"(Not) Gonna Dig": Mapping Controversies in the Anthropocene Era of Lithium Extraction in Serbia

Stefan Janković,
University of Belgrade – Faculty of Philosophy
David Adam
University of Belgrade - Institute for Philosophy and Social Theory

Funding
This research was supported by the Science Fund of the Republic of Serbia, Grant No. 7408, Future Heritage of Spa Settlements: Digital Platform for Advancing Knowledge and Innovation in Urban Morphology Approach for Environmentally Sensitive Development in Serbia—SPATTERN (https://spattern.org/).

Research Context

_project context: this case study is developed within SPATTERN – Future Heritage of Spa Settlements

___SPATTERN approaches spa settlements as environmentally sensitive socio-spatial formations shaped by the interplay of heritage, morphology, landscape, and development pressures
___the project frame shifts attention from isolated architectural intervention to the broader territorial and ecological conditions of spa settlement transformation

_the analytical focus here is on local context
___the aim is to understand how potential spatial change affects water resources, hydrothermal systems, and the environmental conditions that sustain spa settlements

_Banja Koviljača is treated as a critical case within this framework
___it condenses the relations between spa heritage, therapeutic landscapes, water-based identity, and contemporary development pressures
___it allows the analysis to trace how environmental sensitivity must be grounded in the specific material, historical, and local conditions of the settlement

_the broader objective is not only to describe change, but to clarify the conditions of sensitive transformation within broader societal changes

Фонд за науку
Републике Србије

Research questions

_how does the lithium mine controversy reflect Anthropocene ecopolitics: sovereignty, habitability, and geosocial divides?

_how do digital infrastructures (platforms, algorithms, data) mediate and reshape ecopolitical controversies in the Anthropocene?

_which methods best trace the new terrains of ecological conflict, and what can controversy mapping really reveal?

Фонд за науку
Републике Србије

Conceptualization

_an ontopolitical rupture: a crisis of politics as such?
(Chandler, 2015; Latour, 2004; 2018; 2020; Pellizzoni, 2015)

___(in)ability to sustain “good life” in face of ecological breakdown (Stahl, 2024)

___(in)ability to attain democratic human-centered deliberation (Ejsing et al., 2025)

_modalities of the Anthropocene ecopolitics

transition
(Asher and Wainwright, 2018; Crownshaw et al., 2018; Reichel and Perry, 2018; Reitz et al., 2021)

degrowth, postgrowth

governance
(Dalby, 2013; 2015; Simon, 2011; Lövbrand et al., 2015; 2020; Mann & Wainwright, 2018)

conflicts, post-souvereingty

critical
(Blaser, de la Cadena 2018; Escobar, 2018; Hoelle and Kawa, 2021;)

extractivism, racism

more-than-human
(Fagan, 2017; 2019; Grear 2020; Haraway, 2016; Morton, 2016Tsing, 2015)

non-humans, interdependencies

end of the world
(Danowski and Viveiros de Castro, 2017; Savransky, 2021b; Savransky & Lundy, 2022; Szerszynski, 2018)

habitability, apocalypse

_ecopolitics in digital environments?

___digital as generative infrastructure of political (Marres, 2012; 2015)

___algorithmic mediation intensifying mobilization (Roumbanis, 2024)

___digital trivializes political autonomy (Kalke., 2025)

Фонд за науку
Републике Србије

Controversy mapping

_controversy mapping (CM)
(Latour, 2005; Callon, 1986; Garfinkel, 1967; Rogers, 2013; Marres, 2012; Venturini, 2010; Venturini & Munk, 2021)

___analytical method stemming from STS/ANT

___controversy as unfolding socio-material event

___non-binary, quali-quantitative tracing

_what
issues, claims, debates
(Marres, 2015)
___issues as mobile problematizations
___environment, sovereignty, transparency, energy transition
___tree of disagreement

_who
actors & networks
___hybrid collectives, humans & non-humans
___Rio Tinto, ministries, NGOs, communities, lithium, permits...
___linking statements to actors

_how
associations & oppositions
(Rieder, 2012; Venturini & Rogers, 2019)
___unexpected alliances, internal ruptures
___visualizing networks of alliances and oppositions between actors

_where
sites of metacontroversy
___dispute exceeds local: conditions of speaking/knowing
___who speaks for Earth? what counts as evidence?

_when
temporality of controversy

Фонд за науку
Републике Србије

Data sources

_data collection pipeline:

_querying: Boolean search (“Rio Tinto” OR “lithium” OR “Jadar”)

_database of 1,004 texts (2004–2025): media articles, blogs, scientific publications, policy reports

_scraping & crawling: Octoparse + naslovi.net aggregator (300+ outlets) + manual enrichment – scientific studies, policy documents, institutional reports

_curating

___empiricist stance and symmetry toward all actors (cf. Marres & Moats, 2015)

___relational objectivity: how claims emerge across infrastructures

___attention to asymmetries in actors’ visibility, authority, interests

_disentangling

___following Latour (1988: 10): “...begin recording what each actor says about the others...”

___mapping actor-networks in texts via delegation, attribution, reclassification

___tracking both human and non-human entities: lithium, water, permits

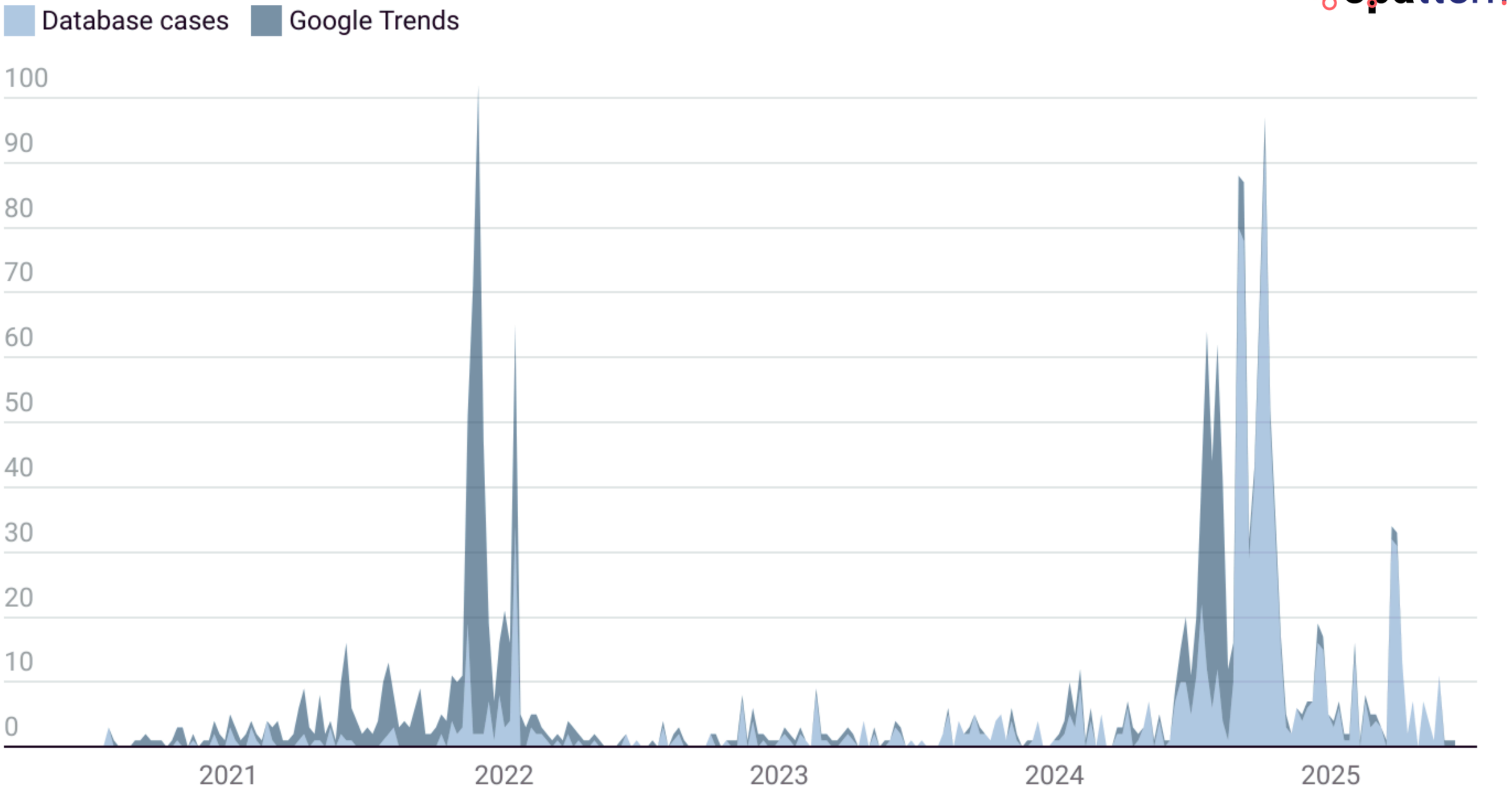
_visual cartography and processing

___Gephi: modularities, clusters, central actors

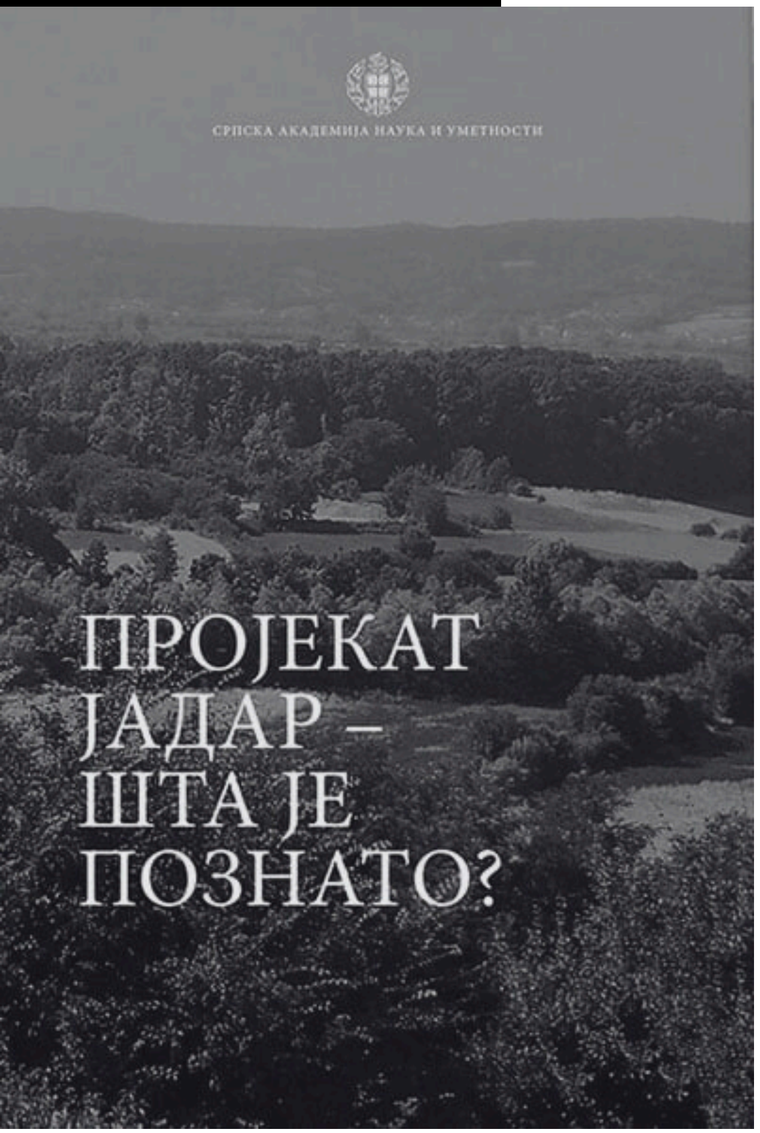
___RawGraphs, Flourish and Datawrapper: argument flows across actor types

Фонд за науку
Републике Србије

cases & traces



Analysis



_mid-2021 onward: the Jadar project became the site of intensified translation struggles

_redirecting attention from lithium-as-energy-transition to lithium-as-ecological-threat
___involvement of citizens, ecological activists, local inhabitants
___first scientific debates: Serbian Academy of Arts and Sciences

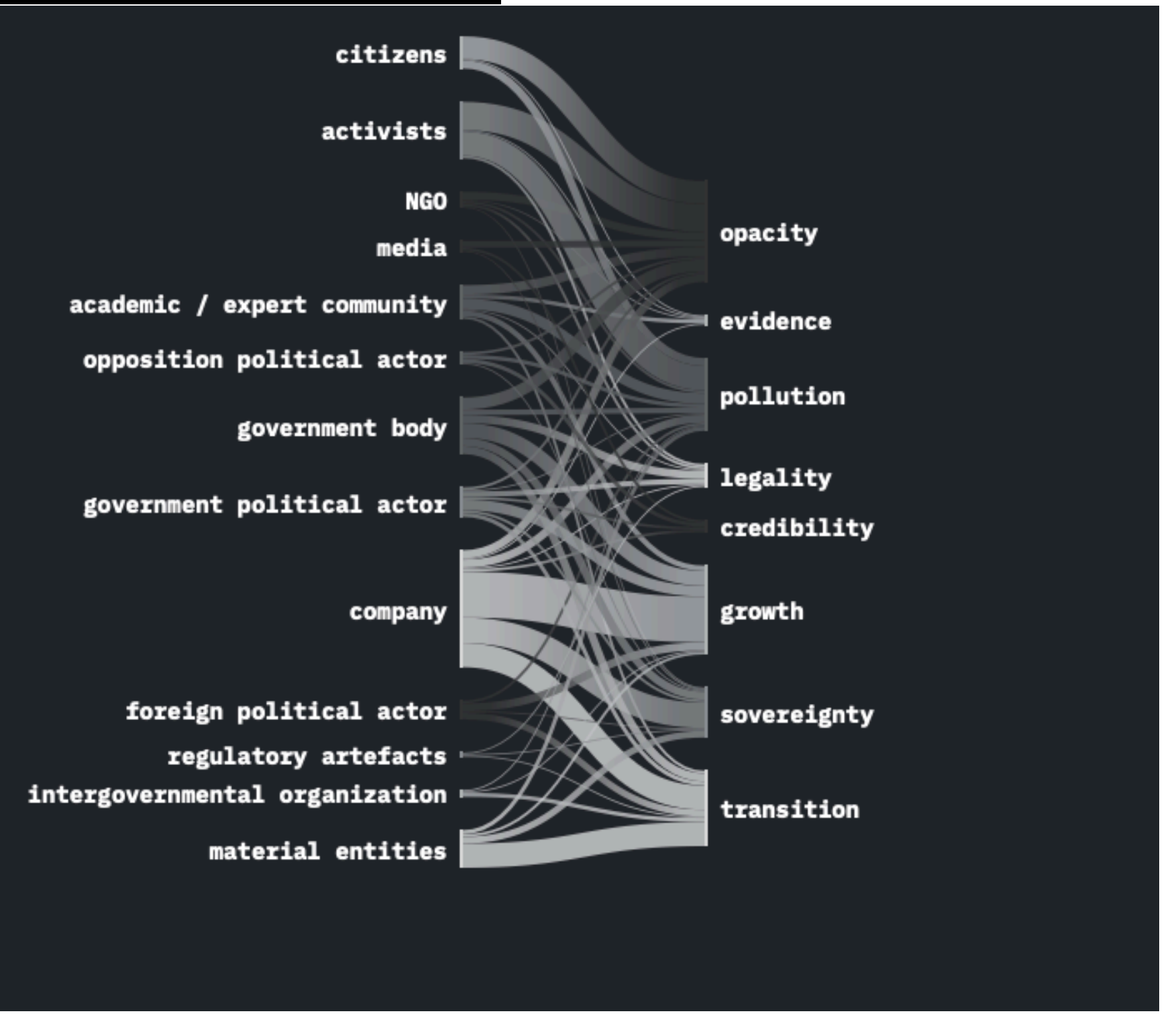
_primary controversy themes emerged
___eco-alarmist register: ecological degradation and threats to water and land systems
___scientific-bureaucratic register: technical legality and strategic necessity
___national-sovereignist register: who holds the right to define the material and political destiny of the Jadar Valley

Фонд за науку
Републике Србије

Analysis

Фонд за науку
Републике Србије

Analysis



_official suspension of the Jadar lithium project in early 2022

_a rebound phase (2022–early 2024)? low-frequency controversy with intermittent peaks

_governmental actors and corporate representatives
___weakly present but persistently active
___registries shifted from overt promises of economic growth toward more opacity-ridden formulations

_activist and citizen collectives
___a broader repertoire of ecological vigilance

_a surge of public engagement from mid-2024 onward

Фонд за науку
Републике Србије

Analysis

_a resurgence phase (mid-2024 to 2025)

___government and corporate actors quietly revive regulatory frameworks

____academic and expert communities publish counter-studies challenging company-sponsored evidence

_mid 2024: Constitutional Court annuls the government's suspension decree, reopening the legal path for the project

_June–July 2024: massive protests flare up as local communities react to legal reactivation

___activist and citizen collectives broaden tactics (village assemblies, legal actions, protest concerts)

_September–October 2024: a new round of parliamentary debate reopens

___opposition MPs and local representatives introduce resource sovereignty and legal irregularities as central parliamentary frames

___academic and expert communities submit open letters and counter-expertise directly to parliamentary committees

_February–April 2025: legal battles expand

___expert voices face intimidation and reputational attacks — key figures from SANU and independent institutes become direct targets

_throughout 2025: greater EU involvement

Фонд за науку
Републике Србије

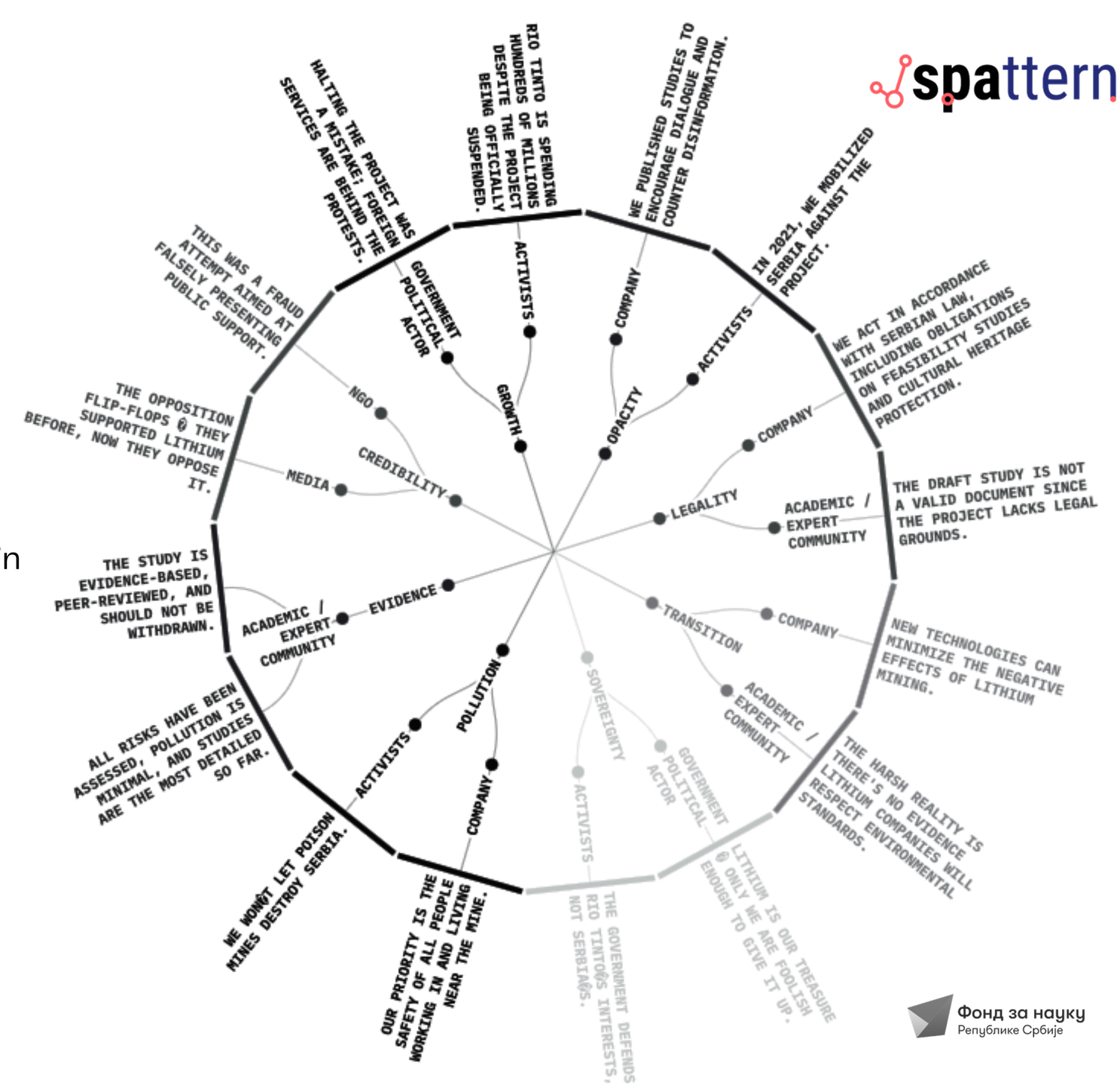
Analysis

_key issues

___opacity deepens: partial disclosures, shifting statements, incomplete studies blur clear closure

___pollution and sovereignty regain force: local ecologies and resource control re-anchor dissent in media and assemblies

___the controversy mutates: leaks, court rulings, counter-expertise, and civic vigilance keep legitimacy unstable and mobile.



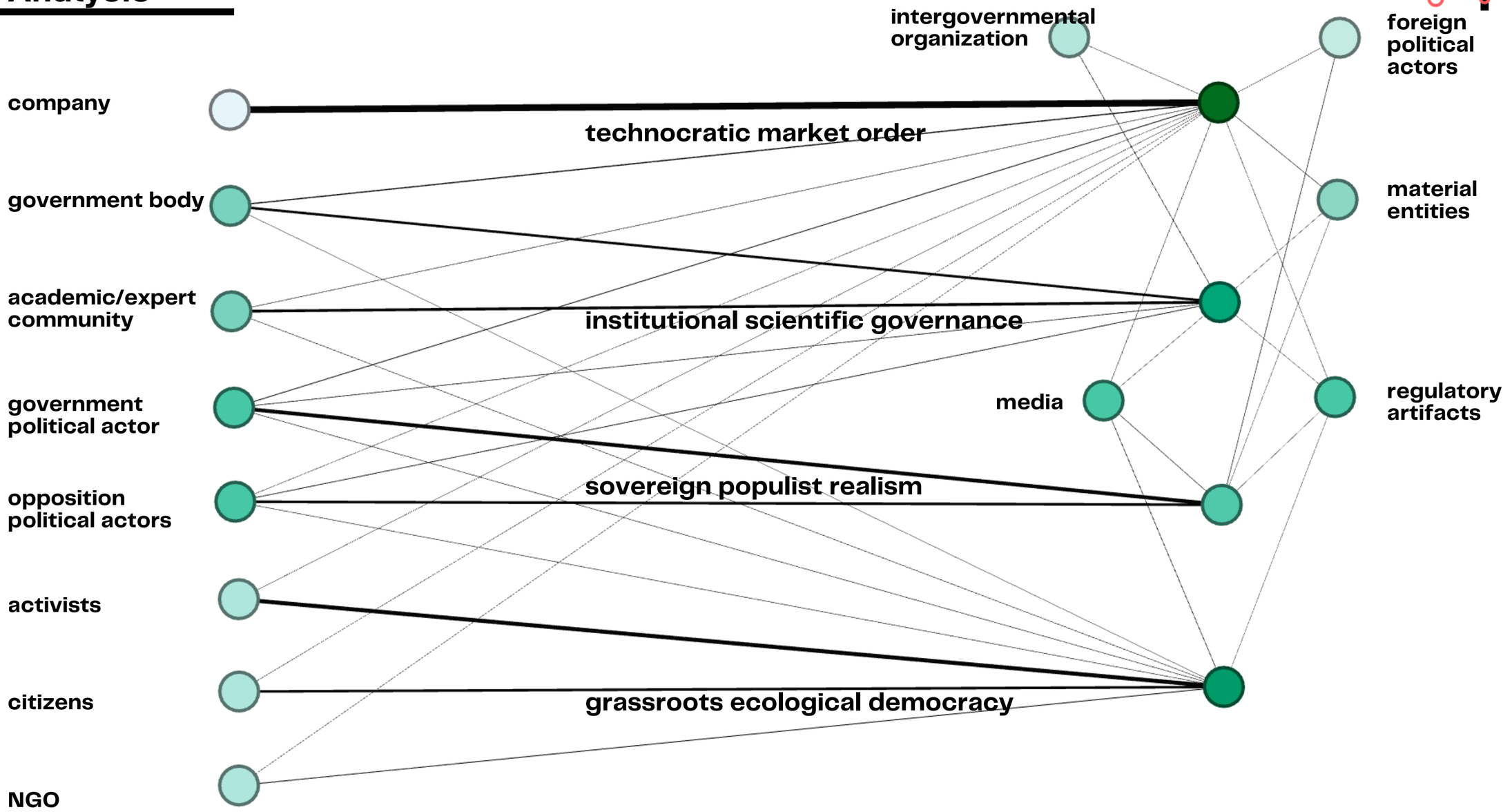
Фонд за науку
Републике Србије

Analysis

Issue/actor	activists, citizens, opposition political actors	academic/expert community	company, government body, government political actors	media
climate	Gov’t greenwashing, climate misuse	Project violates climate goals	Lithium = green transition	All sides use green talk
evidence	Studies rigged for company	Company-funded science doubted	We follow global standards	Media shows study disputes
growth	Local harm outweighs profit	Doubtful economic sustainability	Mining boosts GDP, jobs	Reports stress jobs vs harm
legality	Project breaks local laws	Regulation gaps exploited	Permits fully valid	Court battles reported
opacity	Secret deals, hidden data	Opaque expert reports	Data shared selectively	Leaks spark new outrage
pollution	Water, land, air at risk	Irreversible eco harm	Pollution risks controlled	Pollution impact coverage
sovereignty	Foreign control over resources	Resource sovereignty debate	Foreign investment welcome	Sovereignty stirs headlines
transition	Green cover for exploitation	Unsure green transition gain	Lithium drives EU goals	Transition buzz in news

Фонд за науку
Републике Србије

Analysis



spattern

Фонд за науку
Републике Србије

Conclusions

_controversy does not simply produce answers — it reveals conflict over what counts as development

___the Jadar case shows that mining projects are never only technical or economic questions
___different actors define the problem differently: for some, lithium means growth and transition; for others, it means risk, dispossession, and environmental loss
___the conflict is therefore not only about facts, but about whose future, whose priorities, and whose version of a livable environment will prevail

_digital platforms do not just report the dispute — they shape it
___media platforms, digital circulation, and online visibility influence which claims become public and which remain marginal
___the controversy is shaped not only by who speaks, but by which statements travel, gain credibility, and endure in public debate
___digital infrastructures therefore become part of the political field itself

_at the core of the case is the question of habitability
___the main issue is not only whether extraction is possible, but under what conditions land, water, and everyday life remain livable
___air, water, soil, and local infrastructures emerge as central stakes of political struggle
___the case shows that environmental conflict is ultimately a conflict over the conditions of collective life

Фонд за науку
Републике Србије

Conclusions

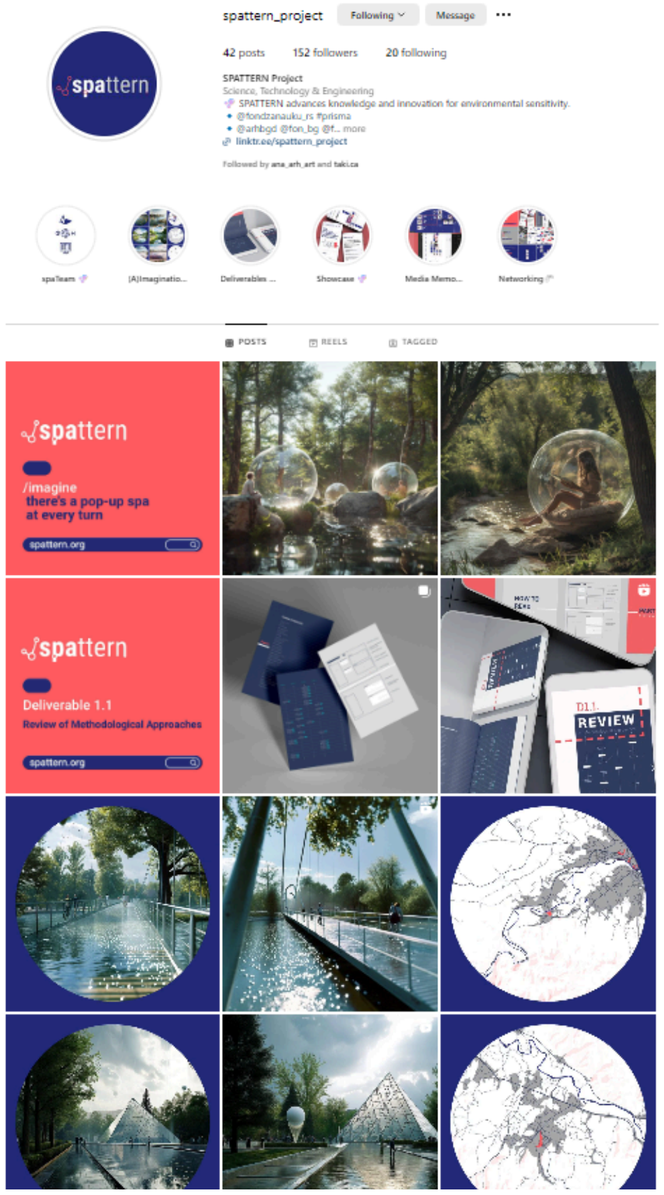
_Banja Koviljača makes this especially clear

___as a spa settlement, it depends on the interrelation of hydrothermal resources, built heritage, landscape, and everyday local life
___any future intervention must therefore assess not only spatial form, but also its effects on water systems and the wider local context
___water should be treated as a central planning concern, not as a background condition

_environmentally sensitive planning requires a wider field of voices
___local communities, experts, institutions, and other relevant actors must be included more seriously in decision-making
___spa settlements demand planning models that are dialogical, context-sensitive, and attentive to long-term environmental consequences
___if spa heritage is to have a future, it must be planned through protection, careful transformation, and a broader public negotiation of value

Фонд за науку
Републике Србије

Thank you for your attention!



Funding
This research was supported by the Science Fund of the Republic of Serbia, Grant No. 7408, Future Heritage of Spa Settlements: Digital Platform for Advancing Knowledge and Innovation in Urban Morphology Approach for Environmentally Sensitive Development in Serbia—SPATTERN (https://spattern.org/).