

# The Sensorial Management of Water in Mexico City

Alejandro De Coss-Corzo

## Introduction

Installing the machinery that makes a water well work requires subtle and precise forms of embodied calculation: the sound of two pieces fitting together; the feeling of screwing pipes and engines together with strength and purpose; and the rapid response that is needed when one senses that something might not be properly aligned. Workers at the Mexico City public water utility (SACMEX) constantly carry out these forms of embodied calculation as a central part of their work. Embodied calculation is a skill that requires attuning the senses to water, soil, pipes, valves, levers, rust and metal, and their sounds, surfaces, smells, weights and movements. This attuning – getting a feel for infrastructure – is learned collectively and iteratively through prolonged and manifold interactions with these materials and flows, and with the bodies and senses of other workers. Crucially, I argue, embodied calculation is a skill necessary for the performance of infrastructural work. At the same time, infrastructural work shapes the senses, understood not only as perception but also as technique, central in maintaining hydraulic flows and infrastructures.



### Sensing infrastructures in practice

Ethnographic accounts of infrastructure show that sensing is crucial for the performance of infrastructural labour and for the development of the skills it requires. Take, for example, Ashley Carse's account of how pilots navigate the vessels that pass through the Panama Canal (2020). Pilots there highlight the role that "feel" has in enabling them to carry out their labour, which constitutes manoeuvring enormous ships and thousands of tonnes of cargo along the canal while remaining attentive to changing water currents, winds and weights. This work requires pilots to be attuned not only to technical skills learnt through various forms of training, but to distinct forms of sensing that are necessary for their work. Reflecting on pilots' experiences, narratives and ways of doing, Carse defines this form of sensing – feel – as "a learned attentiveness to dynamic environmental, technical, and social phenomena and the

*Getting a feel for infrastructure in Lerma, state of Mexico.*

Photo: Alejandro De Coss-Corzo, 2017.

embodied knowledge of how to respond to dynamic conditions” (Carse 2020: 3). In this concept, and in pilots’ work, perception and the sensorial are not separate from the materialities of infrastructural form and flow, but rather always co-constituting each other.

Carse’s concept of feel resonates with broader work on sensing across various disciplines, including geography, anthropology and sociology. These contributions highlight the fact that the senses do not merely mediate the relation between an outside world of materiality and an inside world of mind, but that perception and the sensorial are relationally developed through interactions with the environment (Ingold 2000; Pink 2010). The question here is not about how senses are produced differently by culture and sociality (Bull et al. 2006; Howes and Classen 2013), but rather how sociality and culture are constituted by relational forms of sensing and perceiving (Chau 2008). Indeed, it is through the senses that people negotiate how they live with infrastructures and their failings (Salas Landa 2015). Returning to labour, this suggests that the question is not about how senses are important for the performance of various forms of work (Hockey and Allen-Collinson 2009), but rather how work is constituted by forms of sensing, understood both as practice and as technique (Mauss 1973; Bear 2014; Shilling 2017). It is through sensing that urban workers classify risk (Zeiderman 2016: 76–82) or tell apart the formal from the informal (Baptista 2019). This requires considering the sensorial as a collective education of attention (Ingold 2001) through which workers develop skills that enable infrastructural labour and sustain infrastructural relations and forms.

### **The right click**

Reassembling a water pump requires attuning attention to specific sensorial registers, as suggested in the introduction. These involve all the senses working simultaneously, but often rely on particular forms of hearing, smell or touch. It is the sound and sensation of a pipe falling correctly into place that gives SACMEX workers the knowledge that their work is yielding the results they want. The right sort of click is not too loud, as pieces fit together without excessive friction; it feels fluid to the touch, the pipe threads sliding easily into the submerged pump, aided by oil and grease – an ever-present smell at work. By contrast, the wrong click makes a jarring, creaking noise, and offers far too much resistance. Being attentive to the right click lets workers know when it is time to screw the pipe and pump together or when it is time to start over again. Hearing and touch come together here to constitute a dynamic form of embodied calculation that is attentive to specific infrastructural materialities and that constitutes particular forms of sensing and working with infrastructure.

The image “Waiting/working for the right clicking sound” shows one such moment. Workers had been trying to get a well working again after it broke down weeks before. They lifted a piece of pipe using heavy machinery, making sure it was aligned by pulling it with a chord as it was lowered, and tentatively screwing it to the pump already sunk in the aquifer until the right clicking sound indicated that it had fallen into place. Once the click was there, workers rapidly screwed the two pieces together, feeling

*Waiting/working for the  
right clicking sound in  
Lerma, state of Mexico.  
Photo: Alejandro De Coss-  
Corzo, 2016.*



no unwanted resistance other than that of two heavy pieces of metal being moved. Being one of my first days in the field, the sound of the right click was not completely clear to me, even if its importance was unmissable. Workers were evidently attuned to it, remaining silent as the piece was lowered and speaking up when the wrong or right sound was heard. An animated “¡va, va, va!” (Spanish for ‘go, go, go!’) means pump and pipe can be assembled; a sharp tug and a shouted direction, “¡izquierda!” (‘left!’), lets workers know the pipe movement must be adjusted. The click, then, is not given but made. The infrastructural relations that are calculated through the senses are always being produced through and with the body.

### Learning to sense

Observing workers’ embodied calculations was constitutive of an education of attention that developed my own forms of sensing infrastructure. However, attention cannot be educated solely by passive observation – sensing is a matter of doing. I learned this early on during my one-year fieldwork placement at SACMEX, when ingeniero Hernán advised me to do what workers did if I wanted to be taken seriously. More importantly, he suggested, this would also allow me to understand better how the skills they require are developed and put into practice. For example, learning how to

*Feeling for unwanted water flows in Lomas de Chapultepec, Mexico City.*  
Photo: Alejandro De Coss-Corzo, 2016.



feel and hear the right click implied my active participation in reassembling pumps, a task I carried out several times during fieldwork under the watchful, and sometimes nervous, gaze of other workers. Standing below the descending pipe piece, one must wait for it to be properly aligned, being careful to step with caution as the soil is often muddy and slippery. Alignment requires a visual confirmation that is aided by touch and force, as workers push and pull the pipe until it falls correctly into place. However, ocular confirmation is not enough. The question overall is one of hearing and feeling, working together, and shaping each other. The right click is a sound and feel, identified through learned forms of hearing and touching.

Other senses too are attuned and developed when working with infrastructure. Workers learn how to smell for chlorine in order to ascertain whether machines are doing their work properly or if they are releasing too many or too little chemicals. They must also learn how to smell the faintest whiff of a cable burning, to avoid the engines that are being installed breaking down. Crucially, sensing is an adaptive relational practice that allows workers to remain attuned to changing conditions in infrastructure. When operating rusty valves, workers feel for stiffness and pressure, and adapt their work practices in relation with these shifting infrastructural materialities and relations. When repairing a leak, workers feel for water pressure in the underground of the city, knee deep in water and surrounded by the noises of busy streets. The adaptiveness of such sensing demonstrates how perception is not a matter of representation that implies a separation of mind and the world 'out there', but rather a matter of constant and selective interaction and transaction (Shilling 2017). Sensing infrastructure is a skilled practice that enables not only infrastructural labour but the very work that infrastructures do. Amidst often unexpected breakdown and ongoing material changes, sensing is what underpins the embodied calculations that make water flow in Mexico City.

### **Sensing as calculation**

I want to conclude by suggesting two ways in which engagements with the senses can contribute to critical understandings of infrastructure. On the one hand, embodied calculation shows how the senses are critical for infrastructural labour and the very functioning of infrastructure. On the other, conceptualizing infrastructure as constitutive of the senses through practices of adaptive learning and doing can enable richer accounts of labour and human agency (Rose 2017). Taken together, these insights enrich our understandings of how body, sensing, infrastructure and the environment shape each other in processes of relational calculation within and the beyond work of infrastructural maintenance and repair.

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