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ANTHROPOCENE: NEW ENCOUNTERS, OLD PATTERNS. A FEW COMMENTS ON PAYMENTS FOR ECOSYSTEM SERVICES[1]

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Abstract

This paper focuses on one of the answers that have been given to the question: *what type of change is to be pursued* to limit human impact on the Earth while considering the needs of poor and disadvantaged communities? In particular it looks at a proposal that combines *sustainable development* approaches with market mechanisms and top-down technocratic responses: Payments for Ecosystem Services frameworks. They have been criticized by many points of view and this paper questions, in particular, their very reliance on the market, questioning their appropriateness for the regulation of conservation activities and their interaction with local communities.

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Keywords

Anthropocene, market-based, environmental protection, local communities, payments for ecosystem services

Resumen

Este artículo se encentra sobre una de las posibles soluciones al problema: ¿cómo podemos limitar el impacto humano en el planeta Tierra, teniendo en cuenta las necesidades de los grupos mas pobres y marginados? La propuesta examinada —los Pagos por Servicios Ecosistèmicos— pertenece al marco de los aproches de desarrollo sostenible que se mueven en el marco de los mecanismos de mercado y de las acciones de arriba hacia abajo. Precisamente la confianza en lo mecanismos de mercado será objeto de critica, poniendo en cuestión su aptitud a la regulación de las acciones de conservación del medio ambiente y a la interaccione que estas tienen con les comunidades locales.

Palabras clave

Antropocene, basado en el mercado, protección del medio ambiente, comunidades locales, pagos por servicios ecosistémicos

"Men come back to the world, […] which was long ago our master and of late our slave, always and in all cases our host, and our new symbiont."
Serres (1990, p. 38)

What does it mean for a paper and a scholar to decolonise discourse, to move beyond colonial understandings, biases and patters? It means to engage with the origins and consequences of the terms, themes, literature and approaches used, especially when dealing with the current environmental crisis and the governance of nature, as this paper attempts to do. The very decision to engage with the concept of Anthropocene implies a certain vision of the relationship between nature and culture, nature and humanity. A vision that accepts the "naming of an epoch after ourselves" (Crist, 2016, p. 14) and that reflects a certain understanding of "class, race, gender, sexuality, nation" (Moore, 2016a, p. 78). A vision that "retains —even as it seeks to transcend it— the binary of Humanity and Nature" (p. 80), and that "feeds a casual dismissal of conceptual and historical criticisms" (p. 81).

The Anthropocene concept is the result of a multifaced and eccentric improvisation[2] whose contours are not yet fully defined, even though 20 years have passed since its inception. Regardless of its uncertain status, in 2019, the *Anthropocene Working Group* of the *Subcommission on Quaternary Stratigraphy*[3] agreed that it is correct to regard the Anthropocene as a self-standing geological epoch, describing it as "the present geological time interval, in which many conditions and processes on Earth are profoundly altered by human impact" (Subcommission on Quaternary Stratigraphy, 2019). The Subcommission also established that we entered this new epoch in the XX century as a result of the *great acceleration*[4] of industrial production and human population growth, the commencement of globalization, and the first nuclear bomb tests (Subcommission on Quaternary Stratigraphy, 2019). Following the *modus operandi* of the Working

2. It was proposed by the Noble Prize winner Paul Crutzen during a conference (Zalasiewicz, 2017, p. 118). The formal proposal to use the term to describe a new geological era was launched in Crutzen & Stoermer (2000).
3. The *Subcommission on Quaternary Stratigraphy* is one of the subcommissions of the *International Commission on Stratigraphy* —one of the scientific organizations which are part of the *International Union of Geological Sciences*, whose objective is to set the global stratigraphic coordinates. The *Anthropocene Working Group* was established in 2009 with the goal of determining whether the Earth may be considered to have entered a new geologic era.
4. The report refers to the *Great Acceleration*, the name that was given to a group of graphics published in 2004 by the *Geosphere-Biosphere Programme*, that show that, starting from 1950, the human impact on the Earth has dramatically increased (Steffen et al., 2015). The term *Great Acceleration* echoes the *Great Transformation* by Karl Polanyi (Polanyi, 1944). See also McNeill & Engelke (2014).

Group report, the Anthropocene appears as a debated scientific concept, which may or may not be fully approved on the ground of scientific data (Subramanian, 2019).

Anthropocene is also a *buzzword*[5] (Castree, 2019, p. 25), which provides the most paradigmatic example of the encounter between natural sciences (geology, earth system science, climate science and so on) and human sciences. It enters the space of the relationship between humans and nature (a distinction that finally emerges as obsolete as it is[6]), whose relevance spans across very different dominions, touching upon justice, ethics, law and politics on one side and scientific data on the other[7].

The new epoch materialises at the conjunction between Earth history and human history, where the geological times of the former are expected to bend to the speed and brevity of the latter[8]. Geology and Earth system science examines stratigraphic traces, material bodies, changes in temperature, sea level, and rock composition, whose relevance are evident on scales far wider than humans are able to comprehend or influence. Instead, law, politics, and ethics, find themselves surrounded by controversial data, impenetrable modelling techniques, and disputes over Celsius degrees, all struggling to provide sound analysis of their human sides and implications.

The Anthropocene is also a *discourse* —as Crist (2016) calls it— which is at danger of imposing a certain understanding of human's relationship with the environment that reflects (though, of course, partially) the patterns followed by certain western scientific opinions (p. 15 ff). The Anthropocene is, in fact, embedded with normative concepts[9] and implications —such as *how should human action change*, or *who should be considered responsible for its emergence*— which are at risk of being left to the sole analysis of natural sciences whose legitimacy as unbiased and truth-seeking enterprises[10] might shadow the need for a profound political and ethical reflexion (Baskin, 2019, p. 151) able to overcome old patterns and colonial biases. The "fact of human impact" shall not be turned into the "ought to be" without coming to terms with the real features of such

5. For the use of *buzzwords* (and *fuzzwords*) in the development discourse, see Cornwall & Eade (2010).
6. Malm & Hornborg (2014). On the rejection of traditional binaries, such as nature/culture, mind/body, subject/object, see Pellizzoni (2017, p. 66).
7. On the both material and political force of things, scientific facts, and the inanimate, non-organic world (such as rocks and stratigraphic evidences), see Bennet (2004).
8. As Chakrabarty (2018) notes, the Anthropocene brings about a "conceptual traffic" (p. 6) that switchs historical timeframes from tens of millions of years, to a few hundreds of years, and leads to the collapse of the distinction between natural hisotry and human history (Chakrabarty, 2009, thesis 1).
9. According to Biermann & Lövbrand (2019) it is a four-faces concept, with a *temporal* side (a new epoch), an *observational* one (the human impact on the Planet), an *explanational* one (how human impact has reached this stage), and a *prescriptive* one (how human action should change).
10. Castree (2019) further notes that "a thorough exploration of the normative implications of science for humans is also missing in scientific literature" (p. 40 f.).

"fact". Who brought this fact to be? Following which patters and applying which techniques? At the expenses of who?

Overall, both natural and human sciences find themselves partially out of place when trying to answer these difficult questions, tentatively navigating between "scientized politics" and "politicized science" (Castree, 2019, p. 27). However, the two sides need to learn to listen to and dialogue with each other, in order to avoiding misinterpretations, excessive simplifications, and loss of in-depth analysis of the Anthropocene.

For example, the natural science discourse on the Anthropocene mostly refers to *humans* as those responsible for the current state of the Earth[11]. This "narrative simplicity" pictures humanity as a collective actor and hands to all humans the responsibility for the current state of the Earth. This narrative —the one that Moore (2016a) tries to partially overcome proposing the term *Capitalocene*— dismisses the relevance of imperialist and capitalist structures that have excluded most humans from humanity itself, placing the excluded ones into the same box of nature and providing them with the same treatment (putting them "to work" or annihilating them) (Moore 2016a, pp. 82–87)[12]. On the contrary, it cannot be denied that the huge extent of damage inflicted on the Earth are the responsibility of a specific part of humanity: Europe and its empires (Chakrabarty, 2018, p. 18)[13]. In fact, the 1992 Rio Declaration avowed the need to address environmental issues in line with the "common but differentiated responsibilities" principle because *the past matters* and the current state of the Earth is due to the actions of only a fraction of humanity[14]. Accordingly, developing countries have responded to climate talks (one of the most hotly contested issues of the Anthropocene) underlying that the use of the word *Anthropos* is "falsely and unfairly implicating the poor and their 'survival emissions' of green-house gases in the crime of those whose 'luxury emissions' are actually responsible for the current crisis of global warming" (Chakrabarty, 2015, p. 156)[15].

11. For example, Pulcini (2010) argues that the risks of the Anthropocene, as the "expression of a planetary condition of vulnerability and interdependence, can become the unifying factor *par excellence*" (p. 459).
12. According to Moore (2016a), the very choice of the term *Anthropocene* dismisses part of the *story*. Because of its focus on geological traces it ends up denying (or at least shadowing) the responsibilities of capitalism and capitalist structures. The term *Capitalocene*, that he proposes, has instead the power to show how nature, capital and power are to be looked at "as an organic whole", whose origins are not to be found in XVIII century England but are, instead, linked to colonialism and the commodification of (cheap) nature, which started in the XV century (p. 81 ff.).
13. See also Moore (2016a)'s reconstruction of the history of the Capitalocene.
14. On rights and responsibilities in climate justice theories, see Baxi (2016). However, as Chakrabarty (2015) notes, the *common* side of our responsibilities is equally important because, for instance, the "problem of global warming produces its own timeline for urgent and global action, irrespective of the question of responsibility" (p. 140).
15. Following a Third-worldism approach may lead to forgetting that the provenance of emissions is irrelevant for their effects (Cerutti, 2010a). China, for example, already surpasses EU's emissions and Indian's development policies are likely to lead to the same (Chakrabarty, 2015, p. 169).

Likewise, in natural science discourses the Anthropocene is most often characterized as a global phenomenon[16], one that affects everybody, everywhere, in the same way. However, this description is at risk of hiding the fact that the poor, minorities, women, islanders, and all other already-vulnerable subjects, remain those for whom the most is at stake (D'Andrea 2013, p. 108). Transforming all humans into vulnerable subjects, levelling them into one vulnerable category creates the danger of forgetting that "there will be [some] lifeboats for the rich and privileged"[17] but not for the others, and that different actions need to be taken.

Moreover, and most importantly, human sciences and natural sciences need to complement each other in the discourse on *what type of change is to be pursued*[18] to face environmental challenges in ways that do not exacerbate current inequalities and injustices. A change that follows sustainable development theories, building on the fostering of de-linking techniques? Or one that trusts de-growth or post-development approaches (Baskin, 2019)[19]? De-linking, a theme firmly established in the Anthropocene *discourse* (Crist, 2016), embraces the opportunity to renew confidence in Western-centric development and capitalist market-based logic, relying on natural sciences and the improvement of technology and their ability to reduce environmental externalities. De-linking methodologies have trust in the ability of new technologies to create a smarter Planet leading to salvation through the creation of new, "greener", European-like countries and people (p. 20).

A very different approach, much more in line with a decolonizing enterprise, would build on non-Western science and ethics, de-growth and other alternatives-to-development, so to propose more radical routes to facing the Anthropocene through the

16. A *global phenomenon* was defined as an event or a process that creates a homogeneous space and community, where all members equally share, and are equally concerned with, a common threat whose impact can only be reduced or halted if the whole community engages in the fight. A *globalized phenomenon*, instead, involves many people spread around the world, but not the entire global population, and its effects do not touch upon everybody in the same way (D'Andrea, 2013, p. 107).

17. Malm & Hornborg (2014, p. 67) criticize Chakrabarty's position according to whom the Anthropocene makes the whole of humanity equally vulnerable, such that "unlike in the crises of capitalism, there are no lifeboats here for the rich and the privileged (Chakrabarty, 2009, p. 221)".

18. Baskin (2019) analyses what he describes as the foundational scientific articles on the Anthropocene. See also Crutzen & Stoermer (2000); Crutzen (2002); Deutsch et al. (2011); Steffen et al. (2011).

19. Post-development approaches are a response to both the announcement of the death of development —Wolfgang Sachs so declared in his *The Development Dictionary* (1992)— and the hope that the fight against poverty and suffering may not be faced solely with *Western* tools, but also with the re-discovery of local culture and knowledge through grass-root movements and bottom-up approaches (Escobar, 2006).
However, far from being buried, development approaches —whose origins are the Global North, colonialism, and the imposition of the *human* over the *natural*— are well represented by the transition from the Millennium Development Goals to the 2030 Sustainable Development Goals (Cardesa-Salzmann & Cocciolo, 2019, p. 441).

abandonment of anthropocentric ethics, market-based solutions and technocratic approaches.

Vis à vis these difficult encounters and dialogues, the concept of Anthropocene cannot maintain a neutral façade, and "social and historical embeddedness of scientific understandings" (Pellizzoni, 2017, p. 69) needs to be renowned. Anesthetizing the political implications (Chakrabarty, 2018, p. 28) of the Anthropocene concept can become a dangerous choice. Its stark politicization, well founded on scientific data and frameworks, is a necessary enterprise, essential to avoid such a new concept being used to foster the same old patterns that led to its occurrence[20].

Difficult solutions

This paper briefly focuses on the latter of the issues raised: the different solutions proposed to the question *what type of change is to be pursued* to limit human impact on the Earth and protect the environment. In particular it looks at one specific proposal that perfectly fits a certain way of dealing with the Anthropocene *discourse* (Crist, 2016), and that falls within *sustainable development* approaches based on market mechanisms and top-down technocratic responses (rather than alternative-to-development approaches): Payments for Ecosystem Services (PES) policy frameworks. PES were proposed to stimulate the conservation of the environment through the enlargement of markets, entering environmental and related values into their trading system and welcoming sustainable local communities into their functioning.

The word *development* became famous and politically powerful after the second world war, when the world was divided between *developed* and *underdeveloped* nations through the establishment of a linear path whose *rightful* direction was the increase of the gross domestic product (Sachs, 2019, p. xii). In the 1970s, through the pressure of the United Nations Environment Programme, United Nations Development Programme and various non-governmental organizations (NGOs), the purely economic aspect of development was complemented by social indicators of wealth (nutrition, health, education, environment), which were meant to be measured so to rank nations more deeply but still linearly (p. xiv). Around fifteen years later,

20. Moreover, political philosophy and ethics cannot leave these matters to hard sciences because, as Cerutti (2010b) notes, "the amount of possible harm […] raises ultimate problems of life and death, well-being and extreme misery for the whole of humankind that can typically only be grasped by philosophy (ethics, metaphysics) or theology" (p. 427).

development was further complemented by the word *sustainable*[21], creating paradigms that combine economic interests and wellbeing needs (of the poor and of future generations) with the recognition of the limits of the environment (Cardesa-Salzmann & Cocciolo, 2019, p. 439)[22].

About ten years later, sustainable development practices and discourses met with environmental conservation practices and techniques, bringing much-needed attention to local communities and their rights and relationship with nature. The vast use of land for the creation of national parks in America, Australia and Asia had, in fact, been made possible by the forced removal or decimation of local communities[23] through the application of what were called *fortress conservation approaches* (Maffi, 2014, p. 4), that caused, and still cause, human rights violations[24]: displacing communities from their lands; reducing or halting access to natural resources important for essential services (livelihoods, housing, building materials, water sources) (Campese, 2009, p. 7); prohibiting access to culturally or spiritually significant areas and resources; denying self-determination; and refusing to ask or abide to the principle of free prior informed consent[25]. In the '90s, policy makers, conservationists and NGOs began to pay more attention to peoples and communities, and started to develop so called community-based conservation projects[26] that learned from the aims and teachings of sustainable development approaches. Many projects turned into *so called* Integrated Conservation and Developments Projects (ICDPs)[27], whose aims were meeting social development and poverty alleviation goals, as well as environmental conservation goals (Hughes & Flintan, 2001)[28]. ICDPs, a tentative response to the dichotomy between people and environment, were presented at the Earth Summit, Rio de Janeiro 1992 (Wunder, 2005, p. 1)[29], as win-win solutions.

In the attempt to highlight the importance ecosystems have for people and the need to find ways to protect both, the Millennium Ecosystem Assessment employed the term

21. According to the 1987 Brundtland Report "humanity has the ability to make development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development, 1987).
22. See also Sands et al. (2012, p. 206).
23. Claus et al. (2010, p. 263). In a recent report the Special Rapporteur of the Human Rights Council on the Rights of Indigenous Peoples, Victoria Tauli-Corpuz, calculated that up to 50% of existing protected areas were created on lands and territories traditionally held by indigenous peoples (United Nations General Assembly, 2016, p. 7).
24. Brechin et al. (2002, p. 45); United Nations General Assembly (2016).
25. Jonas et al. (2016, p. 15 ff).
26. Agrawal & Gibson (1999); Alcorn (1993, p. 3); Gavin et al. (2015); Reed (2008, p. 2420).
27. Also known as People-centered conservation and development and eco-development projects.
28. For a critical stance on ICDPs see Christensen (2004).
29. On the structure and functioning of ICDPs see Wells & Brandon (1992).

ecosystem services (ES)[30] as *the benefits people obtain from ecosystems*[31]. ES frameworks emerged as a *simplified language* accessible for politicians, policies and the private investments world[32]. They build on the idea that many ecosystems bring benefits not only to the communities that take care of them, but also to people that do not contribute to their conservation. By bringing these people to pay for the services they obtain (positive externalities), the caring communities can be incentivized to continue or improve their positive actions (Lele, 2013, p. 125)[33]. This framework, called Payments for Ecosystem Services, is a further elaboration of ICDPs and is designed as a set of economic transactions. PES apply socio-economic investment tools to conservation and poverty alleviation actions, taking communities into market mechanisms (Wunder, 2005, p. 7) in order to face together environmental and justice issues[34].

Old encounters

PES are extensively proposed internationally and include famous instruments such as the Clean Development Mechanism of the Kyoto Protocol, Reducing Emissions from Forest Destruction and Degradation projects (REDD)[35], and bioprospecting agreements (Huberman, 2009, p. 14). They are all presented as win-win solutions able to fully respond to the need to protect the environment and to alleviate poverty (Wunder, 2005, p. 1). PES enter the sustainable development realm, without particular caution, in its

30. The idea of "nature's services" was first proposed in a 1977 paper (published in Science by W. Westman and titled *How Much Are Nature's Services Worth?)* (Costanza et al., 2017). Ecosystem services, instead, were first named in 1981 in a paper by Ehrlich & Ehrlich, but they mostly owe their international success to their use in the Millennium Ecosystem Assessment (Lele, 2013, p. 122). See also Hummel et al. (2019).

31. Millennium Ecosystem Assessment (2005, p. v.). ES are classified in four categories: "provisioning services, which includes food, water, timber and genetic resources; regulating services, such as the regulation of climate, floods and waste treatment; cultural services, such as recreation and aesthetic enjoyment; and supporting services such as soil formation, pollination and nutrient cycling" (Kosoy & Corbera, 2010).

32. Martin-Ortega et al. (2019). The goal behind the proposal to use terms such as ecosystems services and —similarely— *natural capital* was certainly (at least for most scholars) laudable. Costanza et al. (2017), for example, explain that by providing a tentative estimate of the monetary value of the entire biosphere —in the range of US$16–54 trillion per year (Costanza et al., 1997)— meant "to demonstrate that ecosystem services were much more important to human wellbeing than conventional economic thinking had given them credit for [… and] that standing, intact, functioning ecosystems produce many valuable services, which are often more significant than what results from their extraction and exploitation" (Costanza et al., 2017, p. 3).

33. The "core idea of PES is that external ES beneficiaries make direct, contractual and conditional payments to local landholders and users in return for adopting practices that secure ecosystem conservation and restoration" (Wunder, 2005, p. 2).

34. Other sustainable development practices that employ "inclusionary capitalism" responses are: "microfinance loans that promote adherence to market principles; and World-Bank Poverty Reduction Programs to enroll developing-country states in such 'compensatory' strategies" (McAfee, 2012, p. 109).

35. McAfee (2012); Srinivasan (2015).

most capitalistic form: money, the tool designated to compensate potential trade-offs between poverty and conservation (Wunder, 2005, p. 2), thus turning poor communities into environmental defenders in order to protect the services used by more wealthy communities. Nature is *capitalized*, turned into a commodity to be traded in order to protect it[36].

Even though the literature on and practice of PES has evolved to include increasingly complex transactions and forms of compensation, they remain a market-based framework. They have been been criticized by many points of view, and while some of the critics come from within-the-market —such as that well-functioning markets should address only the scarcity of a resource leaving other considerations such as poverty alleviation aside (Kinzig et al., 2011)— most authors and practitioners question their very reliance on the market, considering it inappropriate for the regulation of conservation activities and their interaction with local communities.

These critiques mostly concentrate on the use of money as a proxy to describe the value of ES. Money is, in fact, said to be an inadequate instrument to properly value nature. The monetary metric, they claim, cannot be the sole evaluation criteria of a cluster of ES and of the relationship between humans and nature, because it loses sight of the cultural, spiritual, aesthetic and biological values, and the relationship with future and ancestral generations (Kosoy & Corbera, 2010). More in generally, the focus on economic analysis tends to disregard the complexity of the social and political systems involved. Since PES cannot be detached from the "culturally-engrained economic logics of 'value for money'" that reigns over funding decisions for projects and related scientific research (Kolinjivadi et al., 2017), their whole functioning is polluted by assumptions that hardly fit with the heterogenous cultural and social specificities of the communities involved.

Some authors have, in fact, spoken of *commodity fetishism*: "as the masking of the social relationships underlying the process of production" (Kosoy & Corbera, 2010, p. 1229). Ecosystems and their functioning become *commodified*, i.e. turned into discrete goods that enter the market system where providers and consumers undertake, only, monetary interactions (Kosoy & Corbera, 2010). Money "is not an essence but a cultural veil obscuring material asymmetries by representing unequal exchange as reciprocal" (Hornborg, 2019, p. 14). When the value of natural elements is commodified it acquires, at least in theory, a trade-off value: for as high as it may be, it may always be overcome

36. See Leonardi (2017) for an analysis of how neoliberalism attempts to turn nature from a limit (as source of raw material and as a waste repository) into driver of economic competition, i.e. into a commodity.

by another element with a higher value (Sikor, 2013, p. 4). Thereafter, incomparable assets —such as spiritual values and building materials— become comparable and exchangeable.

Moreover, the very use of the term *service,* to describe what is to be valued of ecosystems, denotes the grounding on a fully anthropocentric conceptualization of nature whose role is reduced to producer of facilities and goods for humans (Martin-Ortega et al., 2019), who are, henceforth, separate from nature[37].

As all markets, PES aim at economic efficiency, and tend to prioritize certain ES —such as water management and carbon sequestration, which are easier to *monetize*— over cultural and spiritual *services*, or health and educational benefits that hardly fit market evaluations and strategies (Pascual et al., 2014). They assume that humans are rational beings, holding the information necessary to take decisions on the base of cost-benefit analysis choosing the most efficient options. Beside the infinite critiques already raised against the idea that humans are fully rational and competent beings, the idea that money is a "good choice" belongs to a specific, market-based set of values not necessarily shared by the communities involved in PES projects (Kolinjivadi et al., 2017). This approach assumes that the decision to conserve certain ES can be influenced by economic incentives, rather than other policies/rights/benefits —ignoring the facts that different communities have different perceptions of economic incentives, and that other factors may be more pressing in their decision-making processes concerning whether or not to conserve a certain ES (such as what is understood to be life-supporting) (Kolinjivadi et al., 2017). At the same time, if the offer of monetary incentives to put in action a customary environmentally beneficial practice is accepted, it may undermine the intrinsic, personal, social, and cultural motivation of the actors and weaken the correlated institutions (Muradian et al., 2013); hence the practice may be carried out less efficiently, or it may be abandoned if monetary incentives terminate, moving below the standard achieved before the PES scheme was applied.

The weakening of institutions and values may be sided by the fact that "when parachuted into rural communities of the developing world without market power or political voice, PES […] can enhance existing inequalities in income, access to resources, and decision-making if pro-poor management measures are not considered" (Corbera & Pascual, 2012, p. 655). In other words, the use of economic evaluations and the research of economic efficiency may shade other important factors, such as lack of equity,

37. Kolinjivadi et al. (2017, p. 2) assert "it is clear that PES (and the underlying ES framework), rests on precarious epistemological foundations".

vulnerability of stakeholders, free prior informed consent procedures, and identity. Most PES (though not all projects that implement them) often lack the necessary focus on equity issues and inadequately framed to avoid exacerbating them (Pascual et al., 2014). This may lead not only to the actual failure of PES projects —especially in the long run— but also to the disruption of local equilibriums, loss of social norms, emergence of new marginalization processes or exasperation of existing ones, the loss of traditional leaderships, and even the abandonment of positive conservation practices.

The commodification of nature and entrance in the market may also be considered responsible for the privatization of lands, or of specific goods such as timber and water, that were previously held in commons or through other property systems (Martin-Ortega et al., 2019). The privatization of goods —entrenching legal acts such as property titles—, especially if undertaken as a side effect of a project, is likely to aggravate existing inequalities, the marginalization of certain actors, and the power asymmetries of a place.

Moreover, PES treat resource users and conservationists as separate entities, both of which attempt to communicate through the ES concept as providers of "a unifying language between resource users and resource conservationists" (Huberman, 2009, p. 9). This sharp separation badly reflects the realities of the lives and practices of many communities, which together act as natural resource users and conservationists.

The many critiques raised against PES show how even the best intentions, if polluted by naivety or rush to find emergency win-win solutions, are doomed to failure *vis à vis* the complexity of environmental and poverty issues. As Redford asserts, ICDPs and PES are a "deadly combination of wishful thinking, quickly contrived policy poultices, and poor information […] transformed into packaging buzzwords [that] took on a life of their own" (Redford & Sanderson, 1992, p. 38 and 36). Although this judgment may appear too negative —Redford himself suggests not discarding the whole approach (Brandon et al., 1998)—, it seems to be true that ICDPs and PES are based on the naïve assumption that if poverty may exacerbate biodiversity loss then that poverty alleviation through payments for ecosystem services leads to increased environmental conservation (Christensen, 2004).

New solutions

Over the past 20 years, PES have received increased pressure to incorporate human rights and equity issues, find alternative paths that take the rights and needs of local peo-

ples into consideration, and become more participatory-based (Petheram & Campbell, 2010). The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services[38] has proposed a new conceptual framework that underlines the multifactor relationship between nature and people, through the relevance of six elements: nature; nature's benefits to people; anthropogenic assets; institutions and governance systems and other indirect drivers of change; direct drivers of change; and good quality of life (Díaz et al., 2015). *Nature's Contribution to People* (Díaz et al., 2018)[39], as it was named, is an approach that aims at going beyond classic ES by recalling local stakeholders, including indigenous peoples and local communities, to engage in comprehension and protection of ecosystems and reopen a dialogue with the social sciences.

The world of responses to the Anthropocene is complex and diverse. So called *Global Environmental Management* discourses advance technocratic solutions permeated by development optimism, asserting that top-down global interventions can lead to win-win solutions that break the vicious cycle binding poverty and environmental mis-management, by generating "opportunities for local benefits in poor countries through exchanges with private and public parties from industrialized countries" (Adger et al., 2001, p. 702). Locally focused discourses and critical approaches contrasting neoliberalism and capitalism tend instead to describe these top-down, technocratic solutions as incapable of capturing local needs and realities, ultimately perpetuating old-style colonialist and neoliberal approaches. These solutions are described as making local peoples the victims, once again, of interventions that overburden local communities, tasked with rationally and strategically choosing sustainable paths based on micro-economic evaluations (Marcenò, 2019, p. 107), as PES schemes do.

While neither of the two discourses fully portray the realities of human-environment relationships, the second, at least, tends to look at local realities without imposing the same economic and institutional practices that are, at least partially, the cause of the current environmental crisis.

Though the second may be better than the first, both reveal a general lack of imagination to conceive something new, different, not yet existing[40]. They both follow the same

38. The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), established in 2012, is an independent intergovernmental body whose objective is to provide up to date scientific support to the realization of the Sustainable Development Goals. The experts-based functioning of IPBES grounds on the combination and reciprocal support of different knowledge systems (including indigenous peoples' traditional knowledge) and engages different stakeholders (including local communities, non-governmental organizations and the private sector).

39. *Nature's benefits to people* —their original name— comprise "all the benefits that humanity —individuals, communities, societies, nations or humanity as a whole— in rural and urban settings – obtains from nature" including provisioning, regulating and cultural services (Díaz et al., 2015, p. 6).

40. On the lack of imagination, I am indebted to Marcenò S. and her presentation during the seminar "Affrontare

old patterns of global vs local, top-down vs bottom-up, private vs common. Maybe, the incapacity to imagine other and better solutions lies in our inability to surpass these categories and their dichotomies and to focus, once more, on the need to choose one over the other, contraposing them as if one led to survival and the other to ruin. Dualism —starting from the separation of human and nature, women and men, Europe and new worlds, white and black— is actually part of the problem itself (Moore, 2016b, 2). It is at the root of many of the phenomena of exclusion and oppression that characterize the Anthropocene and its capitalistic origins (Crist, 2013).

Maybe, this lack of imagination lies in our structural inability to perceive that we live in a Pluriverse (Kothari et al., 2019) where different places and lives require different solutions[41].

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41. See Fletcher et al. for the proposal of a Green New Deal beyond growth inspired by truly innovative conservation practices.

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