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Vulnerabilities and sounds Vulnerabilities vs environment

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► **To cite this version:**

Charlotte Laffont. Vulnerabilities and sounds Vulnerabilities vs environment. Anthropocène atmospheres : Listening to our living environments, Jan 2021, Grenoble, France. hal-04133156

HAL Id: hal-04133156

<https://hal.science/hal-04133156>

Submitted on 19 Jun 2023

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Winter School CRESSON

22/01/2021 – Vulnerability & environment

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PhD student CNRS AAU équipe CRESSON + CIFRE convention in LASA (acoustic engineering office)



Thesis subject

Housing design through sonic experiments.

1.1 scale prototype experimentation of cooperative living through listening.

Thesis – Location : Macro-lot B – ZAC Gratte-Ciel, Villeurbanne (69) near Lyon.



Vue aérienne du projet Gratte-ciel "Centre-ville"

Thesis – Environment : Urban agriculture



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Vulnerability & environment

Vulnerabilty & Environment trough urban agriculture

- How has the pandemic changed our knowledge and definition of our daily sound environment ?
 - Individual / shared
 - Times and spaces
 - Interiority/exteriority

Focus on the local perception.

Vulnerability & Environment, pandemic/daily sound environment.

- How has the pandemic changed our knowledge and definition of our daily sound environment ?
 - Individual / shared
 - Times and spaces
 - Interiority/exteriority
- Focus on the local perception.
- A quieter sound environment : less mechanical sounds and more interiorities

What can we learn from these new everyday sound environments?

What do we want to keep for tomorrow's sounds ?

How do we listen to our environment and housing, and how do we use post-carbon urbanity to make a collective commitment to the environmental ambitions of a sustainable city ?

Vulnerabilty & Environment trough urban agriculture

- Local priorities :

- social interactions

- Access to nature : can the lack of access to nature in our dense cities then be considered as a collective vulnerability ?

- Nature in the city by the act of doing

- Urban agriculture

- How can it offer access to new atmospheres, to a quality of life in a reorganized city (socially, spatially, economically and from an environmental point of view) ? What impacts can urban agriculture have on the senses and our understanding of our living spaces ?

- How will spatial, temporal and sound relations be articulated between urban dwellers and potageurs ?

Sound recordings of urban agricultural sites

Corpus : Urban agriculture - Protocole

- Calibrate the sound level meter
- Check the time stamp of the recorder ZOOM
- Launch the two devices for at least 1 hour in a fixed position and start with one or more sound claps to adjust the timeline.
- Record information and appearances of sonic events :
 - Materials
 - Plant essences
 - Animal species
 - Special sonic events
- Take photos, videos and aerial view with GPS position



Corpus : Urban agriculture, Opéra Bastille, Paris 12



Corpus : Urban agriculture, Swimming pool rooftop, Paris 11



Corpus : Urban agriculture : V'île fertile, Nogent/Bois de Vincennes



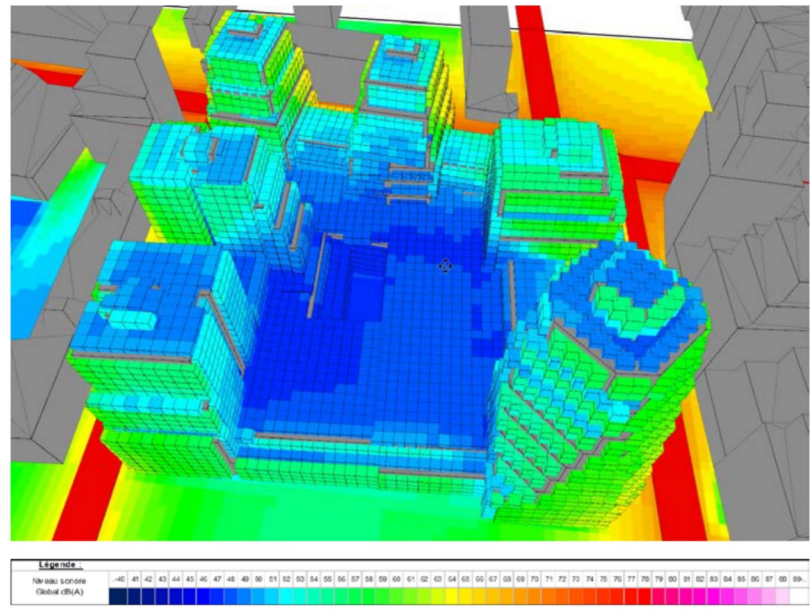
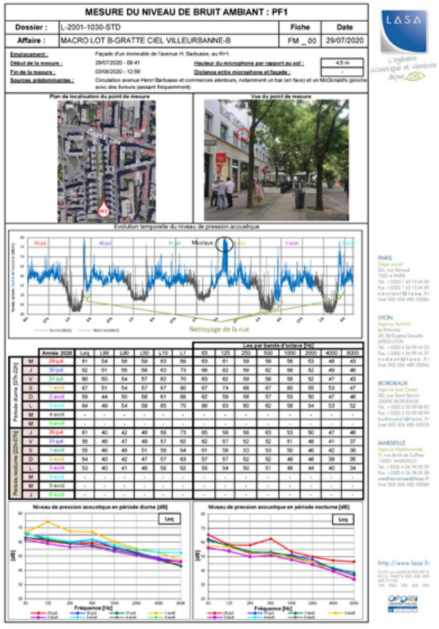
Questions on Vulnerability & environment

Questions

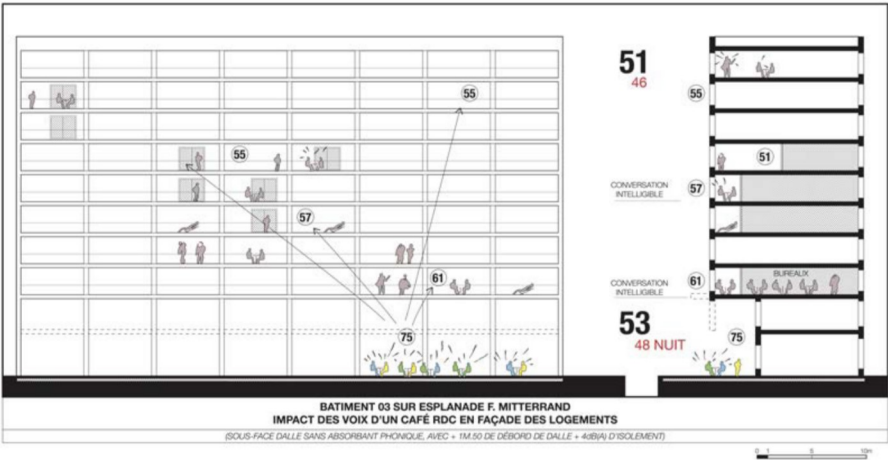
- How is urban agriculture going to develop as a tool to overcome a sense of environmental vulnerability in dense cities ?
- Can biodiversity be heard within urban agriculture? Can birds find a place and how ?
- How can sound interactions between urban agriculture and housing be established ? Legal regulations, specifications, planning of uses ?
- What new places of exchange and what social practices does urban agriculture bring to the scale of a building ? How will the sound ambiances be composed?
- How can future inhabitants be made to listen to their sound environment of which urban agriculture will be a component ?

Paths of use of the recordings in the thesis

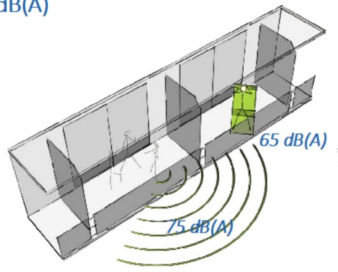
Interpret and listen sound events



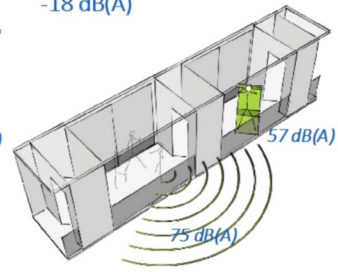
- Listen and collect
 - Sources
 - Écoute réactivée
- Anticipate
- Listening tracks & auralization



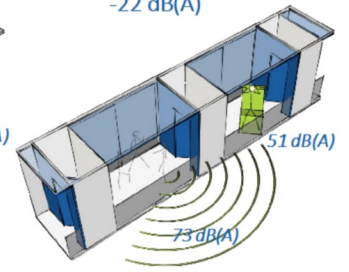
Cas courant avec pare vue standard:
Atténuation entre loggias :
- 10 dB(A)



Optimisation 1:
Séparatifs complets avec rangements
-18 dB(A)

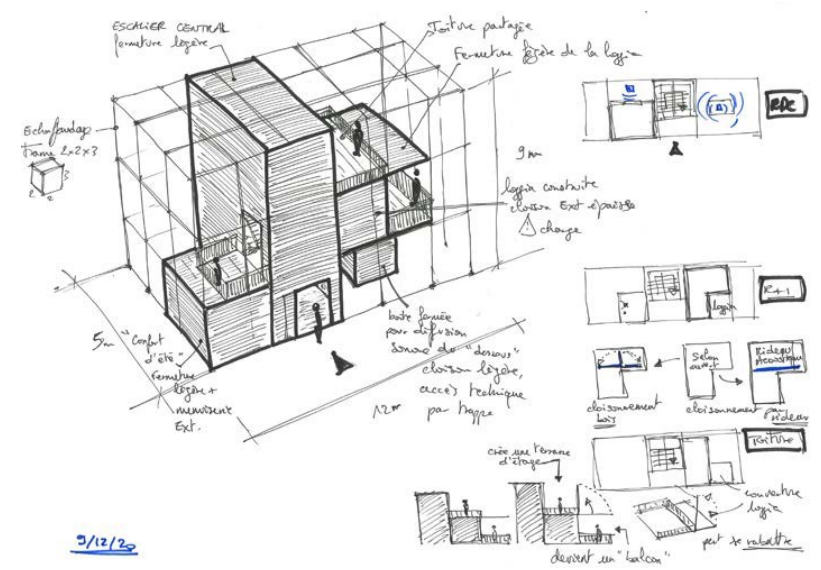
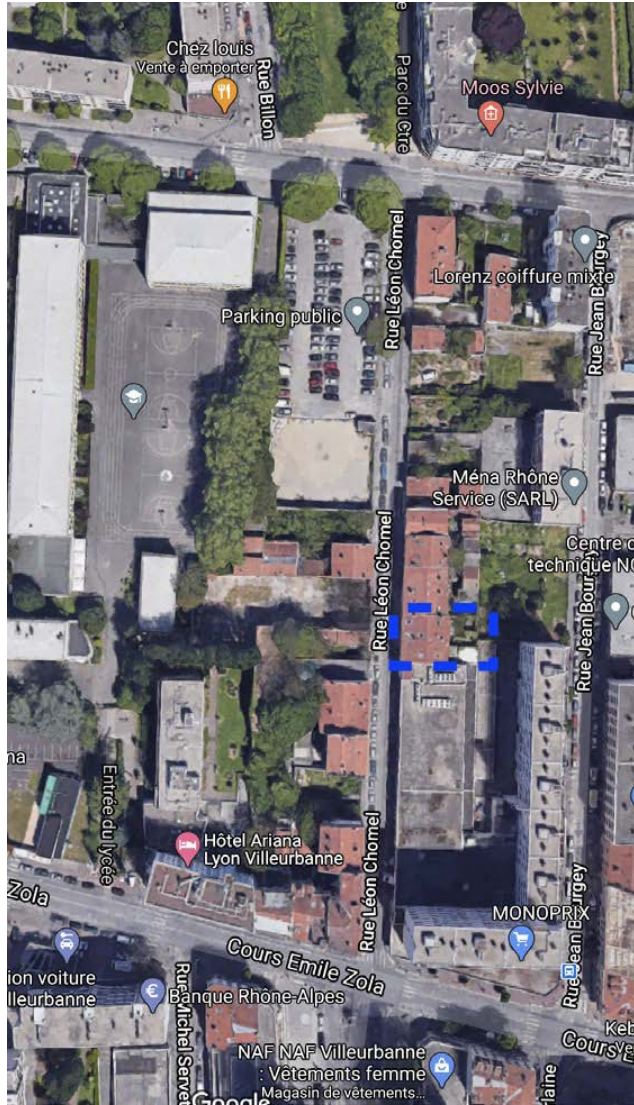


Optimisation 2:
Séparatifs complet avec absorbant
-22 dB(A)



Revêtement absorbant

Experiment



Corpus : Urban agriculture – Ilot le Belvédère, Paris 19

