

## ***“The Unbearable Lightness of Air”*: a case of citizen’s management of an odorous environment.**

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### **Introduction**

What does it mean for local residents to account publicly for olfactory nuisances in their environment, to share their experiences, and, above all, to render objectivable what could appear, at first glance, as sheer subjectivities? Relying on an Actor-Network Theory (ANT) approach to technical democracy, a Belgian case study where knowledge co-production between citizens, university, and a spin-off enterprise is described and debated. Between the odor emission source (industry, waste disposal,...) and the odour immission realities (reception) there are an heterogeneity of both natural and social factors that render the flux of odorous molecules more or less challenging to trace. This story is about both technical and social traceabilities. This story is about the intimate, but problematic, relations between electronic noses and human lookouts (Vigies), where the identity of impacted residents and the aerial characteristics of the odours are closely related. The very intimate (recalcitrant) trajectories of air causes interesting mode of associations between key protagonists: a change in the protocol of measurements and it’s the nature of the relations between them that is transformed. In terms of governance, the direct involvement of citizens in the odour monitoring in direct collaboration with the industry (odour source) offers a kind of “management of proximity” that contrasts with the more classic mode of regulation by public authorities.

### **The story**

There are many different stories that could be told about the case in hand. The one I will describe here is about the collaboration that took place between local residents of an extended industrial estate (and various public authorities) and a spin-off coming from a public university. This collaboration will be described in a way that maintains the genuine continuities between social & technical impetus. For that purpose, I will describe the specific challenges faced by citizens and by scientists with the complexity and this “lightness” of air pollutions.

#### *The Case :*

Mouscron is a little Belgian town situated at the French and the Flemish borders. The industrial estate covers quasi a third of the town. Due to the high interweaving between industrial and residential areas, a lot of complaints are issued by local residents. After persisting rebuffs from local authorities, their main objective becomes to publicly attest the existence of those odours, their industrial sources and ultimately the necessity to tackle the problem by reducing them.

A group of citizens in the direct neighbouring of the park were already involved in measurement practices by recording their subjective perceptions albeit in a very intuitive manner. In 2006, this is the encounter of the group with a local environmental NGO & experts from the university of Liège that will help reframing the problem : odours move from « stench » to « olfactory nuisances ». Both actors have the same problem : How to put

words on such a minority sense compare to hearing, touching or even tasting ? And how to do this with the aim to be publicly and scientifically acknowledged and politically taken into account ? If social activism failed, perhaps scientific one would be more efficient/suitable to modify political agendas. This is, at least, the wishes of local residents.

### *The Challenges:*

What is the technical challenge for the experts? Odometric is a young spin-off that emerged from academic researches in odour measurement; researches that take their distances from classical analytical methodologies in favour of a more holistic, environmental approach.

To summarize the actual sociotechnical situations, it exists two broad alternate visions of what olfactory pollution may be: You can think at it either at the source of the pollution (which is called at the “emission”) or at its reception (That to say at its immission). In both cases, you have two different ways to frame the problem, to tackle it technically and to engage with the public. As the director of Odometric puts it : “if there are no complaints, there are no nuisances”... it is another way around to say “No Issue, no public”.

For that purpose, the sociotechnical challenge is to create a Network of local residents as “scouts” (Vigies): a group of citizens affected by the odours are enrolled in an open air monitoring of their environment. It allows monitoring to be carried out over longer periods, from 6 months to 1 year. The residents taking part have to go outside of their home twice a day on a minimum of 4 days a week (ideally 7), to smell the odour (or absence of it) and fill in a questionnaire. The results: the objectivation of subjective perceptions by their comparison with a model of atmospheric dispersion (and, sometimes, an electronic nose). The “norm” is the percentile 98 corresponding to 1 European odour units per cubic metre: it means that the odour should be perceived by the nearest household less than 2% of the time.

The problem: the weak involvement of a group of citizens for a long period of time.

In that situation, to tackle technically the problem at the immission is not just a problem of recording subjectivities, it is to relate them to the source (the emission), 100 meters to a few kilometres away! Between the source and the reception there are a lot of factors that influence the human perceptions: the wind direction and intensity, the temperature, the topography, each industrial practices,...

At the initial phase of the project, the group of motivated local residents from Mouscron were welcomed by Odometric at the Arlon campus of the University of Liège. They got back home baffled and deceived by what was presented to them by the experts. This ambivalent situation happened to be a chance...

Three types of negotiation took place between the “Vigies” (the local residents transform as Scouts or Human Lookouts,...) and the experts of Odometric; a negotiation about three key questions: How to measure? What to measure? Why to measure ?

### **Discussions:**

From those negotiations between the local residents, at one hand, and their experts and NGO’s associates, in the other hand, it will be possible to deduce –two different competing philosophies of what it means monitoring odorous environments.

We can conclude by specifying two key dimensions of the monitoring :

- What is the specificity of the local residents in the monitoring process?

- What is that strange notion of objectivity that emerges from the case? Objectivity is claimed by both parties: an objectivity that rests on the subjectivities of concerned and affected citizens!