

Intro

The metaphor of “development” has become such a ubiquitous way of talking and thinking about social, economic, and technological change in the global South that it is difficult not to use it. However, in this presentation I will argue that, as a metaphor, “development” only works, cognitively speaking, by constructing people and societies in the global South as inferior to and lagging behind Northern societies. I suggest that scholars and planners begin trying to think about social, economic, and technological processes in the global South through the metaphor of *ecology* instead, a metaphor that is potentially much more conducive to locally-initiated, generative forms of value production and flow.

Influences

My critique of development discourse is drawn largely from postcolonial scholars such as Escobar, Mignolo, Rist, Esteva, and Sachs, but I diverge somewhat by focusing specifically on “development” as a metaphor. In thinking about how metaphors work, I am relying on the work of cognitive linguist George Lakoff. In understanding the implications of “ecology” as an alternative metaphor, I turn to feminist epistemologist Lorraine Code. Additionally, although I don’t discuss their work directly, I see the ideas in this presentation as part of the effort within STS to elaborate alternatives to dominant Northern epistemologies, a project more or less shared by feminist and postcolonial STS scholars such as Donna Haraway or Sandra Harding.

Outline of Presentation

First, I will introduce some key ideas about metaphors and how they work. Then, I will compare “development” and “ecology” in terms of these key concepts, and draw out some connections to generative justice. Finally, I will discuss an example from the country of Laos that will hopefully help illuminate how “thinking ecologically” could provide a conceptual framework for imagining and implementing systems in which resources and value circulate locally to the benefit of those who produce them, one of the primary traits of “generative” systems, insofar as I understand them.

How Metaphors Work: Key Concepts

Here are three key concepts I will be working with in this presentation. Most of this framework comes from George Lakoff, but I am adding the idea of metaphor affordances to help understand how certain structural characteristics of metaphors are strategically chosen, with important political implications.

Source Domain/Target Domain

Basically, Lakoff’s concepts of source domain and target domain suggest that metaphor works by mapping the structure and relationships of a “source domain”—usually something well known whose structure is understood—onto aspects of a less-well-known target domain.

Scope, logic, and interrelations are more or less maintained, and the metaphor makes the target understood like the source. Often, familiar spatial concepts are mapped in this way onto more abstract temporal changes.

Etymologically, the word “development” means un-folding. In the case of “development” as metaphor, the basic spatial movement of “unfolding” is mapped onto the target domain social/economic/technological changes in the global South. In order for this metaphor to work, cognitively, these processes must be assumed to have a similar structure to the motion of “unfolding.” This is where I will introduce the idea of metaphor affordances.

Metaphor Affordances

I define metaphor affordances as structural aspects of the source domain that can be strategically used to ensure that the target domain is understood in particular ways.

We can identify some structural aspects of the motion of “unfolding” that have important political implications for how social/economic/technological changes in the global South are understood.

First, “unfolding” is a motion that happens in one direction, from folded up and obscured, to open and visible. Thus, the metaphor of “development” is inherently teleological. Different degrees of coverage map onto different levels of social/economic/technological advancement, and full visibility maps onto the achievement of Northern social/economic/technological

systems. In this metaphor, the innate, natural potentialities of societies are gradually realized over time, although they can be delayed due to pathological defects in Southern societies.

Another important affordance of the “development” metaphor is that it is universal. Assuming all human beings are fundamentally the same, “normal” development should look the same in all human societies.

These two affordances allow users of the development metaphor to construct societies in the global South as inferior, as lagging behind, those in the North. On top of this, the transitive sense of “develop,” in which there is a *developer*, one who actively uncovers, permits a third affordance to be added to these two: “development” demands centrally-organized interventions. Here, the actor who unfolds or uncovers something can be compared to Northern planners, scientists, and economists, who guide societies in the global South in establishing correct social/economic/technological systems.

Metaphor Realization

Quoting George Lakoff, “Metaphors impose a structure on real life, through the creation of new correspondences in experience” (Lakoff 1993:241). He gives the example of a thermometer. A thermometer realizes, in a material object, the metaphor of “up is more.”

However, not all metaphor realizations are so politically benign. For example, the “development” metaphor has become realized in a variety of institutions that impose very real

and at times unwanted constraints on some people in the global South (perhaps flash a few pictures).

Comparing the Affordances of “Development” and “Ecology”

In this section, I will turn to the metaphor of “ecology,” and compare some key affordances of these two metaphors insofar as they can be used to think about social/economic/technological processes in the global South. In thinking about ecology as metaphor, I am indebted to Lorraine Code and her extensive work on what she calls “ecological thinking.”

On the one hand, as discussed, “development” is teleological; there is one correct way to “live well,” to use Code’s language, which involves technological advancement and economic growth. On the other hand, one of the affordances of “ecology” as metaphor is that it is non-teleological. There are many different ways to “live well,” and they cannot be fully determined ahead of time. Organisms and communities of organisms are constantly adapting to each other and a changing environment in ways that are difficult to predict with certainty.

“Development” is also universal. It is the same for all human societies everywhere on earth. On the other hand, Code emphasizes the highly particular nature of “ecological thinking,” it’s “sensitivity to detail, to minutiae.” There are multiple ways to “live well,” which vary highly from place to place, again determined by specific networks of complex interrelationships.

Comment [WH1]: Temporal

Comment [WH2]: Spatial...

Seems that what’s falling out of my comparison of affordances is the way in which “development” v. “ecology” deals with the possibility or impossibility of determining “living well” through 1) time, and 2) space.

Development says through time, things will unfold in one pre-determined way (teleological), and across space, all unfolding will be identical (universal); whereas ecology is not teleological, and allows multiple, place-determined progressions

Another affordance of “development” is top-down, central organization. Northern societies know how to “live well” and must distribute knowledge and resources to Southern societies. On the other hand, “ecological” systems are self-organizing. No central authority controls the flow of nutrients, water, and so on in a healthy ecosystem, yet its members thrive. Thinking of social processes with this metaphor, it seems reasonable for resources to circulate and needs to be met without centrally-located expertise or coordination.

Comparing “Ecological Thinking” and “Generative Justice”

Now that we know a bit more about some affordances of the “ecology” metaphor, we can see how an “ecological” understanding of the production and flow of resources and value might be quite similar to a “generative” understanding.

As far as I understand it, one key concept of “generative justice” is the idea that the value produced by labor or nature remains within the social or natural system where it was produced, rather than being extracted and either concentrated in the possession of others, or redistributed to labor or nature by some centralized authority. There are powerful similarities between generative circulation and the idea of nutrient cycling from the science of ecology, which describes the movement through an ecosystem of the chemical substances necessary for life. Other conceptual connections between ecology and generative justice, such as, for example, the importance of feedback loops and dynamic equilibrium, might also be productive to explore.

An Example from the Global South

I will now discuss an example of a social/economic/technological arrangement in the global South that I believe illustrates both “ecological thinking” and “generative justice.” This system currently meets the needs of particular communities better than projects undertaken within “development” thinking are able to do. Although these actors would not necessarily describe *themselves* as “thinking ecologically,” I would like to suggest that the deliberate invocation of certain affordances of the ecological metaphor could strengthen the conceptual foundations of such projects and clear the way for their expanded implementation.

Pico-hydropower in Northern Laos

So here’s a little information about electricity generation in Laos. Laos is a rugged, landlocked country of around 6.5 million inhabitants in mainland Southeast Asia. Although hydroelectricity is one of the small country’s major exports, as of 2009, only 10% of the energy generated from large dams in the country was available for domestic use (Smits and Bush 2010). Most of it is exported to its neighbors. In 2008, the national electric grid supplied only 60% of households, far below the government’s 2020 goal 90% electrification (Smits and Bush 2010). Many rural villagers, especially in the mountainous North, are unlikely to be hooked up to the national power grid for years. Instead, they often turn to decentralized power generation technologies, such as pico-hydropower (cue slide change).

Comment [WH3]: All stats in this par from Smits and Bush, 2009

Pico-hydro generators such as this usually produce under 1 Kw of power, and provide electricity to one or two homes. Smits and Bush (2010) estimate that pico-hydro generators supply electricity for as many as 90,000 people in Laos, mostly in the mountainous northern part of the country. However, they found that government and NGO actors alike tend to consider pico-hydropower to be, to quote their findings, “a source of off-grid electrification not even worth supporting” (Smits and Bush 2009). Many policy actors seem to believe that pico-hydro systems were dangerous, inefficient, and that they were not and could not be widely used in Laos, even as the current reality was otherwise.

I believe that this example demonstrates four qualities of ecological (and possibly also generative) systems: pico-hydropower systems in Laos are *self-organizing*; they *adapt* to local conditions; resources within these systems *cycle internally*; and they are *self-sufficient*.

First, the material equipment and technological expertise needed to install and operate pico-hydro generators in Laos flows through **self-organizing** networks of users and suppliers. Generators enter the country from neighboring China and Vietnam. They are distributed through local shop owners and traveling merchants who bring equipment to remote villages. This happens without government or NGO support—as we have seen, it happens *despite* negativity on the part of these actors.

Second, aided by the knowledge gained through experience and through each other, local residents **adapt** standard pico-hydro units to particular conditions that vary highly from village to village.

It's worth noting that these generators come with *no* instructions in the Lao language; the expertise required to install and use them develops locally. Although the equipment itself is produced outside of Laos, I consider this expertise to be the most important resource in this system, and it **cycles within these local networks**, generated by and in service of pico-hydro users (my third characteristic of "ecological" systems).

The system's ability to generate and utilize this expertise, of course, is what makes it **self-sufficient**. This is in contrast to government- and NGO-supported decentralized electricity generation programs in the country, which usually mandate that installation and repairs are done by licensed individuals, normally for a fee, which poses major inconveniences to those living in remote parts of the country on low incomes.

Although pico-hydropower systems already exist and are filling basic needs without explicitly invoking "ecological thinking," I suggest there may be some benefits to more deliberately calling upon concepts from ecology in support of pico-hydropower projects. For example, if policy actors were encouraged to "think ecologically," they may come to understand how locally-specific, highly adaptive, self-organizing systems can provide **successful solutions to**

problems that may at first seem almost intractable, such as rural electrification in a mountainous country with minimal infrastructure and low population density.

This realization may or may not compel any kind of direct intervention; it may merely encourage policy makers and planners to *create space* for communities to develop these solutions more or less independently.

“Thinking ecologically” about the pico-hydro generation that is already occurring in Laos might also **reduce the negative attitudes** that Smits and Bush found among policy actors in the country’s capital, and encourage a **de-emphasis on grid expansion**, the Lao government’s current priority, which is linked to controversial plans to build dozens of new large hydroelectric dams throughout the country.

Conclusion and Further Thoughts

I will finish this presentation with a quote from Lorrain Code, and two questions.

Ecological thinking, ultimately, offers the potential to re-imagine the roles of government and citizens, NGOs and technology experts in forging solutions to difficult social/economic/technological problems. As Lorrain Code states (2006:24), “ecological thinking is not simply thinking *about* ecology or *about* the environment: it generates revised modes of engagement with knowledge, subjectivity, politics, ethics, science, citizenship, and agency, which pervade and reconfigure theory and practice alike.”

Of course, it would be naïve to imagine development agencies and government actors in Laos, or anywhere else, would suddenly shift from the “development” metaphor to the “ecology” metaphor. However, here and there, it is already happening, as the example I provided, and the current focus in the development community on “participatory development” suggest. So if ecological thinking is already happening, why focus on it? In answer to that, I think that ecology offers a rich set of metaphors and visualizations for conceptualizing grassroots social justice undertakings, and provides a possible way to unite various projects under a common epistemological framework. It is not the only way to conceive these projects it could be productively explored (and, no doubt, already has in many cases of which I am unaware).

I’ll finish by addressing a question that has been posed in response to my proposal that the metaphor of “development” should be replaced with the metaphor of “ecology.” Is switching metaphors enough? Is that alone really going to initiate the radical reconfiguration that Code suggests it could? Of course not! Ecology’s strength is the rich array of metaphorical affordances it offers those interested in social justice. This richness also offers affordances which can be realized in ways that perpetuate dominant hierarchies. Although I do believe that the affordances of the “development” metaphor inherently close off the possibility of democratic deliberations about social, economic, and technological changes in the global South, adopting the metaphor of “ecology” does not automatically create space for these deliberations. Creating these spaces takes work; as I see it, “ecological thinking” isn’t an instant solution, but a tool to make that work lighter.

(Mignolo 2011)

(Escobar 1995)

(Esteva 2010)

(Sachs 2010)

(Rist 2008)

(Smits 2010)

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