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AN INTERDISCIPLINARY NOTION

THE SONIC EFFECT

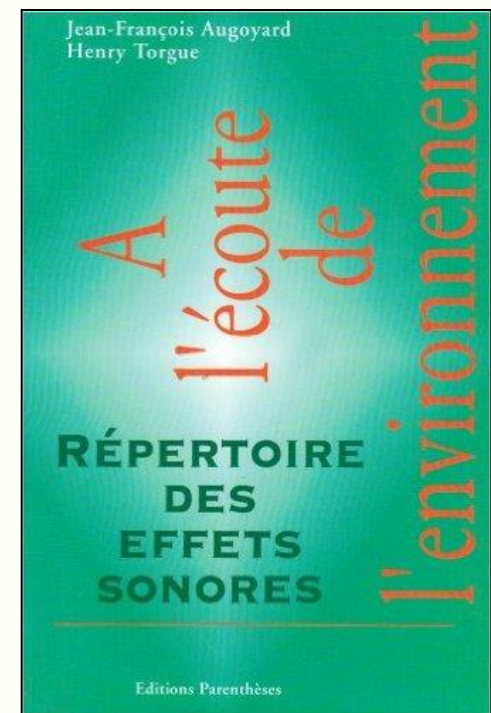
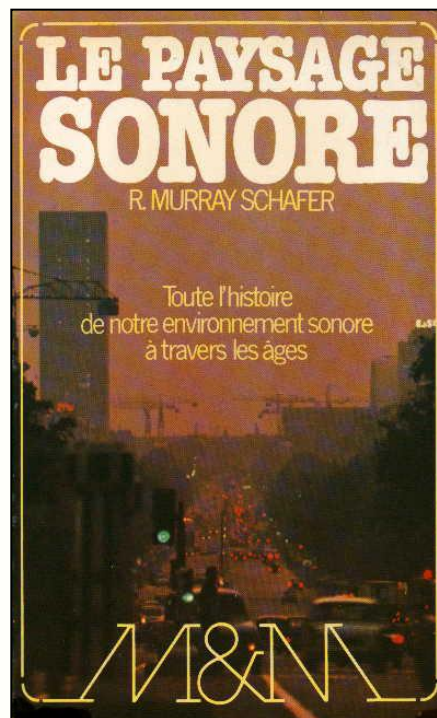
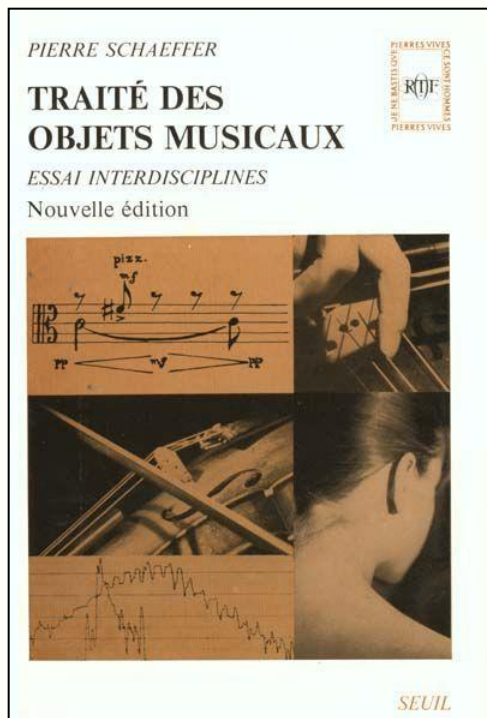


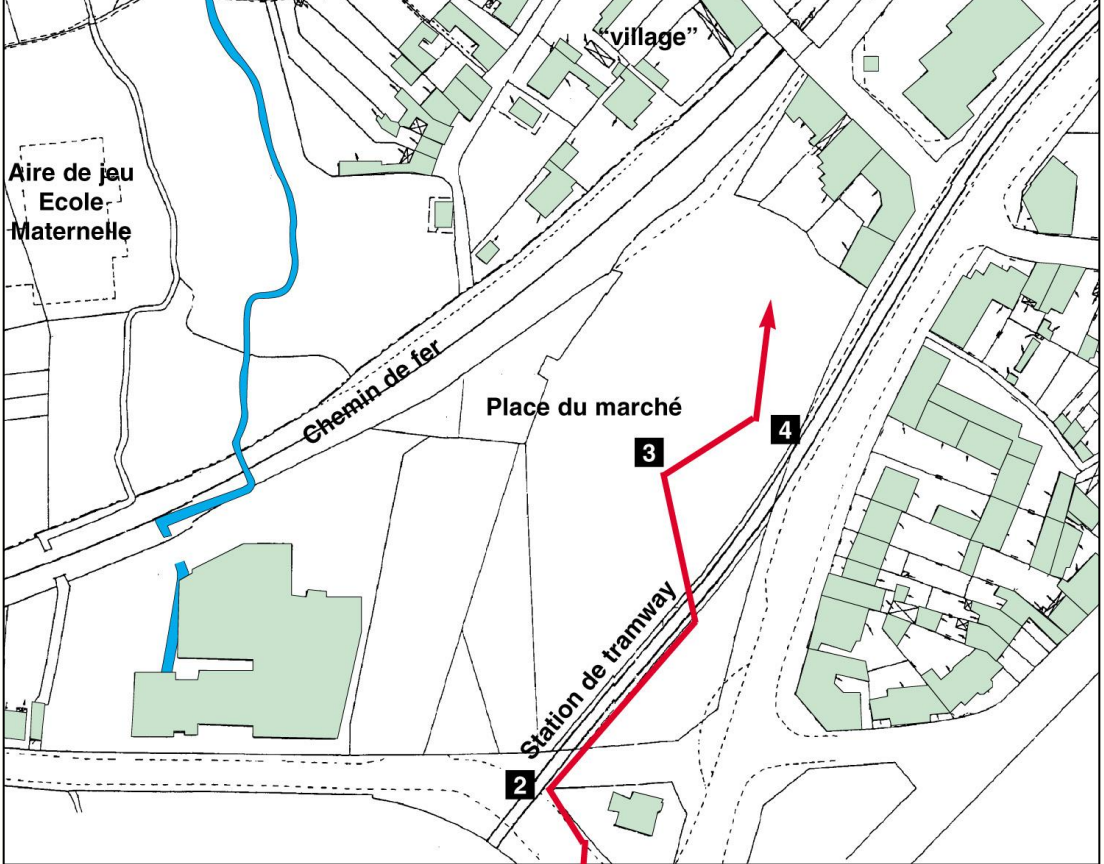
Nicolas Tixier and juL McOisans

Based on the work of Jean-François Augoyard
and the Cresson team

Sound object, soundscape, sound effect (or sonic effect)

Three conceptual tools to think (and compose) with sound





Listen to a three minutes walk in area in the city of Reze (France)

Wich sound structure can be noticed?

Wich emerging shapes?



2 Station de tramway



1 Rond-point - départ du parcours



3 Place du marché



4 Chanteur, le long du tramway

Enregistrement (D.A.T.)	Expressions remarquables (extraits) (Dictaphone)	Qualification <i>Effet sonore</i>	Temporalité Séquence	Mesures indicatives	Synthèse Remarques
Flux de voitures	<p>- ... en fait, le bruit des voitures masque absolument tout autre bruit possible. Je vois le tramway que je n'entends même pas.</p> <p>- le cyclo, mais je ne l'ai pas vraiment entendu, on n'entend plus d'oiseau du tout.</p> <p>- Donc là c'est... Alors là on pourrait rien dire tellement on n'entend rien.</p>	Masque	Permanence Continuum	$L_{eq(10 s)} =$ 63 dB(A) (pendant trafic)	<p>Les participants s'arrêtent même de parler (les voitures masquant leur voix), ils attendent que ça passe ou que eux soient passés.</p> <p>En général, les gens accélèrent le pas au passage du rond-point.</p>
Passage du tramway (Arrivée, clochette, freins, arrêt, ouverture des portes, sortie et entrée des gens, fermeture des portes, redémarrage)	<p>- J'entends le... oui, le... légèrement le tramway.</p> <p>- Là, j'entends le tramway qui passe</p> <p>- Le tram redémarre, ça me siffle un peu dans les oreilles.</p> <p>- La clochette du tram...</p> <p>- VRRRUMMM il redémarre... je l'entends très fort.</p> <p>- et le tram qui arrive... voilà... il ralentit... WHZZZZ, un espèce de sifflement... voilà, il siffle encore. Il s'arrête.</p>	<p><i>Émergence</i></p> <p><i>Crescendo</i></p> <p>Masque</p> <p>Signal</p>	Événementiel <i>Enchaînement</i>	$L_{eq(10 s)} =$ 75 dB(A) (pendant arrivée tramway) $L_{max} =$ 84 dB(A)	<p>Les gens citent beaucoup plus l'arrivée du tramway que son départ.</p> <p>Séquence à forte valeur narrative</p>

[...]

A streetcar bell (**irruption effect**), we hear it well before the whistle of the progressive arrival of the streetcar (**crescendo effect**). There follows a spiral of familiar elements (**chain effect**): the light screeching of the brakes, the sound of the doors opening, and then a puff of human sound that escapes.

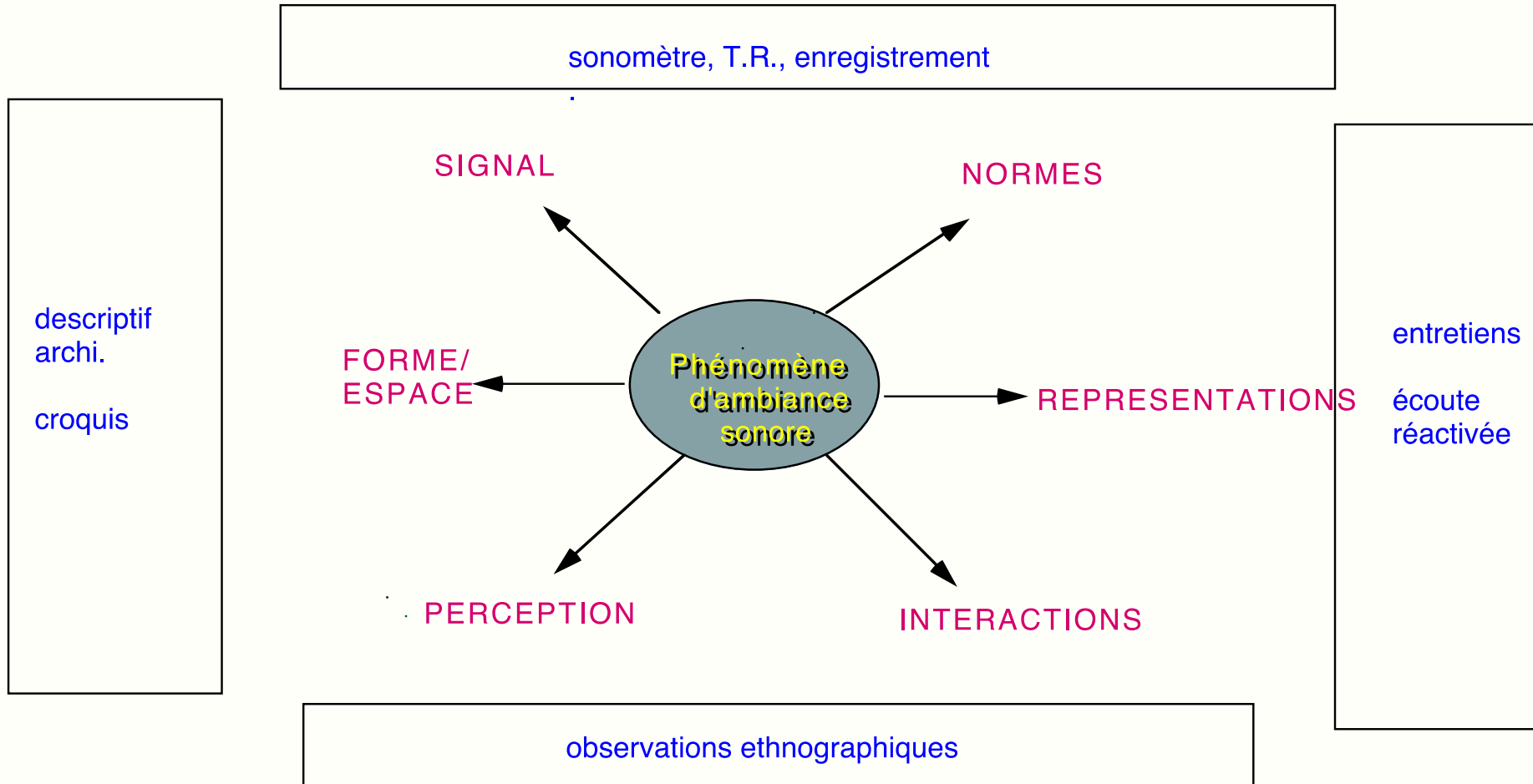
Barely passed the front of the tramway, the rumor of the market increases, we are not yet inside. Then one penetrates in its heart, the difference is immediate (**cut effect**), it is not any more a continuous rumour, a uniform hubbub, but a very alive and significant dynamics (**effect of metabole**). We are inside. So much inside that we don't remember having heard the streetcar leave. Here, all is proximity and all is changing, all disappears and reappears, nothing remains and all is there. We no longer distinguish anything continuous, there are no longer elements in the background and others that remain in the foreground. We go from one sound to another, without necessarily realizing it. It is at the same time all the time different and it is at the same time all the time identical (**effect of metabole**).

A streetcar arrives (**effect of crescendo**). It completely covers the sound environment of the market (**mask effect**). The noise increases gradually, to become deafening. Then, curiously, it lets it reappear more quickly than it had been masked.

But in spite of the strong activity of the market, in spite of the passage of the tramway, a street singer with his accordion is heard (effect of irruption). He finds a place in the already busy sound space (**niche effect**). Located with his back to the tramway, at the edge of the market, the competition of decibels around him does not seem as harsh as that. We listen to him (**attraction effect**). We only hear him (**synecdoche effect**). All the rest is erased (**asyndeton effect**). Whereas one left the market one always hears it. One moves away, he moves away. The car rumor is there, gradually found (**fade out effect**), always, in the background.

[...]

Verification of interdisciplinarity in the investigation.



Proposition

The Sonic Effect is an interdisciplinary tool
in order to process the interactions between :

- 1) the acoustics sources
- 2) the layout or constructs surroundings
- 3) the sonic perception
- 4) the sonic actions.

What is the logical status of the effect as we understand it?

It is the manifestation of a phenomenon that accompanies the existence of the object.

The perceptible "effect" is immediately linked to the whole of the conditions surrounding the existence of the object.

Every sound phenomenon is linked to an effect.

Structural character of the sound effect.

Any sound in situ is inseparable from an "effect" bound to the perceptio and to the culture of the listeners.

Any physically situated sound is linked to one or more effects. The pure sounds and without effects exist only in vitro.

Interdisciplinary value of this effect

1) **Measurable**: it is the ratio of the variation of intensity, or of timbre or of time of reverberation time as a function of the duration of the phenomenon.

2) **Reproducible in the built environment**: the morphological characteristics of the space where it propagates being essential components of its audible structure.

3) **Perceptible**: it invites to further investigations in physiology and psychology of the perception.

4) **Structuring element of the perception of the territories**: it invites to approach under a new day the question the question of the forms of sociability.

5) **As a universal instrument of musical composition**: it invites us to work on an aesthetic of the sound experience in general.

A guide to Everyday Sounds

- For twelve years the Cresson Researchers have been patiently working on detailed investigations in many fields.
- They have registered and described more than 80 of Sound Effects. These ones have been explored and distributed in five categories belonging to their predominant description.
- The published book (in French, English, Italian) constitute a many directions Repertory. It contains the sufficiently well known effects those clearly described and easy to find or "in situ" or in the hearing. It gathers the classical effects of environment and urban culture.

1995 *A l'écoute de l'environnement. Répertoire des effets sonores*. Marseille, Ed. Parenthèses.

2006 *Sonic experience*. Montreal, McGill Univ Press .

2003 *Repertorio degli effetti sonori*. Lucca, Ed. L.I. M.





<https://www.cartophonies.fr/>

SONIC EFFECTS CATEGORIES (1)

1. The elementary effects

They deal with sonic material and the acoustic modality

(reverberation, delay, filtration,...)

Reverberation

2. The compositional effects

Directly relevant on space morphology

(drone, mask, cutting, ubiquity, telephone effect ...)

Mask

SONIC EFFECTS CATEGORIES (2)

3. Mnemo-perceptive effects....

...connected to the perceptive organization, to the culture memory
(*Cocktail-party, Ubiquity, asyndeton, synecdoche, phonomnesis....*)

Metamorphosis

4. Psychomotor effects...

...which necessarily involve the existence of an action.
(*crenel, attraction, phonotonic effect...*)

Niche

5. Semantic effects

Playing on the variations of sense between the situation
and the emergent meaning
(*imitation, repetition*)

Sharawadji