Oil, Uni and TV: Post-Soviet Infrastructures Shaping Protocols for the Web

Polina Kolozaridi — Protocol Symposium 2026

1. The earth for the slow internet

In Tyumen, the capital of an oil-development region in Western Siberia, people told us about an internet they have never used, but heard about being somewhere in the north. There were nets for oil workers, alongside the pipelines. It was slow. It was stable. It grew into the ground — literally, the cables lay in the same corridors as the infrastructure of extraction, maintained by the same logic of repair crews, winter, and distance. It is not a part of “The real Internet”, therefore I am not sure it exists. No one demonstrated it to us as researchers who came to Tyumen with expeditions on the local internets.

2. The problem: a nature that looks primordial

The global internet is often treated as primordial, as if it had always existed and could not have been otherwise. Its protocols feel like facts of nature or at least the best ones. But they are path-dependent sediments of very specific infrastructures: banking, the military, Big Science. These systems are the basis of the *New Nature* and they acquire the modal force of nature: not "you should," but "you cannot otherwise." They become a “stratum of codified behavior that enables complex coordinated behavior at adjacent loci” or how “control exists after decentralization”.

My fieldwork suggests that this definition needs two additions, and they will organize everything I say today:

1. **Materiality.** Protocols touch the ground. They are laid in cable ducts, hung on walls, paid for in rubles, and repaired in winter.
2. **Boundary.** Protocols not only connect, but also divide worlds. Every network I studied was defined less by what it connected than by where it stopped — with the price, the wall, or the wire at its edge.

3. Method: protocol archaeology

Between 2017 and 2022, the Club for Internet and Society Enthusiasts — a grassroots research collective — ran expeditions to Russian cities to recover the histories of local networks. I call the method *protocol archaeology*: we excavate not the prologues to the one true internet, but alternative actual states.

But how do we know that what we find in the ground was a *protocol*, and not just a pile of hardware and habits? I propose three definitions close to the ones for infrastructure:

- **Socio-technical coupling.** The technical standard and the social contract were built together and cannot be separated without destroying the thing.
- **Infrastructurality.** In Susan Leigh Star's sense: the system was invisible while it worked and became visible at its breakdown — or, in our case, at its boundary.
- **Boundary.** The network had an edge, and the edge had rules: what may cross, in what form, at what price.

Our interviews and archives capture mostly the second register: how coordination actually flowed. That is precisely the register in which these networks were most inventive.

4. Case one: Oil — the grounded protocol (Tyumen)

The oil companies' networks were corporate infrastructure, but of a strange kind: optimized for *durability under constraint*. Slow links were acceptable because the alternative was no link; stability mattered more than bandwidth because the cost of a failure was a winter expedition. These networks could have been scaled — they were, after all, already regional — into a different internet: one where speed is not the default value, where protocols grow out of the material world instead of being imposed on it.

They did not scale.

5. Case two: TV — the physical boundary (Vladivostok)

When the internet was established in Russian cities, people often did not know what it can be used for. This distinguishes it sharply from, say, AI today, where use cases run ahead of diffusion. The internet users had to invent its purposes locally and often alongside older media: alongside teletext, and alongside television.

In Vladivostok we found one of the purest form: television sets in a single apartment building, connected by wires, running what was simultaneously a video salon, a proto-Netflix, and a pirate bay. A service for watching films over a network existed here *before* any of the big services — built by residents, for themselves and their neighbours.

The boundary was physical here. The network ended at the building's walls, because the wire ended there. The protocol boundary and the architectural boundary coincided. It had everything a protocol needs — coupling, infrastructurality, a clear edge. What it did not have, I will argue at the end, was a manifestation.

6. Case three: Uni — the walled city (Tomsk)

Tomsk is a university city in Siberia, and its city network, Tonet, is our richest site, because here formal and implicit rules had the longest time to develop, and we had the largest field in which to watch protocols being needed at *every level*.

From roughly 1999 to 2012, Tonet was a city-scale internet with the full complement of resources: local newspapers, forums, amateur literature, advertising, torrents, its own wiki — and, crucially, mirrors of the global internet's resources. It cost residents almost nothing and was unreachable from outside the city. The "outer" internet existed, but crossing to it was expensive or impossible: a city wall, erected not in space but in *protocol and tariff*.

Look at how many levels needed protocols here.

- Between businesses and the universities, to agree on who builds and who pays.
- Between operators and users, to set the price of the wall.
- Between users themselves, who built and maintained the mirrors — an entire infrastructural layer between the inner and outer worlds.

These were protocols in the full sense: codified, repeatable, contested, revised. Some were written down; most lived in the second, implicit register.

7. The ending problem: durability that failed

Every one of these stories has an end. Between roughly 2009 and 2012, cheap connectivity, smartphones, and social platforms (triple revolution, Wellman and Rainie) arrived, and the global internet absorbed the local ones. What strikes me is not the absorption itself but its *irreversibility*: former participants do not consider the old networks a resource they could still draw on. National and global social media had formed different ties, and the old protocol — however well it once held — was no longer legible as a protocol at all.

Here I have to part ways with a Latours formula “technology is society made durable”. Our cases suggest the opposite: durability is radically limited, even for well-built, well-maintained, well-loved protocols. The Tyumen networks had stakeholders and still disappeared. Tonet had thirteen years of refined formal and implicit rules and still almost vanished. The building-wide video network had the clearest boundary imaginable and still forgotten.

Why?

8. Hypothesis: the missing protocol of the protocol

My hypothesis: these networks failed not technically, not economically, but *representationally*. None of them had manifesto or name for what they were, no account of their own significance. There was no *protocol of the protocol*: no meta-layer that proclaimed "this is a way of organizing the world, and it matters."

Compare: the global internet had RFCs, but also mythologies — cyberspace manifestos, the religion of openness, a whole literature insisting that this network was a world-historical

event. The Russian local nets had engineers, norms, and walls, but no genre in which to say what they were. When the global internet arrived, it arrived *with* its self-description.

This is, I think, a generalizable thing for protocol studies: a protocol's durability depends not only on hardness at the bottom but on legibility at the top. Which makes protocol archaeology a double task: we excavate lost protocols, and in excavating them we retroactively supply the missing manifestos.

9. Closing: internets that might have been

New Nature could have sedimented otherwise — slower, more local, grounded in material constraint, bounded by walls people built and understood. These excavated protocols can be treated as evidence that the values we now take as technical necessities (speed, scale, seamlessness) were kinds of variables.