Comment on Ulrich Brand et al., “From planetary to societal boundaries”

Blake Alcott
Zürich, Switzerland

ABSTRACT
While agreeing with the science of the “planetary boundaries” work of Johan Rockström and colleagues, as well as their normative support for political measures to restrict the human economy to the realm inside those boundaries, a recent article by Brand et al. in this journal criticizes the former mainly on the grounds that they pay too little attention to capitalism’s alleged growth imperative and to certain technocratic and/or global-only interpretations to which the planetary boundaries framework is dangerously open. I argue that Brand et al. do not refute or disagree with Rockström et al., as they claim, but rather point out what the latter omit. Rockström et al. consciously limited the scope of their work, and therefore a polemical criticism of their omissions is not justified. I also argue against the centrality of the concept “capitalism” in Brand et al.’s critique, claiming that growth/degrowth analyses and strategies for degrowth do not need to go into the issues of capitalism vs. alternatives to it because drivers of growth are deeper than such systems concepts allow us to investigate. Capitalism and socialism do explain some things, but mainly, they themselves have to be explained in a full analysis of both over-growth and what to do about it politically in democracies. Shifts toward acceptance of material-energy limitations must be psychological and social, whatever the economic system’s rules on such things as ownership of the means of production, economic-power equality, the money system, or macro-economic incentives to growth.

Introduction
In a recent article published in this journal, Ulrich Brand and several colleagues introduce the concept of “societal boundaries” as an “alternative” to the concept of planetary boundaries elucidated by Rockström et al. 2009a and 2009b: “[W]e introduce the alternative notion of societal boundaries, or collectively defined thresholds, that societies establish as self-limitations and conditions for a ‘good life for all.’”1 I argue in this commentary that on the contrary Brand et al.’s analysis is complementary to that of Rockström et al., not alternative to it or in contradiction to it. Further, I contend that Brand et al. are wrong to think doing away with “capitalism” is either a necessary or the most urgent step toward human life within planetary limits or, in other words, toward ecological sustainability.

First, some aspects of Brand et al. that I find positive. The article usefully deals with many concepts relevant to the project of degrowth—or of reducing environmental impacts to sustainable levels while increasing, if possible, socio-economic justice. In particular “A good life for all” points both to the goal of human lives that are richer, more pleasant and more fulfilling than mere subsistence, and to the relevance of how many people make up the “all”—4 billion, 11 billion, 44 billion?

They furthermore write that the “planetary boundaries concept also represents a considerable refinement over previous approaches to defining ecological limits, such as carrying capacity.” This acknowledgement is welcome, but we should be aware that the concept of “cultural carrying capacity” was already more than 20 years ago an improvement over calculating the “maximum” human population within limits defined only physically, yielding the numbers for a “human feedlot.”

It is moreover good to read of “keeping fossil fuels in the ground” or “leaving oil in the soil.” This is an acknowledgment that caps on resource extraction are an ineluctable part of sustainability strategy. They also write that “the state has the potential to impose limits on excessive extraction and exploitation, for instance by implementing income and wealth caps.” Such a policy makes it easier for all to accept a smaller throughput-cake, although it should be noted that income caps are a strictly social policy—the environmental “work” having been done by biophysically-defined caps.
The authors also rightly uphold a “universal conception of human needs” and point to some literature identifying them. “Non-human others” also get a laudable mention, breaking out of the otherwise (understandably) anthropocentric framework of the article. And with regard to human stakeholders, they take a stand for democracy, using phrases such as “autonomy,” “giving oneself rules,” and “giving to oneself one’s own laws or rules as an act of self-government.” I hope this is uncontroversial, but we do have to face the case of autonomous or self-governing majorities who deliberately choose not to respect planetary boundaries or simply remain ignorant of them. In both large, industrial polities and smaller, poorer and/or indigenous communities, democracy does not necessarily go our way.

Concretizing their concept, Brand et al. write that a “societal boundary, for example, could place a limit on the development of commercial spaces” because they promote “consumerism” and involve a lot of indoor heating and cooling. Although this observation neglects mention of rebound (the energy saved from not building and operating a shopping center will merely be used for something else), it is a useful example of what legally limiting infrastructure would mean in everyday life.

Brand et al. also rightly attest a need “to better understand the unequal distribution of material appropriation of societies” and mention “weaker actors and subaltern communities.” They however devote only a few paragraphs to the topic, and I think more attention to it is necessary if their concept of self-limitation is to have meaning for polities—say, that of Niger—which are already involuntarily extremely limited. For up to 30% of the world’s population increased consumption and material-energy throughput is a good, an existential, thing, and integrating the idea of contraction and convergence, for instance, would help quantify how much the rich polities will have to give up.

Brand et al. further correctly state that

[G]overnments, states, and international political regimes – understood as institutional apparatuses that formulate and implement public policies – play a major role in the ongoing escalation of capitalist growth and related transgression of planetary boundaries [and often] governments intervened to salvage growth [and] create the overall institutional, legal, and infrastructural conditions for the growth economy

Jumping the gun, I would say one could leave out the word “capitalist” above, because socialist, or communist, or Marxist societies can and do also aim at growth, but I like the focus on political institutions rather than economic ones, for to the extent that we can democratically co-control them we can move them in the direction of sustainability.

The article covers innumerable topics and cites a large literature. There are, to be sure, some phrases I struggled to understand: What is the exact ontology of the phrase “social structures of capital”? Even after looking up “worlding” I am none the wiser. I also do not understand their claim that “Critical social science exposes of a large body of research that shows how and why the capitalist growth imperative is deeply inscribed into everyday practices.” The ontological relationship of “societal” and “planetary” limits is also to me unclear, for “collectively defined thresholds” seem to be tied to specific biophysical parameters and are thus not purely social issues. But I am in full agreement with their project of understanding all sorts of sociological, anthropological, and economic-theoretical insights in order to eventually persuade a majority of voters to politically support the self-limitations needed to return to and stay within sustainable human-ecological scale.

Bringing in Rockström et al

But what, if anything, does Brand et al.’s project have to do with the starting point and hinge of their article, namely Rockström et al.’s 2009 work on planetary boundaries? Brand et al. often refer to Rockström et al. explicitly but also, apparently interchangeably, to the “planetary boundaries framework”—without drawing any clear distinction. Nor are other exponents of that “framework” directly dealt with. I have therefore decided to refer throughout to Rockström et al., their touchstone text, rather than the “planetary boundaries framework.”

I do not find anything in Rockström et al. that stands in contradiction to Brand et al.’s facts or arguments. It is rather the case that when Brand et al. criticize Rockström et al., however indirectly, it is due not to sins of commission but to sins of omission. Typically, in their eyes Rockström et al. “fail to address,” “ignore,” “fail to clarify,” or “leave little space” for a number of topics, while others are “not further examined” or broached “without explaining” some aspects. For instance, Rockström et al. “neglect perspectives [such as the] environmental justice literature,” as if all work on boundaries must devote a section to this topic.

Other “normative statements” remain “underdeveloped,” or they write for instance,

While Rockström et al. acknowledge the normative and ultimately political nature of the boundaries concept, it is not further discussed ... Economic activity is identified as a key driver of anthropogenic environmental change ... but is also not sufficiently problematized [and] it stops short of grappling with the complexities of different forms of justice.
A bit more confrontationally, Rockström et al. have “blind spots,” and their work “masks” certain things. The charge, almost throughout, is that they are not mentioning certain things, not that they are wrong about certain things.

Is it legitimate to criticize other researchers for what they are not doing, to fault them for limiting the scope of their articles? In some cases, perhaps there are sins of omission. But to my mind that is not the case here: Rockström et al. self-describe their article (2009b) as a “proof-of-concept paper” that challenges “the predominant paradigm of social and economic development [which] remains largely oblivious to the risk of human-induced environmental disasters at continental to planetary scales” and shows the need for “novel and adaptive governance approaches”. Further,

The social impacts of transgressing boundaries will be a function of the social–ecological resilience of the affected societies... The proposed concept of “planetary boundaries” lays the groundwork for shifting our approach to governance and management, away from the essentially sectoral analyses of limits to growth aimed at minimizing negative externalities, toward the estimation of the safe space for human development. Planetary boundaries define, as it were, the boundaries of the planetary playing field for humanity if we want to be sure of avoiding major human-induced environmental change on a global scale.

But in their 2009 work Rockström et al. chose not to focus on these more societal issues of governance and policy, exercising their right to focus more on the natural science of nine biophysical areas.

Brand et al. write that “the planetary boundaries framework itself... runs a risk of ignoring severe regional or local impacts of global warming triggered long before global thresholds are crossed.” But the very title of Rockström et al.’s work names planetary boundaries. Should this self-limitation of the scope of one’s work not be respectfully accepted? Moreover, Rockström et al. themselves spend two paragraphs acknowledging the work of others which their present work “builds on and extends.” Should not Brand et al. build on Rockström et al. and, with the latter’s blessing, get on with their work which has a different focus? No paper can cover everything.

Brand et al. “claim that critical social science is essential for going beyond the diagnosis of the transgression of planetary boundaries to better explain the societal reasons for the accelerated ‘human-induced environmental change’ that Rockström and colleagues reveal.” That is fine and good, but “going beyond” is not to be confused with standing in opposition to. Why play social and natural science off against one another?

Brand et al.’s polemic moves to the border of the acceptable when asserting culpability of Rockström et al. because their work is not contradictory to certain allegedly unacceptable academic or political stances. For instance,

We also see [in Rockström et al.] weaknesses and ambiguities that allow for “business-as-usual” and “pro-status quo” interpretations of the framework. The planetary boundaries concept identified the “predominant paradigm of social and economic development” as the main driver toward “continental and global” environmental disasters, without explaining which societal, political, and economic conditions lead to unsustainability, and in what way.

The first rebuttal of this is that Rockström et al. explicitly state the necessity of departing from the business-as-usual and the status quo, of finding new ways of “governance.” Quoting Rockström et al., “Further work will need to focus on the societal dynamics that have led to the current situation and propose ways in which our societies can stay within these boundaries.”

While Rockström et al. are more in the business of diagnosis rather than history or political economy, nothing they write precludes “further work” on the causes of unsustainability or scores of other topics. A second point is that the charge itself—“allowing for”—is both formally weak and unproven. Finally, it is not legitimate to blame any given framework for someone’s “interpretations” of it.

Another example of turning “allowing for” into a “weakness” is the assertion that

Indeed, in the planetary boundaries framework, causation of transgressing boundaries is based on an Earth-systems perspective which does not allow for full consideration of the societal drivers of the ecological crisis.

To say that Rockström et al. have not delved into the topic of “causation” is one thing, and might be admitted to be their privilege. To say that their framework “does not allow for” it is an incomparably stronger accusation requiring a lot of argument to show how that framework indeed precludes, or prevents, such delving. These arguments are not offered by Brand et al.

Brand et al. move even farther away from criticism of the actual papers with which they open their essay in alleging that they “can support interpretations” of unnamed others; it is these “interpretations” that are being held up for criticism. For instance,

[The planetary boundaries framework can support interpretations that do not solely emphasize technocratic operational approaches and costs, but also assume that these alone can be the solution.

I do not really know what “can support” logically might look like here, because Brand et al. do not
make the argument. But it seems to me unfair to infer backwards from some guilt of interpreters to a fault of the original researchers. One should not criticize Darwinism because it might somehow “allow for” or be “interpreted as” Social Darwinism. At any rate, purported logical connections must be shown, not merely insinuated.

To stick with the issue of technocracy, Brand et al. “introduce the concept of societal boundaries as an alternative to current technocratic and incremental governance efforts of social-ecological transformations.” They go on to speak of the “technocratic bias embedded in the proposed political solutions that often accompanies planetary boundaries research [and say that] the planetary boundaries concept is conveniently instrumentalized in technocratic governance efforts to serve the normative aim of ‘sustainable development.”

It just will not do to level such charges without evidence. What is it about Rockstrøm et al. that allegedly lends itself so readily to such “instrumentalization”? What exactly are Rockstrøm et al.—who expressly challenge the “dominant paradigm of social and economic development”—being accused of?

It is said, in an initial instance, that “Rockstrøm and colleagues are careful to avoid the technocratic hubris of prescribing a level and composition of societal metabolism for humanity.” Then in contradiction to this one reads that a “technocratic drift is not incidental, but rather is built into the planetary-boundaries framework itself, in its view of the Earth from an ‘astronaut’s eye view’ that can only be provided by scientists.” I, for one, however, do not find any hint in Rockstrøm et al. that changing course should happen significantly technologically. Brand et al. might have an argument with somebody about this point, but not with Rockstrøm et al.

Brand et al.’s characterization of Rockstrøm et al. as “postpolitical,” or “depoliticiz[ing] decisions at stake,” it seems to me, similarly misses any point, because the latter repeatedly say they are looking for “safe operating spaces” and “acceptable” environmental impacts, both concepts requiring political decisions. Their work would be pointless were it not policy relevant. But my issue is that instead of granting Rockstrøm et al. the right to limit their paper however they see fit, Brand et al. write, for instance,

[T]he planetary boundary concept runs the danger of creating a new truth or orthodoxy (orthós, Greek for “correct,” and δόξα, meaning “opinion” or “belief”) that may overlook broad and rich debates on societal drivers, the causes of the ecological crisis, and the crossing of planetary boundaries.

While “overlook” is again an example of a sin of omission, “may overlook” is even weaker. In addition, the “concept” is being held responsible for such a negatively connotated thing as “orthodoxy” and shunted into the realm of mere “belief.”

Brand et al. also write:

In contrast to the use of “humanity” as a homogenous “we” in the planetary boundaries framing, a critical analysis of dominant social structures and processes and already existing alternatives makes power relations visible… Instead of holding onto planetary boundaries as the rationally incontrovertible moral space within which political decisions should operate, critical social science keeps open the space of moral and political deliberation in the face of the ecological crisis.

Once again, Rockstrøm et al.’s self-imposed research limits entail their sticking with “humanity” as a sort of genus. Brand et al. also seem to be insinuating that Rockstrøm et al. claim to know “incontrovertibly” what the moral space is, or that they lock off rooms for “political deliberation.” Why do they claim this?

In sum, Rockstrøm et al. were doing natural science while aware of “uncertainties” and the “risks” that societies have to judge. That was the nature of their papers. But one cannot, in my opinion, criticize a cat for not being a dog. Thus, I believe Brand et al. are wrong when they describe their approach as an “alternative” to Rockstrøm et al. Rather, it is complementary to it.

There is in fact political overlap: Brand et al. are after “self-limitation,” while Rockstrøm et al. are trying to identify the biophysical “safe operating space for humanity with respect to the functioning of the Earth System.” What could be the point of doing that work if one were indifferent to whether humanity would heed that work by “self-limiting,” i.e., by adjusting laws and institutions so that we in fact operate within these broad boundaries? Rockstrøm et al. warn of “risks”—but why do that if it were not part of their project to avoid those risks by changing policies and socio-economic systems? I cannot find any other way of describing Rockstrøm et al.’s undertaking than one which also attempts to define where society should “self-limit” itself. As they write:

So far, we have been able to identify nine such processes for which boundaries need to be established to minimize the risk of crossing critical thresholds that may lead to undesirable outcomes… The Anthropocene raises a new question: “What are the non-negotiable planetary preconditions that humanity needs to respect in order to avoid the risk of deleterious or even catastrophic environmental change at continental to global scales?”

To “respect” implies acknowledging limits.
In one place Brand et al. do come close to identifying what might be a sin of commission. Namely, they

[Raise questions about the choices of boundaries selected [by Rockström et al.] and their thresholds, and about how these choices may mask issues of power and inequality.... A further limit of the planetary boundaries framework lies in the sociopolitical and socioethical implications of selecting these particular nine boundaries... [It] does not discuss the normative and political dimensions involved in selecting these boundaries.

The shard of evidence for the claim that Rockström et al.'s nine particular boundaries are hiding "sociopolitical and socioethical" assumptions concerns Rockström et al.'s "biodiversity loss" boundary. It is claimed that the latter's mention of "ethics" as co-determining the "acceptability of species loss... is mostly intended in terms of traditional conservation biology literature and not further examined." By contrast, I find that Rockström et al. do go beyond "traditional conservation biology," for instance when they write that

[Loss of biodiversity can increase the vulnerability of terrestrial and aquatic ecosystems to changes in climate and ocean acidity [and] could result in undesired, non-linear Earth System change at regional to global scales... Our primary reason for including biological diversity as a planetary boundary is its role in providing ecological functions that support biophysical sub-systems of the Earth, and thus provide the underlying resilience of other planetary boundaries... [to lower the] risk of undergoing catastrophic regime shifts.

"Traditional conservation biology" probably includes these systems-wide aspects to some degree, but my objection is that Brand et al. do not show what "sociopolitical and socioethical" implications are being kept out of sight. They also say nothing about how selecting the other eight boundaries might shirk an alleged duty to get into a comprehensive range of "sociopolitical and socioethical" issues. In fact, they seem to drop the indictment altogether that the very choice of the nine boundaries "masks" things.

I do find one difference of substance between Brand et al. and Rockström et al. The former write that "rather than thinking of the planet as bounded, we insist to think of the planet as potentially abundant." Further, "Boundaries, planetary or societal, are not given; rather they are always relational, a function of human intentions, actions, practices, and interactions." This gives cause for pause. Are Brand et al. really saying that biophysical limits are not real limits after all? That they are only "given" by us socially, not by our planet? Is it all social, none of it natural? Is the 50-year consensus of human ecologists and ecological economists being thrown overboard—because our planet is "abundant," indeed not "bounded"? What has all the fuss been about?

Compare the position of Rockström et al.:

The boundaries respect Earth's "rules of the game" or, as it were, define the "planetary playing field" for the human enterprise. The thresholds in key Earth System processes exist irrespective of peoples' preferences, values, or compromises based on political and socioeconomic feasibility, such as expectations of technological breakthroughs and fluctuations in economic growth.

Reality is "out there," like it or not, but Brand et al. here seem to be taking anthropocentrism to the extreme of what might even be called limits denial. Fortunately, most of the rest of Brand et al. seems to accept limits as real.

**Bringing in capitalism**

Imagine a research question: Is the concept "capitalism" necessary in order to formulate an effective remedy for living beyond planetary boundaries? Or, in real, as opposed to epistemological terms: Is capitalism a necessary condition for living beyond planetary boundaries? The answer is "no." Under several plausible definitions of "capitalism" it implies unbraked growth, but unbraked growth can (and has been) equally be caused by socialist, Marxist, and mixed systems. An explanation of the boundaries-breaking scale of human activity must thus go deeper than these broad categories of political economy, which incidentally stem from the past when we were living within reasonable limits—let us say up until Rachel Carson's *Silent Spring* of 1962 or Kenneth Boulding's essay of 1966, *The Economics of the Coming Spaceship Earth*.

Brand et al. use the terms "capitalism" or "capitalist" 85 times—the same number as "sustainable" or "sustainability"—and for them it is the main "driver" or "root cause" of the problem around which we are gathered.

[We] argue that the growth imperative of capitalist economies, as well as other particular characteristics detailed below, are the main drivers of the ecological crisis and exacerbated trends already underway.

They speak of capitalism's "logic of growth" and "the escalatory logic of capitalist societies." There is no mention of any other drivers. The above sentence is followed by their conceding that

[Even before capitalist growth economies, the enclosures of the natural commons... inscribed global accumulation with a destructive logic for our planetary ecology.

There are deeper roots after all.
In their section “bringing capitalism back in” Brand et al. offer a good review of definitions of capitalism, to all of which they subscribe. They include “separation between labor and capital”; “a monetary production economy”; “unequal accumulation of money”; a system “oriented toward profit, not social needs”; “private for-profit investment”; “competition”; “privately-owned machines and productive equipment, buildings, infrastructures, communication systems and platforms as well as patents, brands, proprietary knowledge, and data”; and “large corporations [and] their top managers.”

It is not stated at the same level of abstraction what the opposite of or alternative to “capitalism” is regarded to be. The term “ecosocialism” appears once, and “solidarity economies” twice, but no contrasting pole is established such as “socialism,” “communism,” or “Marxism.” Clarification is also needed over how to apply the term “capitalist” to real societies, seeing as most are mixtures of public and private ownership of the means of production, and many make some attempt to limit or prevent exploitation of workers by employers. The public-to-private spending ratio of the European Union, for instance, is 53% (United States 45%, Russia 40%, China 32%). That is, a large part of the expenditures in those economies pass through some level of political, collective decision-making. *Laissez-faire n’existe pas.*

Brand et al. are right that under most definitions of capitalism, it offers incentives to growth of both the economy (goods-and-services) and throughput (natural inputs + outputs into nature). In capitalist systems firms “must strive to grow” and are “coerced” toward “further expansion.” While it might be begging the question to build growth pressure into the very definition of capitalism—in other words by declaring a “growth imperative” to be a central *differentia* of it and expansion being “inherent in capitalist societies,”—a case can indeed be made that under most definitions “capitalism” is a *sufficient* condition for overshoot. However, one can then argue that the parts of it that encourage whole-system expansion should be corrected—for instance by laws declaring resources and eco-services to be *commons,* or ending subsidies for fossil-fuel extraction, or taxing large incomes “prohibitively” highly. That is, democratic majorities can answer this picture of people and firms striving to grow by saying, “Sorry, you can’t. We are self-limiting, we are instituting caps.”

But where is the evidence that capitalism is a *necessary* condition for an “expansive” economy? We know that strongly socialist economies that exist or have existed also strive for growth of total and per capita volumes of goods and services, oblivious to throughput growth. We know that a communist or socialist state can behave as a large expansionary corporation; in place of the motivator “private profit,” it might want a large military apparatus, increased exports, or ethnic or cultural domination. We do not know what mix of capitalism and socialism obtained on Easter Island, but it is an early example of low-tech environmental unsustainability. Any system can decide to grow, if only to satisfy the given wishes of people for more comfort, pleasure, and security. But this suggestion already moves the discussion away from sociological to psychological concepts, to closer focus on individuals rather than anthropological aggregates. At any rate, because capitalism is not necessary for “overgrowth,” I do not believe it should take a central place in either the identification or analysis of the “drivers” of overshoot.

Brand et al. do go deeper, in fact, when they write, as already quoted above, that

> [G]overnments, states, and international political regimes – understood as institutional apparatuses that formulate and implement public policies – play a major role in the ongoing escalation of capitalist growth…The challenge is how to embrace constraints on expansion via democratization and not through authoritarian crisis solutions.

These “governments” or “states” and their rules are determined by somebody—ideally by democratic majorities. So behind whatever capitalism or socialism might exist stand governments and states, and behind these entities stand in the broadest sense the societies or polities of those states, and behind these stands that stepchild of sociological analysis, the individual, with his or her biological and evolutionary, as well as social, make-up.

When seen this way, capitalism and socialism are results, not drivers; they are surface phenomena, not root causes. In fancy terms, capitalism is more an *explicandum* than an *explicans* because, at a deeper level we find…people. Even if we accept that “capitalism drives growth,” we must then ask what causes capitalism. Why do majorities in most societies want and vote for systems that are at least half-capitalist? Like all social systems, capitalism is not *sui generis,* whatever A. L. Kroeber (1915) might have thought.

Are caps on extraction and pollution—societal self-limitation with regard to the biophysical conditions of life—anti-capitalist? Yes, in the sense that the biosphere is then declared a commons, not privately owned. No, in the sense that they can exist within a wide range of mixtures of “capitalism” and “socialism,” markets and private ownership of many other things. Setting legal “consumption minima and maxima”—or *income* minima and maxima—can, by contrast, be classified as reformist (Daly
of machines, or the (lack of) beauty of the built and food-producing environments.

It would also help if Brand et al. would express as concisely, one or two words, what alternative system they are for. One can of course form an idea by simply positing the opposite of the traits they attribute to capitalism, and they write in positive terms that they favor

[A]pproaches that center on solidarity, interconnectedness, reciprocity, embeddedness within nature, health, and other such principles or ethical values [in common with] degrowth, ecosocialism, ecofeminism, conviviality, earth spirituality, pacifism, deep ecology, social ecology, commons, environmental justice, eco-anarchism, working-class environmentalism, and rights of nature.

Perhaps an overall concept has not yet emerged, but it could also be that the authors are agreed on straightforward “socialism,” “communism,” or “Marxism”—and if so it would be good to state that clearly, the more so as these analytical and political frameworks have long intellectual traditions. We are all seeking legal rules guaranteeing sustainability, and the cultural changes that would lead to their democratic acceptance; it may be that these rules do not fit neatly into our inherited political-economic categories.

Brand et al. wish to talk more about politics and power, and I know that some ecological economists have in the past criticized their colleagues for not paying enough attention to them. However, each of us must use our strengths and stay close to what aspects most interest us, and I doubt that any of the co-authors of Rockström et al. would object to going beyond natural science, doing further work on politically implementing limits on our collective behavior based on our knowledge of planetary boundaries. In this political work, for me it is important that the demos has the power. I would rather “go to hell” democratically than be part of an autocratic, environmentally sustainable polity. While I have seen authoritarian views scattered among the degrowth literature, Brand et al. show no hint of that, laudably favoring “participatory methods” and working “via democratization.” And again, I feel safe in asserting that Rockström et al. would agree.

That said, Brand et al. seem to think poorly of “incremental governance efforts,” and this is an issue that indeed divides the community working for self-limitation. Do we, though, have time to wait for total upheaval of the capitalist system, foregoing incremental legal improvements in the meantime? As long as any incremental step does actually self-limit us, without politically precluding further such steps, why not? Resource caps and maximum

Bringing (back) in multidisciplinarity

Brand et al. have offered some thoughts which are complementary to, not alternatives to, Rockström et al. They are keen to conceptualize “societal” as opposed to “planetary” boundaries, employing the concept of societal self-limitations. About 90% of the literature cited is from the last 12 years, and I believe their analysis would benefit from more input from the works of an older generation of acknowledgers of limits and seekers of ways to limit or reverse economic and throughput scale. This has been the self-imposed task of human ecologists and ecological economists for about 50 years.

Brand et al. praise Rockström et al. for their visuals, for “the iconic image used to depict planetary boundaries”—as “a simple and intuitive representation.” I believe that it would similarly be useful if Brand et al. would make their own visual, showing perhaps six or seven societal boundaries. I am not sure how easy it would be to actually name such boundaries, or to choose ones to focus on, but the visual would show both units of measurement and actual boundaries. The boundaries would be defended both biophysically and subjectively, normatively. I wonder whether some quantification—implied by the very concept of “boundary”—would be done in the realms not only of health and sustenance but also of population size, noise, the danger
incomes, for instance, do not in my view block any further adaptations to a shrunken world economy.

What I hope does not happen is that “anti-capitalism” becomes part of the very brand of degrowth, or whatever our movement is to be called. I hope that Marxists working for ecological sustainability will leave room for non-Marxists like myself who see room for some private ownership and wish to keep as much personal economic freedom as possible—and who feel comfortable with the label eco- or left-libertarian. We can debate concepts of “freedom,” where to politically draw planetary boundaries, and where to draw suggested societal boundaries. But a Marxist analysis should not be a necessary condition for joining the debate, both for practical reasons and because I believe we must delve into psychology, anthropology, and evolutionary psychology in order to understand how we got here and how to try to convince our fellow grown-ups to agree to set limits.

**Note**

1. Words or phrases in full quotation marks are from the commented-upon article. Readers are encouraged to use the search function to find them.

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**ORCID**

Blake Alcott [http://orcid.org/0000-0002-3082-468X](http://orcid.org/0000-0002-3082-468X)

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