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Political Ecologies of Resource Extraction: Agendas Pendientes

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Political Ecologies of Resource Extraction: *Agendas Pendientes*

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Abstract:

Research related to extractive industries has grown significantly over the last decade. As the commodities boom appears to be winding down, this essay outlines areas for potential future research. Emphasis is placed on the need for research on: the relationships among extractivism, climate change and societal transitions; the aggregate effects of the commodity boom on the environment, on societal structures, on elite formation and on cultural politics; the implications of resource extraction on the couplings of space and power at different scales and with particular reference to the Colombian peace process; and the gendered and generation dimensions of the effects of extractivism on rights and citizenship. The paper calls for on-going collaborations among scholars and activists, for greater collaboration among social and bio-physical scientists, for comparative analysis with regions beyond Latin America and for innovative ways of bridging research and the public sphere. *Keywords:* extractivism; climate change; alternatives; political ecology.

Resumen: Ecologías políticas de la extracción de recursos: Agendas pendientes

Las investigaciones relacionadas con las industrias extractivas han aumentado considerablemente durante la última década. Como el boom de las materias primas está tocando su fin, este ensayo señala áreas que se prestan a posibles investigaciones en el futuro. Se pone el énfasis en la necesidad de investigar: las relaciones entre el extractivismo, el cambio climático y las transiciones sociales; los efectos agregados del boom de las materias primas en el medio ambiente, en las estructuras sociales, en la formación de élites y en las políticas culturales; las implicaciones de la extracción de recursos en las relaciones entre espacio y poder a distintas escalas y refiriéndose especialmente al proceso de paz colombiano; y las dimensiones generizadas y generacionales de los efectos del extractivismo en los derechos y en la ciudadanía. Este artículo hace un llamamiento a colaboraciones continuadas entre investigadores y activistas, una mayor colaboración entre científicos sociales y biofísicos, un análisis comparativo con regiones más allá de Latinoamérica y maneras innovadoras de tender puentes entre la investigación y la esfera pública. *Palabras clave:* extractivismo; cambio climático; alternativas; ecología política.

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One of the increasingly visible themes in the political ecology of Latin America over the last decade has been that of extractivism.¹ The rapid growth of activity in the mining, oil and gas sectors (concessioning, exploration, investment, exploitation, associated infrastructure) has triggered a torrent of work from scholars, activists, journalists and many others who combine these roles in different ways. Published in journals and magazines, books and blogs, websites and virtual news media, this work has sought to keep up with, make sense of, analyse, criticize, and outline alternatives to the ways in which the commodities boom of the last two decades has transformed landscapes, livelihoods and institutions in the region. The flurry of activity has been apparent in the growing visibility of the theme at our regional and disciplinary conferences, in the research grants that many of us are asked to review, in the PhD topics that students want to pursue, in op-eds in Latin American newspapers, in the megaproposals of European-Latin American research consortia, in the funding strategies of some Foundations and bilaterals, and much more. Of course, there has been much more going on in Latin America than the resource boom, but this topic has provided a particularly fruitful vehicle for analysing contemporary capitalisms in the region, for engaging critically but constructively with the different 'post-neoliberal' projects underway, for debating the relationships between 'development', growth and degrowth, for exploring questions of territory and indigenous rights, for thinking about nature, the non-human and nature's rights, and for theorizing the relationships between politics, economy and environment in ways that reach across levels of analysis and show that political ecology is as much a macro-scale project as it is an endeavour that focuses on particular movements, particular protests, particular territories and particular livelihoods.

All that said, there was always a sense that much of this literature was constantly trying to catch up with the explosive growth of the resource industries in the region. Of course, there is a sense in which academic research is always trying to keep up with changes, but in this instance the speed and scale of the commodity boom really caught most of the scholarly world by surprise. Similarly, large parts of the nongovernmental and activist world were somewhat blindsided by the boom. Even when people on the frontline were picking up on these new dynamics they often had a hard time convincing supervisors, board members or donors that this issue merited urgent attention. In other cases, boards and supervisors fully understood the urgency of the issues but feared the institutional consequences of addressing a contentious topic - and indeed, this has been a field that has also featured defunding of NGOs, direct and indirect personal intimidation, accusations of 'terrorism' and threats of legal action (which sometimes has come to pass). All this only further slowed an adequate analytical and activist response to what was going on (and the criminalization of protest and threats of litigation continue to keep some wings clipped).

Moreover, these scholarly and activist worlds were not well-tooled to work on extractivism. The number of NGOs inside and outside Latin America that already understood something about the industries, resources and players involved was very small. This was probably even more the case for the scholarly world where most of the people who subsequently came to work on extraction had previously worked on land, agriculture, indigenous peoples, international trade and investment, human rights and so on. Extractives, and especially mining, had simply not been 'sexy'. The topic was often associated with more conservative sub-disciplines, and the number of books out there that could inspire young scholars to make this their research calling was limited. So when they did start responding to the boom, people had to learn quickly, and it remains an open question as to whether those of us who have worked on the topic even now have an adequate understanding of the technologies, industries, capital markets, legal issues etc.

Meanwhile the industries and their financiers were moving forward, imagining their own new political ecologies for particular countries, for the region, and for the region's insertion into global circuits. The sheer scale of these imaginaries was reflected in the ideas that Peruvian mining elites had for Caiamarca, Peru, in the IDB's and BNDES's maps for IIRSA, and in the notion of an energy ring ('anillo energético') and the Pacific LNG project to name but a few examples.² And even if none of these three particular visions has vet been realised in the fullness that their early instigators might have been imagining they have still changed the region's geographies and political ecologies in profound ways. Without the imagined 'anillo energético' there may have been no gas war in Bolivia (or perhaps the associated political transitions), without the Benavides' family's imaginations for mining in Cajamarca it might still be a regional agrarian economy and a terribly under-researched part of Peru (or at the very least it would not have been afflicted by the remarkably adverse effects that the Yanacocha mine has had on the social atmosphere of the city). and without IIRSA the carving out of transcontinental roads and opened river courses would not be where it is today. Our scholarly work has still not really gotten a handle on the scale of these transformations and the ways in which they are going to structure future societal and economic change, and much of our focus has been too subnational and small-scale to have a hope of doing so. And while scholarly work may never really 'catch up', researchers do need to be sufficiently current so that as intellectuals we might engage more effectively with activists, policy makers, practitioners, social movements and publics and contribute to the framing of a broader politics of environmental and social justice.

But ... and there is a but. Even though the scholarly and activist 'we' were playing catch up for a lot of the time, it may be that in recent years we have gotten a bit closer to being caught up. There is still much more we should understand better (see below), but the academic/civil society/industry asymmetries of knowledge are nowhere near as severe as was the case ten years ago. Among other things there is a remarkably well formed network of subnetworks of people working on and worried about extractivism in the region. These networks link scholars and activists in the Americas and Europe in many interesting and creative ways. What's more, the end of the post 2000 commodities boom will only further help us catch up: industry dynamics are slowing down and this will leave more space and time to understand more and so imagine alternatives with more time and detail.

The risk, of course, is that the end of the commodity boom, the downturn in rates of growth in the sector, and the possible slowing of conflict will mean research interest in these themes also wanes. That would be a shame, and an error. There is much that still remains to be understood, and there are new themes coming along, and these need to be grappled with. We have gone through the excitements and frustrations of courtship, but the hard work of consolidating and strengthening the relationship still remains. There will be future cycles of expansion and next time it behooves the scholarly and activist world to be much better prepared than they were in the 1990s.

Agendas pendientes

A future research agenda around resource extraction could be as broad as work done already, and almost certainly will continue with many of the themes around indigeneity, territory, environment, resistance and mobilization that have characterized work so far. However, there are also emerging themes that merit more attention looking forward. These are: extractivism, climate change and transitions; the footprints (*huellas*) and effects of the resource boom; extractivism and (un)governable spaces; and human, citizen, gendered and generational rights. I take these in turn.

Extractivism, climate change and transitions

The climate change agenda, still remarkably under-researched by the scholarly community in Latin America, is necessarily going to occupy centre-stage in the decades to come. Very many studies suggest that much of Latin America is not going to get away lightly as the global climate warms – and this is perhaps especially the case for Central America and the Andean-Amazonian countries. The intersections with extractivism are multiple, in both mitigation and adaptation agendas.³

On the mitigation side, one set of questions hinges around keeping oil and coal in the ground. While the Yasuni-ITT experience has generated research – seeking to understand both how it emerged and then unraveled – the challenge here goes far beyond Yasuni because much more oil and coal will have to stay under the soil if warming is going to be manageable. Of course this is not *only* a Latin American question, but it *is* a Latin American question. Very many issues arise. Under what sorts of political coalition and settlement might oil and coal deposits remain untouched? What might compensation mechanisms look like? What is the potential for at least ending coal extraction as a first step? (indeed, it is interesting to note how little research there is on coal in Latin

America). How do the politics of the UN COP (Conference of Parties) play out in Latin America and with what implications for extractive industry? These are all questions of practical politics as much as they are research questions, but they are research questions too – and tricky ones at that because in many instances they are questions about conditions that do not yet exist. These are questions about conditions of possibility for alternatives, and they are vital and urgent.

The transitions in the broader system of energy provisioning (*matriz ener-gética*) that are implicit in the prior paragraph will raise other themes on which there is still little work but that will be of increasing importance. Mitigation based transitions will imply a move to other energy sources for the region, in particular shale and other sources of gas, hydro, solar, bio-energy and wind. Like mining, these alternatives are also space hungry, and have a series of collateral implications for territorial control, displacement, property and rights, as some of the early work on biofuels, palm oil and wind farms is already suggesting. These implications need some urgent thinking through because if these alternative energy sources are also resisted in the region due to these collateral effects, will this have the effect of bringing new momentum back to oil and coal, or nuclear?

On the adaptation side there is equally much to be understood, and two themes seem especially important: water and high magnitude weather events. Certainly for Central America and the Andes water is going to become progressively scarcer, if not always immediately at least in the medium term. A case can even be made that access to water may become more difficult in areas of the Amazon if the many planned hydro-electricity projects (sometimes linked to energy provision for extractivism) go ahead. This will imply increasingly tense relationships between large-scale mining, agriculture and human settlements in many regions - with one likely region of special contention being the central Andes of Chile as mining expands southwards into areas of human occupation that also source the water for the Santiago metropolitan region. There has already been some work on this theme, mostly in Peru, but as it becomes more urgent more research will be needed to understand the nature of these conflicts, the relationships between water law and water management under conditions of competing demands over scarcer resources, and the factors driving the different ways in which these relationships are being governed. At a landscape level it will be increasingly important to understand the landscape forms and structures that are more and less resilient to the increasingly frequent high magnitude rainfall events that are already accompanying climate change, and the ways in which the presence of extractive industries in these landscapes affects their vulnerability. A sub-theme here will continue to be the political conditions under which no-go areas for resource extraction become real, which will also imply studying the experiences under which efforts to define no-go areas to date have floundered, ranging from the very local through to the national as in El Salvador's failure to pass national legislation either suspending or banning mining.

In the last few years, one of the most dynamic areas of scholar-activist debate around extraction within Latin America has been the discussion of transitions to post-extractivism of which the failed Salvadoran legislation would perhaps have been a part. With some exceptions, discussions of transition have been more normative than analytical and have been framed at levels of abstraction that have meant little analysis of the socio-political conditions under which transition might be possible. Understanding these conditions would seem to be a vital question if this work on transitions is to have political traction and speak to strategies. While they might seem to come from epistemologically and politically different camps, there might be fruitful work to be done in bringing together this Latin American discussion with the literature on socio-technical transitions.

There is, of course, much overlap between climate change and this question of transitions and alternatives: leaving oil and carbon in the ground, and moving to other energy sources is itself a transition. However the transitions discussion typically combines these issues with a more fundamental reframing and critique of 'development', and discussion of alternative indicators of the meaning of living well. Socio-political issues raise their head again: there is a need to better understand how far there is a base of political support for these alternative ideas and, conversely, how far the resource boom has created interests that are so entrenched or powerful as to resist any serious discussion of alternatives whether to protect their economic interests or because they too would like one day to own a car. And as one distinguished activist colleague in Peru said to me, any proposals for alternatives to oil that don't deliver at least comparable fiscal revenue are probably dead in the water. The experience with Yasuni, and recent moves to allow drilling in Bolivia's protected areas suggest something similar.

The footprints and effects of the resource boom

Much of the groundwork for understanding the socio-political conditions of possibility for these transitions has to come from more fully understanding the ways in which the resource boom has transformed societies in Latin America. Many of these impacts have been environmental, and one task that lies ahead is to fully document and explain the cumulative environmental transformations of the resource boom and the debt that peoples and communities will assume over the next decades as a result of the lax or nonexistent environmental regulations over extractive industry activity of all scales. GIS-based mapping could play a big role here, creating spatially explicit visualizations of these impacts that will serve to hold both private and state-owned enterprises accountable in the public sphere. There is also much scope for collaborations with community-based mapping and monitoring of the environmental and social consequences of resource extraction. Such collaborations could learn from important work already done on community mapping of forests and illegal logging, and explore interfaces between lab based GIScience and community use of smartphones, drones, and other portable mapping technologies. In short, there is much potential for a more fully-fledged political ecology of contamination.

That said, I want to focus on the cumulative socio-political and cultural effects of extractivism because my sense is that these are still not well researched, but are critical in determining possible futures in the region. Many questions emerge: how has the resource boom affected the composition of elites and the coalitions among them? In what way has the boom affected the formation of new professional networks (especially of lawyers and consultants) and how will these networks mobilize in pursuit of particular futures and in relation to alternatives? How has the boom changed patterns of fiscal dependency for states and what do these new dependencies imply for the predisposition of these states and governments of the moment to opt for authoritarian modes of governing? What new inequalities have been created by extractivism and how do these inequalities affect future politics? In what ways will the Bolivian and Ecuadorian experiments live beyond the end of the supercycle - will they be shown to have cultural and ideological legs that can carry them beyond the subsidy of the resource boom? More generally, how will governments manage the fall in fiscal revenues that is accompanying the end of the commodity boom and what will this mean for both the extractivist and neoextractivist conceptions of development and the social programmes that are financed by these revenues? Will Latin American economies seek to plug the fiscal gap through commitments that mortgage their resources well into the future? And closely related to these questions, how has the boom affected citizens' expectations of their states, both in terms of human and civic rights and in terms of service delivery, and how will these expectations affect responses to falling government revenues?

Of course, there are also more traditional questions in the economic realm that will also need addressing. In particular, as the dust settles it will be important to better understand how the expansion of the extractive economy ultimately affected the broader economic structure as well as overall patterns of government and private investment. This is a return to the old resource curse questions regarding the effect of resource dependence on economic performance, but the questions are no less important for being old ones. There are many conflicting opinions circulating regarding this relationship in contemporary Latin America, and understanding with more rigor what has really happened will be vitally important not just as an input into economic strategy postboom but also for strategy once the next commodity boom begins. Hopefully public decisions as to how far (or not) to prioritize commodities down the line can be grounded in the results of careful analyses of what happened between 1995 and 2015. My sense is that while scholars and activists of extraction make assertions about these questions, we know relatively little in detail. This in turn complicates strategies for building the sorts of coalition and political settlement that will have to carry forward future transitions. These are some of the questions that I think lie at the core of a macro-political ecological project looking forward.

Extractivism and (un)governable spaces

Over a decade ago, and writing about Nigeria, Michael Watts (drawing on Nikolas Rose) introduced the concept of 'governable spaces' as a way of talking about the ways in which the rise of oil had profoundly changed the relationships between space and power in the Niger Delta, bringing into being a raft of actors with the capacity to exercise power over territory. An underlying message was that the crafting of a nation state, with territorial integrity and statecentred sovereignty, and a form of citizenship that could exist *more or less* equally across national space, had become so difficult as to appear almost unimaginable – and all this largely because of oil.

This concept of governable spaces has proven to be remarkably fruitful. including for scholars working in Latin America. As political ecologists have tracked the resource boom in the region they have alluded to the idea that extractivism has had serious implications for the relationships between space and power in the region. However, more systematic studies of these implications are still pending. Part of this story has to do with the ways in which large-scale extractive companies have assumed state like powers and roles in the territories in which they operate, including their role in financing the police and other authorities with powers to restrict liberties and exercise force. But the issue goes much further and includes the emergence of subnational political economies of small and medium scale mining governed by actors who have either undermined or taken control of the local state, in some cases taking whole regions largely beyond the purview of the state (as for instance in parts of the Bolivian altiplano or the Peruvian Amazon). Sub-stories here (but critically important ones) have to do with the relationships between these economies and flows of narco-dollars and illegal logging mafias. I recall one meeting with senior officials in Central America where the over-riding concern was the proliferation of spaces where the narco-economy, mineral concessions, timber extraction and indigenous and afro territorial claims all lay on top of each other, creating extremely dangerous spaces in which to live and work. Something not dissimilar has happened across Mexico also.

A particular variant of this theme is the relationship between resource extraction and territorial control in Colombia, in particular as it intersects with the FARC and other groups. At one level this is a Colombia specific issue, but the peace process in Colombia has ramifications for much of the continent. The issues here are many. The FARC raises a significant part of its income from resource extraction, and this is also an activity that employs its members, adherents and subjects. Resource extraction has therefore become an important element of the FARC's exercise of territorial powers of control and exclusion, as well as a means of livelihood. For the same reason, resource extraction will be central to the ultimate success or failure of the peace process, and it remains very possible that FARC adherents will want to continue governing and working in spaces of resource extraction as ways of making a living and accumulating power post-accords (on the presumption that there will be accords). Of course, the actual and empirical study of these dynamics will be terribly difficult – but even without such study, there is much really important work to be done to think through these relationships between extraction and governable spaces in Colombia as a critical input into building peace.

Finally there is the issue of the roles played by new international investors in the extractive economy and the implications of their increasing importance for the region. While the last five years or so have seen important work on this theme, the bulk of this research has been on China and Brazil, and rather less on other emerging actors in the sector from India, Russia, South Korea and elsewhere. The presence of all these new actors raises questions about the implications for future geopolitical relationships in the region, as well as for the ways in which these actors will govern the spaces in which they operate.

Human, citizenship, gendered and generational rights

Work on the implications of extraction for rights has already been part of the bread and butter of political ecologies of extraction. However, I mention it specifically here for several reasons. First, to date there has been much too little work on the gendered impacts of extractivism and the gendered responses to extraction, and these are themes that need much more attention. Questions here are multiple. There has long been a sense that women leaders have played an important role in protests, and also that repeated disappointment in men leaders who sell out easily is increasingly leading to women occupying leadership roles. There have been few efforts to make sense of this process while avoiding essentialisms (e.g. that by definition women will not fall into the same temptations as male leaders). Other questions include the gendering of violence around and within sites of extraction, and the implications for mobility, safety and gendered senses of place.

Nor has there been much work on youth. Young people, often with higher education, advanced levels of social media savviness, particular employment calculations, distinct senses of time and perhaps also of climate and environmental change, are also increasingly visible in organizational processes, as reflected in the phenomenon of the Yasunidos. On the other hand, they have longer-term stakes in how rents might be invested, in how the labor market might evolve and in how power is exercised, and frequently experience exclusions in the face of 'traditional', public sector and private institutions leading, potentially, to a certain propensity to rebel. There is much that might be learnt here from work on minerals and oil in West Africa (see below on 'conversations to be had').

Finally (for the purposes of this short discussion), there is a clear sense that the last few years have seen a clear peeling back of laws, institutions and practices that had previously defended and enhanced citizenship rights. Indeed, this tendency (which speaks also of an underlying latent authoritarianism) has to be one of the most worrying recent trends related to extractivism. It has facilitated the increasing criminalization of protest. In some sense, extraction has become a critical venue in which the nature of democracy is being redefined and some rights are being prioritized over others. Even if these dynamics slow down with the fall in prices, it remains important to make sense of what has happened over the last decade and what it says about the sorts of democracy that different actors (from economic elites to leaders of *rondas campesinas*) really want. Consequently, it remains vital that studies continue to document and explain these processes in the hope that such research, and its projection into the public sphere, constitutes one among a number of bulwarks against these tendencies.

Ways of working and conversations to be had

One of the many positive qualities of the research on extraction that has been done over the last decade and a half has been its blurring of the boundaries between scholarship and activism. For some, of course, this is a boundary that should never be blurred for, they argue, to do so compromises the objectivity and rigor of the research being done. This is indeed a risk and there is no excuse for not doing research as carefully, critically and self-critically as you possibly can. However, it seems to me that much (though not all) of the research that has been done *has* been successful in combining close collaborations between scholars, NGOs and social organizations while also retaining a professional stance. To be sure, this way of working influences *the questions* the scholar asks (or perhaps the questions that interest scholars have lead them to this way of working). This, however, is very different from influencing *the answers* that the scholar delivers. Indeed, a good part of this research has ended up being critical of NGO and social movement strategy – sympathetically critical, perhaps, but critical nonetheless.

This style of working seems to me to be one to continue. It ensures a more fluid exchange between the flow of research and the insights of people living some of the processes that the research is addressing. These relationships also offset hierarchical relationships that can so easily emerge in the research process, and serve as an important mechanism of peer review during and after research, as these activist colleagues comment on research. Such collaboration also reduces the obstacles that can make research results less than accessible to social actors. Of course, there are also costs to this boundary blurring. More than one of my students has had difficulties securing interviews with corporate and public bodies on the grounds that their collaborations with social organizations mean that they are 'anti', and I know that for sure the same has been said about me.

Whether similar modes of working can be crafted with corporations is a far more open question. My intuition is that many political ecologists of extraction would be open to this possibility. However, it is also my intuition that extractive industry companies are far more concerned to exercise a degree of control over research that is done with their support than are NGOs and social movements. Indeed, there is too much immensely valuable research that scholars have done with extractive enterprises that sadly exists under the lock and key of contractual commitments to confidentiality. Nonetheless, some research centres have still decided that this is their preferred mode of working. Some of them seem to have secured some degree of control over the availability of their results, and their insights help increase generalized (but rarely specific) understanding of intra-company relationships, debates and strategies. Such work is important.

Where there has been less blurring in political ecologies has been across the social science/biophysical science boundary. Yet a broad political ecology of extraction that is worth its ecological salt really must involve ecologists, biologists, hydrologists and others if it is to speak to the interactions between and co-constitution of the political and ecological dimensions of extractivism (not to speak of the added advantage of the legitimacy that is conferred by the involvement of biophysical scientists). Of course, there are some clear exceptions (work on water in the central Andes of Peru for instance) that show just how valuable such research can be, but these really are the exceptions that prove the rule. So a methodological *agenda pendiente* is the further development of such collaborations between social and biophysical scientists.

The bridging of the scholarly world and public sphere also remains a constant challenge. Reflecting the collaborations with NGOs and social organizations just mentioned, there has been much work that has succeeded in contributing to public as well as academic debate. For me, personally, one lesson of such research has been the important role that visualization can play in bridging these divides. Visual images have the effect of engaging audiences in particularly powerful ways, and work involving mapping, remote sensing and GIS has shown this well. Indeed, it is probably not an accident that those who initially led the incorporation of GIS into these debates were NGOs much more than scholars, and that environmental justice initiatives were also early in recognizing the power of visualization. But there is much more to be done in this regard, and more domains with which to experiment beyond the cartographic: collaborations between research, cartoon and film for instance. Indeed, in contexts in which protest is increasingly criminalized, some activists have looked to such artistic forms of expression as alternative, potentially less dangerous and legally liable ways of placing their arguments into the public sphere.

Finally, it seems to me that there are still some conversations that remain underdeveloped. One of these is the cross-regional conversation. There is strikingly little comparative study of extraction between Latin America and other regions (and the exceptions, which do exist, prove the rule). Again, I suspect these cross-regional conversations go on much more in activist, NGO and corporate communities than in the scholarly work yet surely there is much that can be gained from both macro and micro comparative analysis of resource extraction. not least in the realm of theory building and theory testing (rather than just theory application). Second, in the same spirit of comparison, are those between the extraction of minerals and hydrocarbons and other forms of extraction. I sidestepped the issue in this essay, but there is much to gain from more systematic comparisons between these different forms of extraction; as one reviewer noted, there is 'limited dialogue between mining/oil researchers and agribusiness researchers'. Furthermore, these different forms of resource extraction are often linked: by capital markets, by IIRSA itself, or by energy policy and its joint implications for hydrocarbons and large-scale biofuel production. Third, are conversations with the industry and the surrounding world of consultants. This does not have to imply collaboration for those who do not want to collaborate, but conversation allows learning and the absence of conversation at the very least produces analytical black-boxes, and possibly mistaken stereotypes. The less the scholar knows about how the industry operates and thinks, the bigger the holes in the analyses offered (our own work has been justifiably criticized on these grounds). Fourth, and related, are conversations between those who see loss and dispossession when they look at resource extraction, and those who see opportunities. These differences of viewpoint exist within communities, in regional society and among researchers, yet discussing them is hard and judgment can often race ahead of analysis. Talking about and assessing these different standpoints (which means conversing across them) seems important for any adequate understanding of something as micro as a particular conflict, or as macro as the 'post-neoliberal' commitment to resource extraction.

Final word

Even if the commodities super-cycle is drawing to a close, there remain important lines of inquiry around the political ecology of extraction in Latin America. I have tried to outline some of those that I think are particular significant. One rationale for doing this work is to produce a broader analytical base from which to argue about the relative merits of once again prioritizing resource extraction as a strategy of national development the next time a commodities boom comes around. A second, and more important, rationale is to understand how this boom has affected the conditions of possibility for the sorts of socio-technical and economic transition that the region has no choice but to go through in the face of the global climate changes that are going to challenge many of the foundations of the current economic and social models that guide development in Latin America.

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Notes

1. Of course, extractivism can refer to more than minerals and hydrocarbons. In this essay, however, I limit myself to that work.

- IDB is the Inter-American Development Bank; BNDES is the Brazilian National Development Bank; IIRSA is the Initiative for the Regional Infrastructural Integration of South America; Pacific LNG was the Pacific Natural Gas project which intended to link a range of natural gas points of production and demand across the Americas.
- 3. I appreciate that many do not like the mitigation/adaptation distinction. Here I use it as a means of organizing my text.

References

- Alayza A., & Gudynas, E. (Eds.) (2011). Transiciones. Post extractivismo y alternativas al extractivismo en Perú. Lima: CEPES, RedGE y CLAES.
- Arellano-Yanguas, J. (2011). *Minería sin fronteras: Conflicto y desarrollo en regiones del Perú*. Lima: Instituto de Estudios Peruanos.
- Bebbington, A., & Bury, J. (Eds.) (2013). Subterranean struggles: New dynamics of mining, oil and gas in Latin America. Austin: University of Texas Press.
- Bebbington, A., Cuba, N., Rogan, J. (Eds.) (2014). Visualizing competing claims on resources: Approaches from extractive industries research. Special issue of *Applied Geog*raphy 54: 235-284.
- Bury, J., Mark, B.G., Carey, M., Young, K.R., McKenzie, J., Baraer, M., French, A., Polk, M. (2013). New geographies of water and climate change in Peru: Coupled natural and social transformations in the Santa River Watershed. *Annals of the Association of American Geographers*, 103(2): 363-374. http://dx.doi.org/10.1080/00045608.2013.754665
- Göbel, B., & Ulloa, A. (Eds.) (2014). *Extractivismo minero en Colombia y América Latina*. Bogotá: Universidad Nacional de Colombia e Instituto Ibero-Americano.
- Gomez, K., & Regaignon, G. (Eds.) (2015). Digging deeper: The human rights impacts of coal in the global South. Bogotá: Dejusticia and Business and Human Rights Resource Centre. http://www.dejusticia.org/#!/actividad/2856
- Jenkins, K. (2015). Unearthing women's anti-mining activism in the Andes: Pachamama and the 'Mad Old Women'. Antipode 47(2): 442-460. http://dx.doi.org/10.1111/anti.12126
- Karl, T. (1997). Paradox of plenty: Oil booms and petro-states. Berkeley: University of California Press.
- Kaup, B. (2013). Market justice: Political economic struggle in Bolivia. New York: Cambridge University Press
- Li, F. (2015). Unearthing conflict: Corporate mining, activism and expertise in Peru. Durham: Duke University Press. http://dx.doi.org/10.1215/9780822375869
- Perreault, T. (2013). Dispossession by accumulation? Mining, water and the nature of enclosure on the Bolivian Altiplano. *Antipode*, 45(5): 1050-1069.
- Urteaga, P. (Ed.) (2011). Agua e industria extractivos: Cambios y continuidades en los Andes. Lima: Instituto de Estudios Peruanos.
- Walter, M., & Martinez-Alier, J. (2010). How to be heard when nobody wants to listen. Community action against mining in Argentina. Canadian Journal of Development Studies/ Revue canadienne d'études du développement 30(1-2), 281-302.