music) in all its thickness, with all the associations of ideas which it entails (which it would entail if alone on a dark background). And nevertheless, it is necessary to break through it . . . (Paraphrased from Ponge 1961: 33, 4)

If it is towards the condition of music that all art aspires as Pater thought, it is to language that all art is doomed, language being the only semiotic system capable of interpreting another semiotic system (Benveniste 1969: 130, 1). Hence the importance of describing sounds.

At the same time, the qualities of this or that object which are chosen to be formulated will be preferably those that have been passed over in silence thus far. If we thus manage to give our authentic impression and our naive puerile classification of things, we shall have renewed the world of objects (of subjects of sonic artworks). And as there are chances that, however subjective and original our puerile impression may be, it will nevertheless resemble that of various minds and sensibilities, whether contemporary or future, we shall be understood and thanked, admired. But, to make them more touching and susceptible of approval, must we tend towards the abstraction of such qualities? Yet again the question poses itself. Well, here, to an important extent, the answer is rather *yes*. (Point to be developed.) (Paraphrased from Ponge 1961: 18, 19)

Finally, has Schaeffer avoided the dangers of destining in general – and Enframing in particular –

and succeeded in finding human essence as a result of liberating the sonic object from being standing reserve? Have the *Arts-Relais* achieved the *poiesis* of ancient *techne*?

> What is it all about? Well, if I have been understood, it is about creating musical objects that have the greatest chances of, I do not say living but continuously opposing (*objecting* themselves, posing themselves to) the spirit of the generations, interesting them always (as external objects themselves will always interest them), remaining at their disposal, at the disposal of their desire and taste for concreteness, for the (silent) opposable evidence, or representativeness (or presentativeness).
>
> They are objects of human origin, specially made and posed for man (by man), but which attain exteriority and complexity, simultaneously with the presence and the evidence of natural objects. But let them be, if possible, more touching than natural objects, for they are human; more decisive, more capable of meeting with approval.
>
> And does this require – one might think so – that they be more abstract than concrete? This is the question... (Completely stupefied with the prefect's visit, I have been unable to go any further...) (Paraphrased from Ponge 1961: 17)

5. CONCLUDING REMARKS – FURTHER THOUGHTS ON TECHNOLOGY

Consider doors as presented by Theodor Adorno:

> *Do not knock.* – Technology is making gestures precise and brutal, and with them men. It expels from movements all hesitation, deliberation, civility. It subjects them to the implacable, as it were ahistorical demands of objects. Thus the ability is lost, for example, to close a door quietly and discreetly, yet firmly. Those of cars and refrigerators have to be slammed, others have the tendency to snap shut by themselves, imposing on those entering the bad manners of not looking behind them, not shielding the interior of the house which receives them. The new human type cannot be properly understood without awareness of what he is continuously exposed to from the world of things about him, even in his most secret innervations. What does it mean for the subject that there are no more casement windows to open, but only sliding frames to shove, no gentle latches but turnable handles, no forecourt, no doorstep before the street, no wall around the garden? And which driver is not tempted, merely by the power of his engine, to wipe out the vermin of the street, pedestrians, children and cyclists? The movement machines demand of their users already has the violent, hard-hitting, unresting jerkiness of fascist

maltreatment. Not least to blame for the withering of experience is the fact that things, under the law of pure functionality, assume a form that limits contact with them to mere operation, and tolerates no surplus, either in freedom of conduct or in autonomy of things, which would survive as the core of experience, because it is not consumed by the moment of action. (Adorno 1951: 40)

Consider doors as presented by Francis Ponge:

> Kings do not touch doors.
>
> They do not know this happiness: to push before oneself, sweetly or harshly, one of those big familiar panels, to turn towards it to put it back in place, – to hold a door in one's arms.
>
> ...The happiness of grabbing by its china knot at abdomen height one of those tall obstacles of a room; the quick hand-to-hand fight where the step is halted for one instant, the eye opens and the whole body adapts to its new flat.
>
> With a friendly hand he still holds it back, before decidedly pushing it closed – which the click of the powerful but well lubricated spring pleasantly assures him of. (Ponge 1942: 44)

Consider Italo Calvino's reading of Ponge:

> ... to take a most humble object, a most quotidian gesture, trying to consider it outside any perceptual habit, to describe it outside any verbal mechanism worn out by use. Then something indifferent and almost amorphous such as a door reveals an unexpected richness; we suddenly get happy to find ourselves in a world full of doors to open and close. And this happens not for some reason alien to the fact in itself (such as might be a symbolic, an ideological or an aestheticising reason), but solely because we re-establish a relationship with the things as things, with the diversity between one thing and another, and with the diversity between each thing and us.
>
> Unexpectedly we discover that existing could be a much more intense and interesting and *true* experience than that distracted hurry-scurry whereby our brain has been rendered callous.
>
> (Calvino 1991: 253, 4)

The Philosophy of Andy Warhol (From A to B and Back Again) (Warhol 1975) teaches that Andy Warhol liked Coca-Colas because they tasted the same everywhere. According to Cage's obituary, 'in Buddhism, two Coca-Cola bottles are both, separately, seen as the centre of the world. A different light strikes them when you look. It is not that my work is about that realisation. The twentieth century is about seeing things that way.' (*The Independent*, 14th August 1992)

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