

Pierre Schaeffer's contribution to audiovisual theory

Nicola Bizzaro

Università degli Studi di Pavia
nicolabizz@yahoo.it

Pierre Schaeffer's international reputation is due almost exclusively to his intense activity as theoretician and composer of electroacoustic music and, in particular, to his formulation of a new conception of an art of sounds (whether recorded or not) that he himself styled *musique concrète*. Much less well known are the numerous other fields in which he did research and in which, over half a century, he confronted a large number of crucial topics in contemporary culture, not necessarily within the province of the arts. Such treatments invariably sprang from an original standpoint and often introduced a fiercely polemical note into ongoing debates concerning international culture. In this highly variegated panorama a thorough reflection on the creative use of the technologies of audiovisual recording and reproduction could not have been lacking, and indeed it occupied a central role. First and foremost Schaeffer highlighted their ability to act as a link between “[...] two truly intractable entities: the tumultuous course of time through each and every space and the duration, as if crystallised, of an immobile consciousness” (Schaeffer [1946] 1990: 43; 1970: 93).

Although it accompanied the full arc of his working life, his enquiry into the audiovisual component as part of what he styled the *arts-relais* – a term that is difficult to translate, perhaps ‘linking-arts’ or ‘indirect arts’ (see Palombini 1998) – never crystallised into a comprehensive theory. With the exception of a handful of writings specifically dedicated to these issues, most of the insights he came up with are to be found as digressions either in generic discussions (on theory of mass-media and cultural policy) or in more specific contexts (concerning radio and analyses of mono-media reproduction technologies).

1. Between aesthetics and technique: the *arts-relais*

Schaeffer’s interest in the audiovisual field considerably predated the birth of *musique concrète*: it can be traced back to the second half of the 1930s, at the time of his first collaborations with French radio. His dual training as musician and engineer gave him a distinctive outlook (which may indeed have been unique for the time) on issues in the new arts based on the direct recording of visual and audio images, in particular in the cinema and on the radio. He saw these two media as having much in common, in terms not just of technology but crucially of aesthetics. In 1941-42 he discussed these topics in his first major essay, *Esthétique et technique des arts relais* (Schaeffer, [1941-42] 2010), in which he established a core of theoretical precepts that was to inform his writings over the years to come, whether in the fields of musical research, mass-media, or the sociology and semiology of audiovisual creation.

In one of the distinctive traits of his approach, running counter to most theorising of his time (and indeed much still today), Schaeffer questions the importance commonly attributed to the crude technical aspect of audiovisual production (the mechanical reproduction of image and sound), and denies that the technologies require different epistemological categories to the ones currently in use in art criticism. To this end Schaeffer outlined an analysis of the process that leads to the birth of a new artistic form, whether this be ‘direct’ (such as painting, sculpture and music) or ‘indirect’ (the *arts-relais*), and identified three phases in which the instrument respectively deforms, transforms and informs the art. He outlined a progressive acquisition of awareness concerning the limits and possibilities of the expressive means used by each manifestation of artistic thought. A first period of apprenticeship, in which “[...] the instrument is forgiven everything because people are so struck by its novelty” (Schaeffer [1941-1942] 2010: 33; cfr. Schaeffer–Pierret 1969: 91), is followed by a stage of tech-

nical honing, characterised by the need to imitate models prevailing in other fields. This is the case, for example, of the numerous theatrical clichés reproduced in the cinema, or again of the multiplication of paintings by photography. Schaeffer saw both these phenomena as being emblematic of an arbitrary deviation (albeit necessary at the time) of the specific properties of the new art form: “[...] people demand from the instrument [...] not only what it cannot give but also what is not in its nature to give” (Schaeffer [1941-1942] 2010: 34; cfr. Schaeffer–Pierret, 1969: 92). Finally there is a ‘classic’ phase, when all the main practical problems have been solved and a complete mastery has been achieved over the autonomous expressive modalities for the production of original works (see also Palombini 1998). As can be seen, it is only once any temptation to burden the new technological discoveries with responsibility for extending the syntax of already consolidated languages has been abandoned that the new arts can affirm their true nature. In fact one begins to glimpse a correspondence in principle between the idea, message or content and the procedures which enable its implementation, these procedures in their turn belonging to the social context in which they develop.

While of course it is typical of art in general, and not merely of radio and cinema, to make use of certain instruments in order to generate objects endowed with a particular significance, it is clear that the way in which the ‘indirect arts’ represent reality transcends the common understanding of ‘realism’, to the point that what is depicted can be taken for reality itself. In Schaeffer’s perspective, the imitative process of the work of art reveals its own purely illusory nature by virtue of the representational processes activated by radio and cinema. The visual and audio images transduced into signals by the recording equipment and stored in a physical medium are none other than *simulacra* of the reality which artists manipulate in composing their works. It follows that, from this point of view too, there is no difference in principle between a painting featuring a face and a photograph of the same subject. Both are inevitably distanced from the original and, in depicting it, throw light on some characteristics while obscuring others. All that can perhaps be said is that direct and indirect representation are distinguished by the use the artist makes of such *simulacra*: if in the first case the reproduction is the work, in the second it corresponds to the material which comprises the work, as colour for the painter, marble for the sculptor or notes for the composer. “Cinema”, as Schaeffer was later to say, “presents itself as the production of works starting from these simulacra [...]”. The public, but also many operators, have failed to recognise this fact. By focusing entirely on the fidelity of the “reproduction”, they lose sight of the paradox

by which the reality so treated is at one and the same time quite similar but also quite different” (Schaeffer 1970: 22-23). This suggests a distinctly formalist conception of the audiovisual work of art, in which the essence of the work is seen as the outcome of ‘pre-existing elements’, to use a definition which was to become a by-word in electroacoustic music.

Thus the gap that separates the classic arts from their modern counterparts does not lie in the technologies adopted, nor in the forms of representation, raising the question: what do the *arts-relais* have in common which distances them from all other forms of expression? Schaeffer maintains that it is the greater readiness of radio and cinema to highlight the most immediate and evanescent aspect of the phenomenon being represented, while the other arts tend to start from the particular in pursuit of a universal dimension. All the forms of representation favoured in the past manifest an indelible logocentric vocation, imposed by the need to go beyond the contingencies of daily life and express absolute concepts. However, such a need is foreign to radio and cinema which, on the contrary, possess an extraordinary facility for immediate description and evocation. Rather than portraying an idea, they seize on some unique, unrepeatable highlights in the continuity of time, capturing and offering to the viewer the living aspect of reality in the language of things. From the early days of sound film there was a critical tradition opposed to the excessive use of verbal language, which Sigfried Kracauer summarises thus: “[...] all the successful attempts at an integration of the spoken word have a characteristic in common: they play down dialogue with a view to reinstating the visuals” (Kracauer, [1960] 1997: 106; italics added). Yet Schaeffer goes a step further, rejecting reasoning altogether as the basis for audiovisual construction in favour of an ‘analogic’ organization of the material. “This dynamic is the authentic clash we refer to, and which could be described as the battle between *logos* and *kosmos*: a realistic language in which the abstract strives to reach the concrete. The idea people form of the world around them and the words they use to name things come together and tend to create a world which is real. The *arts-relais* contribute images and sounds which would be as formless as the world itself if we did not strive to make them mean something and relate our ideas to them. Encountering the concrete starting from the abstract, this is the great invention of language; encountering thought starting from things, this is the invention of radio and cinema” (Schaeffer, [1941-42] 2010: 54; cfr. Brunet, 1977: 77).

It is as well to point out that for Schaeffer the adjective *concrète* does not imply a direct link with the events of the real world which, as we have seen, can only be emulated imperfectly. Instead it concerns that whole series of 'marginal' aspects of a work which do not belong directly to the expression of an idea but which nonetheless participate just as actively in the overall definition of the tangible forms of the artefact ("[...] life at its most ephemeral" as Kracauer puts it – [1960] 1997: xlix). Schaeffer returned to this point many times in his writings on musical theory, and what he had to say is also wholly applicable to the indirect arts: nuance, gesture, timing, touch, but also imprecision, hesitation, and in general each feature which goes to characterise the immanence of a particular object in the representation, with respect to its ideal counterpart, are all potentially expressive traits, as long as the spectator is prepared to appreciate the subtleties.

Thus the materials of the 'indirect arts' are aesthetic objects (images and modulations) organized according to a syntax based on their tangible qualities. Such qualities are highlighted, 'revealed' by the camera and the microphone. This is the characteristic that Walter Benjamin indicated as a reduction of the 'distance' of the reproduced work of art (a category in which he included cinema as a matter of course) and which Adorno defined as 'thingness'. It is significant that for these two philosophers this eminently demonstrative aspect of audiovisual artefacts represented one of the limitations of the mechanical arts. For Benjamin it was the principal reason for the decadence of the 'aura', and for Adorno it confirmed the impossibility of an absolute construction in which the objects of de-composition can be manipulated as pure values (cfr. Benjamin [1936] 1969: 221; Adorno, [1966] 1982: 102). Thus the refusal to recognise the predominance of the *logos* which lies at the heart of Schaeffer's theory can be seen as a denial of language and sense. In Adorno's words: "It seems illusory to claim that through the renunciation of all meaning, especially the cinematically inherent renunciation of psychology, meaning will emerge from the reproduced material itself" (*ivi*: 203). This is why for the two German thinkers the reproduced image inevitably implies an allusion to society or politics, viewed in a certain sense as a complement or an antidote to the excess of realism featured on the screen. On the contrary, for Schaeffer the morphological features of colour, light, pitch and intensity are the elementary semantic features of a second language, admittedly vague and imperfect but nonetheless able to support the weight of formal constructions and to convey other levels of sense. It is in this ambivalence between the necessity for an architectonic construction based on the

manipulation of objects and the ennoblement of the concreteness of the ephemeral that we can glimpse the characteristic identity of the products of the mechanical arts. In fact they definitively distance themselves from the novel, opera, concerts, and all forms of theatre, whether on film or broadcast, and can finally assert themselves as an independent language, both individually in the field of moving images and reproduced sound and, all the more so, in the audiovisual field.

2. Fragments of a theory: the counterpoint of sound and image

The cinema in its early days and radiophonic art were the forerunners of the audiovisual era. The evolutionary process initiated by these two 20th century innovations has been interpreted by Schaeffer as a sort of laboratory in which the foundations were laid for a new truly inter-media language. The first medium was dumb (and deaf), the second blind; both obliged adepts not only to throw off the shackles of a slavish imitation of other artistic forms (above all painting, theatre and fiction) but to come up with original modes of expression able to transform their respective weaknesses into strong points. As a result, in his consideration of sound films and other forms of interaction between sound and image, Schaeffer focused primarily on the importance of attaining a profound amalgamation of the properties of those arts. It goes without saying, however, that in analysing audiovisual communication he did not stop at merely making a tally of the features imported from the individual media; in fact he pursued interpretations that often had much to do with poetics.

Significantly, Schaeffer's writings on the encounter between sound and image all date from turning points in his career. The essay on the *arts-relais* mentioned above was produced during a period of enforced abstinence from his work in radio, and came a few months before the inauguration of the *Club d'Essai*, a laboratory for research and experimentation that led to the celebrated *Groupe de Recherches Musicales* that still exists today. Four years later, immediately after he finished work on the colossal radio drama *La Coquille à Planètes*, two texts were published, *Propos sur la coquille* (*Notes sur l'expression radiophonique*) (Schaeffer [1946a] 1990) and *L'élément non visuel au cinéma* (Schaeffer 1946b; 1946c and 1946d) devoted respectively to the aesthetics of radio broadcasting and the study of the sound component in films. The latter essay, in particular, returns to and develops a constructivist vision of the audiovisual document according to which, independently of the topic being narrated, the aesthetic message is conveyed entirely by the formal organization of the objects, visual images

and sound modulations. Starting from the usual three-fold division of the audio track into noise, voice and music, Schaeffer demonstrates how the whole acoustic process can actually be linked to the first category, since verbalisation is none other than the noise humans produce: “[...] one can thus affirm that the text has much less importance than the intonation of the phrases, the quality of the individual voices and the degree of intelligibility [...]. In this way it also makes the action explicit, but no less or more so than reality itself, which is all too often elliptical and ambiguous” (Schaeffer 1946b: 47). Thus verbal and environmental noises belong to a single domain of audiovisual composition, constituting a perfect foil to the image, inasmuch as the latter can do no other than show ‘things’. Furthermore, being the outcome of a physical movement, such sound events testify to the presence of an action, a change, and hence provide input for the dynamic of the scene as a whole.

The consideration of music is decidedly more complex, as it arises out of an apparent contradiction: since music cannot draw on any relationship of cause and effect with the images, it begins by distancing itself from the reality of what is represented and disowns any intrinsic link with the structure of the representation itself. At the same time, however, music is able to enter spontaneously into a relationship with the image, over and above any consideration of a formal nature and irrespective of specific emotional content. For Schaeffer, in fact, the visual and the audio aspects tend to form an immediate semantic bond independently of the author's choices. While the latter can undoubtedly reinforce and orient these relationships, it can never suppress them. In fact it has been proved that any standard repertory of musical motifs can be adapted to any sequence of images whatever, and be relied on to set up connections or caesuras in the film's development. This does not mean, however, that music is necessarily subordinate with respect to the image. When the director is capable of imagining and organizing his work in audio as well as visual terms, the choice of the musical elements will cease to relate to the whole in a fortuitous manner and be on a par with all the other components. In such cases, Schaeffer points out, “we are at a far remove from music-illustration. Here we have music-material. From the temporal conjunction of two original materials each having strong characters, one musical and the other visual, we get a particularly rich complex of impressions [...]. It affords that exquisitely artistic satisfaction which consists in perceiving diversity in unity, divergence in simultaneity: it is the blossoming of the instant in time” (Schaeffer 1946c: 65).

Noise, words and music enter into different relationships with the image. In principle this relationship can range from the inevitability of the physical correspondence between an action and the accompanying sound to the arbitrariness of the artistic construction of complex audiovisual units. It should not be forgotten, however, that the organization of the audio track is itself an act of composition and that, even when an acoustic event is perfectly coordinated with a visual phenomenon (for example the noise of footsteps matched with someone walking), one can never strictly speak of 'realism'. Schaeffer's understanding of audiovisuals is in clear contrast to Kracauer's 'fundamental aesthetic principle' of cinema – namely the revelation of the physical reality – and represents rather a 'creative tendency' which progressively distances itself from reality to give rise to fantastic constructions, even when they are based on *simulacra* of real objects (Kracauer, [1960] 1962: 90-98).

Progressing from this basic assumption, Schaeffer investigated the encounter between sound and image and denied the pre-eminence invariably accorded to synchronization in most theories of audiovisual communication. He was convinced that synchronization is to be treated not as a problem of meanings that are more or less in agreement (consonance and dissonance) but rather as an opportunity to organize sensorial stimuli of varying impact in their temporal succession. In this context he used a metaphor borrowed from acoustic physics, describing audiovisual synthesis as a phenomenon of masking. Just as the overlay of two audio events can give rise to quite different acoustic sensations (ranging from the clear perception of two distinct entities to their fusion in a single object), so sounds and images are able to cover up one another, to be perceived simultaneously as distinct, to blend into complex elements, or again to generate sensations quite extraneous to the mere coincidence of the stimuli. Of particular interest is the difference he made between 'synchronism' and 'syntony': in the first case a perfect rhythmic adherence between what one sees and what one hears generates a "[...] particularly acute sensorial emotion, euphoric and more often than not comic" (Schaeffer, 1946c: 53). Audio comments that slavishly accompany a sequence of images only rarely have any real dramatic efficacy, whereas when different rhythms are juxtaposed "[...] impressions of the same auditory and visual force react with each other to create a sensation that can usefully be compared to the differential and additional sounds in acoustics" (*ibidem*). Striking images and music, for example, intervene incisively in the temporal experience of the perceiving subject, organizing it in a contrary and complementary manner as an authentic 'counterpoint' of sounds and images. For Schaeffer this expres-

sion is by no means merely metaphorical, for it expresses that principle of the complementarity of events which occurs in music when independent melodic lines overlap. It is perhaps appropriate to recall that it is precisely on this point that the theoretical approaches pursued by Schaeffer and the pupil of his who did most work in the audiovisual domain, Michel Chion, are most at odds. The younger scholar took issue with the metaphor of counterpoint, claiming that in the cinema “[...] harmonic and vertical relations (whether they be consonant, dissonant, or neither, à la Debussy) are generally more salient — i.e., the relations between a given sound and what is happening at that moment in the image” (Chion, [1990] 1994: 36). This contradiction is in fact not based on a matter of principle but rather on different aesthetic viewpoints: Chion gave more importance to the narrative aspect of cinema (what happens on screen), while Schaeffer was interested in formal architecture and gave little or no thought to the narrative. For him noises, voices and music are elements of the audio discourse, distributed over time according to a syntactic logic which cannot ignore the visual objects projected by the film. Nonetheless the divide becomes more significant in syntactic and semantic terms, for Chion does not recognise a single entity called ‘sound track’, while Schaeffer argued that the continuity of sound has to be organized like a musical score, with careful management of analogies and differences, densities and stratifications, accelerations, reprises, variations and cadences. Here one sees all the originality of Schaeffer’s approach, for, unlike many studies conducted at the time or indeed since, he attributed a decisive importance to forms of composition that experimented with the audiovisual texture, partially freed from the obligations imposed by film narration and hence more receptive to solutions prompted by principles of free formal organization.

Le contrepoint du son et de l’image (Schaeffer 1960) was the title of a later essay, published nearly 15 years after the texts we have been discussing. In this essay he considered the correlation between the visual and acoustic dimensions, starting from a description of the psycho-physiological processes of perception. Images and sounds have in common the same mechanism of excitation of the sensory organs by vibratory phenomena organized in scales of frequencies. By interpreting these solicitations the individual can recognise the outlines of objects that persist over time, according to analogous modalities of onset and extinction. The duration of the objects is thus the second level of correlation between the two sensorial fields, and in this case too can manifest itself either in terms of perfect adherence or as total disorganization. Schaeffer gives the example of a soap bubble juxtaposed with a note struck on the piano: both images emerge

from nothing and evolve over time, but have different modalities of extinction: sudden in the case of the bubble, gradual for the note. On the basis of this type of consideration it is possible to organize a whole network of relationships between objects so as to create more or less complex film textures. The objects of representation in turn can be organized in more extensive sequences endowed with autonomous rhythmic progressions. This brings us back to the concept of counterpoint, whose interest lies more in the stratification of the impulses than in a perfect vertical overlay.

Viewed as a whole, even taking into account only the few elements I have been able to cover, Schaeffer's theory is seen to have both an epistemological and a poetic orientation. In fact the deciphering of audiovisual mechanisms always generates opportunities for proposing practical insights which can be immediately put to good use in the creation of new works. When placed in the context of the creative experience of this composer and theoretician, this latter consideration prompts us to investigate the fruitful activity of audiovisual production he undertook and promoted from the inception of the *Groupe de Recherche de Musique Concrète* (founded in 1951). Much remains to be done, but in view of the quantity of documents available and the originality of the aesthetic premises they represent, this investigation promises to produce particularly significant results for the extension and development of a modern theory of audiovisuals.

References

The writings of Pierre Schaeffer concerning issues in audiovisuals

([1941-42] 2010), *Essai sur la radio et le cinéma. Esthétique et technique des arts-relais 1941-1942*, Carlos Palombini – Sophie Brunet [dir.], Paris, Allia.

(1946a), *Propos sur la coquille (Notes sur l'expression radiophonique)*, in Schaeffer 1990, pp. 39-81.

(1946b), "L'élément non visuel au cinéma (1), Analyse de la bande son", *Revue du cinéma*, 1, pp. 45-48.

(1946c), "L'élément non visuel au cinéma (2), Conception de la musique", *Revue du cinéma*, 2, pp. 62-65.

(1946d), "L'élément non visuel au cinéma (3), Psychologie du rapport vision-audition", *Revue du cinéma*, 3, pp. 51-52.

(1960), "Le contrepoint du son et de l'image", *Les cahiers du cinéma*, 108, pp. 7-22.

(1970), *Machines à communiquer 1: Génèse des simulacres*, Paris, Le Seuil.

(1972), *Machines à communiquer 2: Pouvoir et communication*, Paris, Le Seuil.

(1978), "Ecouter, voir", *Total information*, 76, pp. 35-40.

- (1981), "Dynamique du simulacre", in Bessis, Henriette – Clancier, Anne [dir.], *Psychanalyse des Arts et de l'Image*, Paris, Clancier-Guénaud, pp. 189-195.
 (1990), *Propos sur la coquille*, Arles, Phonurgia Nova.

- Brunet, Sophie (1977) [dir.], *De la musique concrète à la musique même*, Paris, Mémoire du Livre.
 Schaeffer, Pierre – Pierret, Marc (1969), *Entretiens avec Pierre Schaeffer*, Paris, Pierre Belfond.
 Schaeffer, Pierre et al. (1960), *Situation de la Recherche 1960*, Paris, Flammarion.
 Schaeffer, Pierre et al. (1974), *Le service de la Recherche: structure et orientation*, Paris, Jacques London.

Further readings

- Adorno, Theodor W. ([1966] 1982), "Transparencies on Film", *New German Critique*, 24/25 (*Special Double Issue on New German Cinema*), pp. 199-205.
 Benjamin, Walter ([1936] 1969), "The Work of Art in the Age of Mechanical Reproduction", in Id., *Illuminations. Essays and Reflections*, ed. Hannah Arendt, New York, Schocken Books, pp. 219-253.
 Chion, Michel ([1990] 1994), *Audio-vision. Sound on screen*, New York, Columbia University Press.
 Dallet, Sylvie – Veitl, Anne (dir.) (2001), *Du sonore au musical. 50 années de recherche concrète (1948-1998)*, Paris, L'Harmattan.
 Dallet, Sylvie – Veitl, Anne (1997), *Pierre Schaeffer. Itinéraires d'un chercheur - A Career in Research*, Paris, Centre d'étude et de recherche Pierre Schaeffer.
 Ferrari, Giordano (2004), "La conchiglia di Pierre Schaeffer", *AAA·TAC*, 1, pp. 11-18.
 Kracauer, Siegfried ([1960] 1962), *Theory of film. The redemption of physical reality*, Princeton, Princeton University Press.
 Palombini, Carlos (1998), "Technology and Pierre Schaeffer: Pierre Schaeffer's Arts-Relais, Walter Benjamin's technische Reproduzierbarkeit and Martin Heidegger's Ge-stell", *Organised Sound*, 3/1, pp. 35-43.
 Robert, Martial (1999), *Pierre Schaeffer: des transmissions à Orphée*, Paris, L'Harmattan.
 — (2000), *Pierre Schaeffer: d'Orphée à Mac Luhan*, Paris, L'Harmattan.
 — (2002), *Pierre Schaeffer: de Mac Luhan au fantôme de Gutenberg*, Paris, L'Harmattan.