

# UNDONE COMPUTER SCIENCE

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## Why do boring things matter? A sociological account of Git and version control infrastructures

### Introduction

I remember the day someone told me that my research was boring. I was conducting fieldwork in Silicon Valley, meeting with engineers in charge of maintaining version control infrastructures at Google, Facebook and other companies. A friend had introduced me with a prestigious professor, with connections in the Bay Area. We agreed on a time and a place, a Starbucks in San Francisco. While I was waiting for him (he was late to our appointment), I rehearsed my pitch: I study the construction of version control systems, especially Git, its role and impact on the software industry. After the professor finally arrived and I explained my research to him, he frowned: “But there’s nothing to say about version control, really. It’s actually quite boring”. He then tried to talk me into changing my PhD research and encouraged me to study more exciting, current, cutting edge technologies. “This is where the industry is at”, he insisted.

While I commend the professor for his honesty, I disagree with him. A sociologist by trade, I have learned that obvious things, self-evident truths and unremarkable objects are, more often than not, very much ambiguous, arbitrary and crucial issues — they’re just hiding in plain sight. Critical sociologists have argued that dominant ideologies gain power from appearing natural, unquestionable, beyond the realm of intellectual investigation (Bourdieu, 1977). In the field of Sociology and Technology Studies (STS), social scientists have defined infrastructures as technical systems that are so profoundly embedded in our material culture that we no longer pay attention to them: running water, roads, electric grids or network access are “just there”, and we only notice their presence when they suddenly break down (Star, 1999; G. C. Bowker and Star, 1999).

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## Digital infrastructures as undone science: the case of Git

Because digital infrastructures can appear so excruciatingly boring, digital infrastructures remain largely unstudied in the social sciences. As funding often depends on being relevant in current debates, research seems condemned to always play catch-up with the current hype: big data, algorithms, platforms, blockchain and more recently AI (Intemann, 2020; Millar, Batalo, and Budgell, 2022). The explanations are many, but the result is clear: the exploration of key, digital infrastructures remains largely in the realm of undone (social) science (Alcaras and Larribeau, 2022).

The goal of my talk is to answer this simple question: why do boring things matter? I argue that the study of seemingly dull infrastructures can be of interest for both social scientists and computer experts. My presentation draws from the sociology dissertation I defended in November 2022 about the construction and maintenance of Git, the version control tool that has gained an almost hegemonic place in coding practices, from free software collectives to industry giants.

### Data

The data used to support my arguments comes from the data I collected during a three year fieldwork (2016–2019). Data sources are varied: they mainly include archival work on 400 000 emails and 60 000 commits produced between 2005 and 2020; online ethnography of the Git mailing list and IRC chat; participation to the monthly Git newsletter “Git Rev News” with members of the Git team; observation of 11 industry events on version control (in Paris, Barcelona, London, Brussels and San Francisco) and 25 formal interviews conducted with version control experts. Although my dissertation makes use of quantitative methods, the material presented in the talk is mainly of a qualitative nature.

### Key results and insights

The talk presents two main key insights into Git as a digital infrastructure.

First, I show how thinking Git and version control through the lens of sociology helps create heuristic connections between a seemingly unique subject and other social worlds. I mainly focus on how feminist thinkers provide very useful frameworks to understand digital infrastructures, sometimes before these infrastructures were created (Simonet, 2018; Star and Strauss, 1999; Suchman, 1993). My two main examples are the question of unpaid labor in the Git project (Git is free software developed under the GPL licence) and the issue of the invisible work involved in digital infrastructure work.

Second, I explain how the history of Git has shaped its current design and the issues it faces today. In particular, I argue that the genesis of Git in the Linux kernel development team of the nineties gave birth to a dream of a “perfect archive” to establish trust and control in a fragile social environment. But these memory practices (G. Bowker, 2008; Daston, 2017) now face new

challenges, especially the growing demand to be able to alter the record (e.g. removing a deadname from the commit log or achieving compliance with the GDPR regulation).

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