

Social-ecological emancipation

A CRITICAL REALIST EXPLORATION OF SMALL-SCALE FARMER AGENCY IN CLIMATE CHANGE ADAPTATION INTERVENTIONS IN THE SEMI-ARID SOCIAL-ECOLOGICAL LANDSCAPE, MACHUBENI, EASTERN CAPE, SOUTH AFRICA	2
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A critical realist exploration of small-scale farmer agency in climate change adaptation interventions in the semi-arid social-ecological landscape, Machubeni, Eastern Cape, South Africa

Presenter/s: Idah Mbengo, Chrissie Boughey, James Gambiza

Organisation: Rhodes University

Abstract

This paper reports on a study that seeks to contribute to the debate on Climate-Smart Agriculture (CSA) uptake using critical realism. CSA has been proposed as a panacea for small-scale farmers' enhanced productivity, poverty reduction, and food security in developing countries in Africa and Asia in the wake of climate change. Given the concerns on the low uptake of CSA and sustainability in Africa, research on the ways farmers engage with its practices has increased. The majority of these studies assumption is if CSA is introduced to farmers, they draw from them and then increase yields, improve soil fertility and conserve water. The studies assume a cause/effect relationship between the practices and the outcomes observed and measure. These studies "closed system" is typical of positivism. Critical realism advocates for an open system and layered ontology will account for the observed low uptake. The role of small-scale farmers in the uptake has received little attention and little attention appears to have been paid to the myriad conditions in the contexts in which they operate.

In this paper, we argue that critical realism and Archer's (1995, 1996, 2000) social realism provide a lens to understand the complexities surrounding the uncertainty of the adoption of CSA and its sustainability in South Africa. Archer's morphogenetic framework provides a means of describing change over time. Within this framework, social and cultural conditioning is understood to impact on the way small-scale farmers interact with CSA interventions and, thus, on the sustainability of projects attempting to introduce CSA after they have ended.

This paper argues for the value of CR in research which aims to evaluate projects for their sustainability. It also offers insights from the first stage of the study which looks at the way small-scale farmers are conditioned socially and culturally in the uptake of practices advocated by the project. In doing this, we believe that the paper has an important contribution to make to the approaches taken to research in the field of Environmental Science.

From technocratic decision-making to dialogic communication and back: siting the deep geological repository of nuclear waste in the Czech Republic

Presenter/s: Martin Durdovic

Organisation: Institute of Sociology of the Czech Academy of sciences

Abstract

My presentation will concern the relationship between society and energy. Nuclear energy is a contentious matter: as part of energy mixes, it co-powers infrastructures and lifestyles in many advanced countries, but it also implies some serious risks. One of these risks is the 'negation problem' associated with the disposal of nuclear waste as a phenomenon of late modernity that calls for novel forms of social action.

I will use the metatheory of critical realism to analyse sociologically the processes of social interaction related to the siting of the deep geological repository of spent nuclear fuel and high-level waste in the Czech Republic. The presentation will draw on results of various research projects conducted in last decade and will reflect my own personal experience as a sociologist with participation in two expert bodies dealing with the siting of the repository.

I will employ the concept of dialogue to elucidate the issue of public participation in decision-making on the repository. Despite promising twists and turns in the last decade that suggested a shift towards a more dialogic approach, recent development indicates that the state administration tends to prefer technocratic procedures as the most efficient way of handling the problem. This has an adverse impact on the communication between state administration and local communities pre-selected as possible sites of the repository, but it also gives as an opportunity to reconsider the concept of dialogue as a means of intersubjective reflexivity.

Applied critical realism for knowledge integration in transdisciplinary research:
Enabling emancipatory social-ecological sciences

Presenter/s: Jessica Cockburn

Organisation: Rhodes University

Abstract

The sustainability sciences, in particular the social-ecological systems sciences, have seen a rapid rise in transdisciplinary research approaches. Transdisciplinarity aims to transcend the limits of existing disciplines and the boundaries between science and society. It has an emancipatory agenda, seeking to transform knowledge systems and societal problems. Knowledge integration has been identified as a key challenge in these new transdisciplinary endeavours, where researchers are co-producing knowledge with a range of actors, drawing together diverse knowledge systems. However, the practice of knowledge integration brings to the fore tensions around philosophy, methodology and the role of the researcher. In this paper I argue for the value of applied critical realism in enabling knowledge integration in transdisciplinary research, and in engaging these important tensions. I begin with a review of existing social-ecological research, showing the various ways in which critical realism has been used in these emancipatory science initiatives. I then introduce a case study of place-based social-ecological research from South Africa, in which I demonstrate the application of critical realist tools. I show how tools from applied critical realism can enable knowledge integration across disciplinary and science-society boundaries in sustainability science. I conclude with a reflection on how they enable reflection on tensions related to philosophy, methodology and researcher positionality, identifying some of the challenges I experienced in putting these tools to work.

How Might We Unveil Generative Mechanisms of Wicked Problems? Discovering "Allocation Dependence" Through a Critical (Auto)Ethnography of an Alternative School

Presenter/s: Adler Yang

Organisation: Awakening Cooperative Lab, Taiwan - Tekisen Democratic University, Japan
Soochow University, Taiwan

Abstract

Given that wicked problems emerge from the complex patterns of agents' relationships/interactions with the world, and education serves as a process of alternating or reproducing such patterns, I reason that the failure of education to alternate/reproduce wicked patterns as intended can be used to retroduce generative mechanisms that work against it.

This research took a critical (auto)ethnographic approach for seven years to explore what patterns are alternated/reproduced before, during, and after my schoolmates and I at a learner-centered alternative school in Taiwan faced the hyper-competitive standardized high school entrance exam. Despite the anti-exam-driven learning culture of the parents and the school, and the lack of requisite/pressure to take the exam by neither parties, my classmates and I still compelled ourselves to narrowed and unhealthy study behaviors (commonly attributed to parenting or schooling) we did not agree with, at the cost of our talents, passions, and other important aspects of holistic growth.

Through a comparative study of school admission policies (including the reforms thereof), I retroduce that while students exhibit different behaviors, they are still driven by a mechanism I call Allocation Dependence: As long as agents' survival is dependent on the resources allocated by institutions, agents inevitably assimilate their qualities or trim off their unfit qualities to fit in the measures (criteria, rules, etc.) for such allocation, to secure the exchange for the allocated resources of greater quality/quantity.

My analysis shows the gap between agents' qualities and the allocation measure, and the drive to assimilate and trim off to fit into it entails characteristics/effects including but not limited to deformity, alienation, waste, pollution, disparity, exhaustion, and fragility. Using abduction, I find manifestations of Allocation Dependence in other fields such as international relations and domestication of animals, and will continue to study its explanatory power of other wicked problems.

Presenter: Nok - Thasanawan Boonmavichit

Organisation:

Purpose – This paper sets out to present the case for Critical Realism as a framework in steering the anticipatory and participatory activities and appropriate analysis of complex problems, aiming towards a transformative change. A reflection of the implications and impact of the findings are also discussed at the end.

Design/methodology/approach – Through observation, interview, and facilitation for Circular Design Lab (CDL) and Thai Clean Air Network (TCAN), this paper unpacks their foresight activities, its key findings and elements of their self-organized movement by a Thai civil society. It connects their comprehensive analysis based on an alternative foresight epistemology of Critical Realism.

Findings – Foresight based on CR philosophy provides a deeper understanding of the complexity and invisibility of air pollution issues in Thailand. Acknowledging the transitive reality beyond our perception, the activity design sets out to dig into the rudimentary dynamics and causations. The iceberg models investigate problem framing and illustrate the stratified reality in three domains: The *empirical* based on emission reports and legislative regulations; the *actual* based on patterns of farmers practice and industrial development, activated by causal mechanisms; the *real* based on structural and mental models, driven by cultural and belief systems in Thailand. The systems thinking analysis inquires into the artifacts, behavioral patterns, social values and structures, all of which reveals the structural violence to the substantive right and procedural right to breathe clean air. The multi-discipline participatory activities manifest western domination of the economic development model and ignorance of environmental and indigenous protections. The uncovering of these foundational conditions leads to the movement to decolonize Thai citizens from structural barriers and economic growth paradigms by submitting draft clean air acts to parliament for debate.

Practical implications/Research limitations – The four pillars of Critical Realism concepts, *ontological realism* calls for historical statics and legislation; *epistemic relativism* for pluralistic views from diverse backgrounds; *judgmental rationality* for explanatory affirmation; and *cautious ethical naturalism* for the conditions for the well-being of all humans. In conjunction with these above concepts, the anticipatory activities on air pollution problems in Thailand bring to light the reality of power and oppression beyond human perception and illustrate the connection to the belief systems and its consequential action or lack thereof in dealing with the issues. The insight to power relationship provides an unconventional way to empower citizens in creating transformative change.

Originality/value: – Foresight practice itself has developed under western cultures and societies. Recent efforts are made to investigate the epistemology underlying this field for the future issues are ever more complex and interrelated across multiple sectors. This requires our consideration of the meaning of knowledge and knowing, influencing our research paradigm. The paper proposes critical realism as a suitable foresight approach to emancipate us from the widely accepted epistemologies and examine our presupposition about social reality by a philosophical explanation based on the elements of ontology, causation, structure, and persons.