

Rethinking environmentalism in a "ruined" world. Lessons from the permaculture movement

Laura Centemeri

▶ To cite this version:

Laura Centemeri. Rethinking environmentalism in a "ruined" world. Lessons from the permaculture movement. Jens Hoff, Quentin Gausset and Simon Lex,. Building a sustainable future. The role of non-state actors in the green transition, Routledge., In press. hal-02084020

HAL Id: hal-02084020

https://hal.science/hal-02084020

Submitted on 29 Mar 2019

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Rethinking environmentalism in a "ruined" world. Lessons from the permaculture movement

Laura Centemeri

Senior Researcher in Environmental Sociology, CNRS (FRANCE)

Centre d'Étude des Mouvements Sociaux (EHESS/CNRS/INSERM)/École Française de Rome

ORCID: https://orcid.org/0000-0001-6519-3948

Abstract

How do the meaning and practices of environmentalism change if we see the current environmental crisis as resulting not from accidental externalities but from a process of ordinary socio-ecological ruination brought about by the dominant logics of productivism and capitalist accumulation? In a world where socio-ecological ruination is ubiquitous, environmental engagement is not limited to protection from or denunciation against processes of socio-ecological exploitation. It also takes the shape of practices of care. I will discuss the notion of care as expression of environmental reflexivity and the case of the permaculture movement as an example of environmentalism grounded in practices of ecological care. Based on the results of a research project on the diffusion of the permaculture movement in Italy, my argument is that permaculture initiatives try to regenerate damaged socio-ecological systems through creating a variety of local pericapitalist economies. These alternative economies are always at risk of being recuperated by capitalist dynamics. One way of limiting this risk is to build networks of pericapitalist initiatives while multiplying the connections between the diverse forms of environmental engagement. This entails designing political ecotones in which environmental actors can coexist in their diversity and work to define a shared socio-technical imaginary.

This is a draft version of the chapter. Please do not circulate without permission.

Introduction

Concepts and metaphors are important. They help us to frame problems and to imagine possible solutions. When speaking about environmental crises, everybody is familiar with the notions of externalities that must be internalized, or risks one should be prepared for. Externalities, risks, adaptation, mitigation, resilience: these concepts shape the predominant approach public actors take to environmental issues. Other social actors, however, frame these crises in terms of "costs-shifting" (Kapp, 1983), socioecological injustices (Martinez-Alier, 2002), damages to be repaired, torts to be redressed. These frames entail substantially different ways of envisioning the actions required to tackle environmental problems.

In my contribution, I will advocate that the notion of "ruination" (Stoler, 2013) is one possible way of understanding or making sense of the current condition of global socioecological crisis. In particular, I will take this metaphor as the starting point for a reflection on environmentalism and the variety of its expressions in our societies (Guha and Martinez-Alier, 1997; Armiero and Sedrez, 2014).

I will argue that, when confronted with processes of ruination, environmental engagement is not limited to *protection from*, or *denunciation against* the exploitation of work and nature. It also takes the shape of ordinary activities of *taking care of* people and their environments, involving practices of socio-ecological *repairing* and *regenerating*. The engagement in taking care of human and non-human beings and their environments is a way of directly experiencing the relevance of alternative ways to define what is worthwhile and to forge value arguments that differ from the dominant ones in that they are sensitive to contexts.

In fact, as I am going to discuss, beyond its more perceptible forms, ruination points to an underlying process of *erosion of value arguments diversity* generated by the imposition of non-negotiable standardised rules and the forced marginalisation of context-sensitive value logics in the organization of all spheres of social life. This erosion has been accelerated by the progressive hegemony acquired, in the last decades, by the neoliberal form of "governing through objective objectives" (Thévenot, 2015).

This is a draft version of the chapter. Please do not circulate without permission.

The case of the permaculture movement will serve as an example of a form of environmental engagement based on practices of *ecological care* (Puig de la Bellacasa, 2017). Departing from the results of an ongoing research project on the diffusion of permaculture in Italy, I will examine how practices of ecological care in permaculture initiatives give rise to a variety of *pericapitalist economies*ⁱ.

My third step is to address the issue of the risk of "recuperation" (Boltanski and Chiapello, 1999) of ecological care as a new source of legitimacy for capitalist accumulation. Ecological care can be reduced to just another argument supporting a "green capitalism" or an "economy of enrichment" (Boltanski and Esquerre, 2017). One way of avoiding recuperation is to build networks of pericapitalist economies while simultaneously multiplying the connections across the diverse forms of environmental engagement: practices of care, protest, denunciation, public participation and lobbying. To do this, political ecotones must be designed at different scales. They are intended as identifiable spaces in which actors expressing diverse forms of environmentalism can meet on the basis of shared concerns. These spaces are of crucial importance to promote an effective coordination of diverse forms of environmental activism. More fundamentally, political ecotones can help the emergence of a shared socio-technical imaginary. In order to support the transition towards an "ecological open society" (Audier, 2017), this socio-technical imaginary should be able to combine the aspiration to socio-ecological justice with the call for emancipation and the development of "an ethos of a more explicit acknowledgment of human immersion in non-human natural systems" (Schlosberg and Coles, 2016, p.166).

Ruination and the rising of the "governing through objective objectives": explaining the erosion of the diversity of value arguments

What form does environmental engagement take in a "ruined" world? I started to explore this issue in my PhD thesis on the social responses to the Seveso disaster. In particular, I investigated how the inhabitants of the small Italian town of Seveso reacted to the dioxin contamination, following the industrial accident of the 10th of July 1976 at the ICMESA chemical factory. This small plant was owned by the Swiss company Hoffmann-La Roche. The disaster made a part of the city temporarily uninhabitable, caused a serious public health crisis and triggered a mobilization that turned the town of

This is a draft version of the chapter. Please do not circulate without permission.

Seveso into the epicentre of the social struggles that were shaking Italy at that time, from the legalization of abortion to the denunciation of the "crimes of capitalism" (Centemeri, 2011, 2015).

In this post-disaster situation I identified the relevance, for the understanding of the recovery process, of three forms of environmental activism: engaging in order to *protect* the environment from further destruction; *denouncing* responsibilities for what happened and asking for *reparation* (the conviction of the guilty, monetary compensations, ecological restoration, symbolic reparation); *regenerating* socioecological dynamics through ordinary practices of taking care of people, things, places, animals and plants.

In Seveso, the actors who expressed the diverse forms of post-disaster environmental activism did not find the way to create synergies. Tensions fuelled divisive conflicts. But the experience of the failure in finding a collaboration between diverse expressions of environmentalism brought a small local group of activists (environmentalists and feminists) to try to combine, over the years, a practice of denunciation of environmental damage with one of valorising the *direct action of taking care* of a specific environment.

These activists saw practices of care as a way to express a non-confrontational critique, provided that they are guided by transformative purposes. In their view, taking care of an environment meant primarily repairing and regenerating socio-ecological relations, where repairing should not be seen as resistance to change: in their understanding, it not only implied resuming pre-existing relations and regaining previous life conditions, but it was also seen as an opportunity to regenerate socio-ecological dynamics through *learning anew how to inhabit* an environment (Centemeri, 2011). In particular, the development of a specific reflexivity on what one considers valuable in the relation to the environment, not in abstract terms but in everyday activities, was considered as fundamental to the process of relearning how to inhabit.

What seems original to me in this approach to environmentalism is the importance attributed to the development of a reflexivity on what one considers valuable in the relation to the environment: the way in which people define and attribute value to beings, things, places, activities in their everyday practices becomes a key dimension in the process of repairing and regenerating. More specifically, practices of care require

This is a draft version of the chapter. Please do not circulate without permission.

that people reconnect with context-sensitive value logics not primarily related to instrumental utility. Socio-ecological interdependencies connecting the local to the global and the sensory perception of places and people experienced in ecological-based processes of human life "becoming" (Ingold, 2000) were both considered as relevant perspectives to orient value judgments according to, respectively, a systemic logic of value and an "emplaced" (Pink, 2009) logic of value.

The emplaced logic of value rests on the experience of "growing with" and "knowing along" (Barua, 2016) other human and non-human beings in situated "encounters" (Haraway, 2008). In this case, what constitutes value is linked to the development of familiarity with and affection for certain beings and places (Breviglieri, 2012), or to the quality of an environment in terms of its atmosphere (Thibaud, 2011) and as a place where the excitement of discovering something new is experienced (Auray, 2016). The point of the matter here is that a variety of logics of value and forms of knowledge - or "pragmatic regimes of engagement" (Thévenot, 2001, 2006, 2007) - are combined in practices of taking care of an environment. Through their in-context practices of care, people are consequently constantly engaged in a collective and ongoing process of *inquiry*, in a Deweyan sense, meant to guarantee the creation and the maintaining of a diversity of goods, from "emplaced" goods to "public goods".

Practices of taking care of an environment thus become a form of politics by other means, since they offer to everyone the opportunity to explore and to deliberate on what counts as valuable in a variety of "communities of care" one can become involved with. They produce socio-ecological change primarily by means of the direct experience of the relevance of the diversity of value logics and practices in the shaping of sustainable ecologies and the resulting elaboration of alternative "value arguments".

By value arguments, I intend a recurrent reason or set of reasons supporting a certain understanding of what should count as valuable in a given situation. Following Francis Chateauraynaud (2015), it can be said that the strength of an argument is not simply based on intellectual coherence: it has to create a disposition to act. This means that value arguments always have a connection with an experiential substrate of value practices, understood as those practices through which actors (individually or collectively) define what they consider valuable and act accordingly to attain and maintain the condition deemed worthy (Dussage et al., 2015).

This is a draft version of the chapter. Please do not circulate without permission.

Far from being confined to the experience of this local group of activists, the shift from values conceived as "a realm somehow added from outside to material facts" to the understanding that they are "immanent to the relations and orientations among moving beings (...) in a world of becoming" is common to a variety of "new materialist movements" that are considered by Schlosberg and Coles (2016, p.168) as expression of a "new environmentalism of everyday life": "These movements seek to critique and replace the devitalising and unsustainable practices of the domination of non-human nature with practices and flows that recognise human beings as animals in embedded material relationships with ecosystems and the non-human realm. The focus is on forging alternative, co-creative, productive and sustainable institutions at the local and regional level that reconstruct our everyday interactions with the rest of the natural world" (*Ibid.*, p. 173). According to the authors, these "new materialist movements" are related predominantly to food and energy issues, and to practices of recycling, repairing and making, the sphere of what they call "new domesticity".

In my view, underlying this transformation of environmentalism is the acknowledgment that the environmental crisis is related not only to random catastrophic events and episodic externalities but to a more ordinary and structural condition of progressive socio-ecological degradation. This ordinary process of degradation that, more often than not, goes unnoticed is linked to the dominance of growthism not only as a guiding principle of economic organisation but as a central socio-technical imaginary.

Rob Nixon (2011) coined the notion of "slow violence" to point to those processes that create the conditions of "conjoint ecological and human disposability" (*Ibid.*, p.4) or, to put it differently, of "simplification for alienation" (Tsing, 2015), that are necessary to sustain growth as currently intended, i.e. as measured by GDP. My point is that this disposability by means of simplification entails reducing the *legitimate value arguments* one can resort to in public decision-making processes in order to justify certain value practices against others.

Justifiable value practices are those value practices that are socially encouraged, routinised and stabilised through "investments in forms" (Thévenot, 1984), the establishment of conventions (Diaz-Bone and Salais, 2011), rules of socialisation, so as to maintain the conditions for the reproduction of a certain socio-economic order. They rest on shared legitimate value arguments and shared "socio-technical imaginaries"

This is a draft version of the chapter. Please do not circulate without permission.

(Jasanoff and Kim, 2015): these arguments and imaginaries combine logics or "modes of valuation" (Centemeri, 2017) in specific ways that are privileged over others.

In the current phase of global capitalism, dominant value practices are influenced by arguments and imaginaries that establish the uncontested centrality of economic growth, which is recognised as the source of social wellbeing. As a consequence, social goals are translated into standardised and quantified objectives to be achieved *under budgetary constraints*, giving rise to what Laurent Thévenot (2015) calls "governing through objective objectives". The process whereby good government is defined as the achievement of "objective objectives" accounts for the progressive erosion of the diversity of legitimate value arguments in the public space and for public decision-making being understood as the result of calculation and not deliberation. As discussed by Torre (2018), these processes entail the steady transformation of sovereignty into a generalised colonial model in which increasing social inequalities are the norm (see Piketty, 2014).

The phenomenon of ruination is directly connected with the reduction of the spaces of deliberation on legitimate value arguments, since this *de facto* erosion of the diversity of legitimate value arguments has an impact on value practices and, consequently, on the shaping of socio-ecological systems. Ruined socio-ecological systems have lost their diversity (in terms of populations, functions, interdependencies), they are off-balance, they have been exposed to contaminations, and they are at risks of breakdown. Their ruination, however, has provided the conditions for profitable exchange and economic growth.

This change in the modes of governing helps explain why value practices orienting ordinary activities have now become a crucial concern in many environmental movements. In particular, these movements identify the promotion of practices of ecological care as a possible way of dealing with what remains in place, notwithstanding ruination, in such a way as to trigger processes of repairing, regenerating and, potentially, resisting.

This is a draft version of the chapter. Please do not circulate without permission.

Environmentalism in the face of ruination: understanding the perspective of care

The notion of *care* is increasingly used in environmental discourses to frame the understanding of the relation between societies and their environments. My hypothesis is that together with risk and limit, the notion of care expresses a specific form of "environmental reflexivity" (Charbonnier, 2017). According to French philosopher Pierre Charbonnier, "risk" and "limit" are the two central notions that have been mobilised in social sciences to frame the relation between societies and their environments and to understand the ecological crisis. Today, the author contends, social sciences find in the concept of "Anthropocene" (Steffen et al., 2011) a new frame to understand the ecological crisis. Anthropocene, originally a geological notion, means that humanity is now considered as a geophysical force causing climate change, massive erosion of biodiversity and the depletion of natural resources.

However, as emphasised by French sociologists Francis Chateauraynaud and Josquin Debaz (2017, 585), the adoption of the paradigm of the Anthropocene can engender at least three possible epistemic and axiological attitudes: an attitude of control of the "Earth system" which is in line with the "risk paradigm" and its technocratic drift; an apocalyptic attitude connected with the paradigm of limits and the perspective of collapse; an attitude that pays attention to the irreducible variety of interdependencies that bind human beings to their environments and shape the latter as places to live together with other human and non-human beings. This last approach, which the authors provocatively term "counter-Anthropocene", consists of paying attention to the observable plurality of ways in which human beings create a variety of "micro-worlds" (*Ibid.*, 601), that is, socio-ecological systems not completely determined by existing *dispositifs* but expressing a capacity for "self-government" (Zask, 2010).

In particular, it is stressed that practices of care are fundamental to the emergence of micro-worlds in which human needs can be met while guaranteeing the conditions in which other species (animal, vegetable) can also thrive.

In fact, according to the definition of the feminist political theorist Joan Tronto (1993, p.103), caring is "a species activity that includes everything that we do to maintain, continue, and repair our 'world' so that we can live in it as well as possible. That world includes our bodies, our selves, and our environment, all of which we seek to

This is a draft version of the chapter. Please do not circulate without permission.

interweave in a complex, life-sustaining web". Caring thus implies attention, concern, solicitude. Following Tronto, as *caring about* the other (human or non-human), care is a way of perceiving the world that consists of paying attention to what the other needs. As *taking care*, it is a way of being concerned about others, which implies assuming responsibility. As *care giving*, it is a way of concretely taking care of the other, which implies the exercise of a competence.

In contrast to the primacy attributed to the ideal of autonomy in classical political and moral thinking, the care approach sees the individual as the result of multiple interdependencies, not only with other human beings, but also with the environment. This ecological vision of the human being leads to the recognition of a condition of vulnerability of the human life form and the socio-ecological systems sustaining it. The concept of "ecological care", introduced by Maria Puig de la Bellacasa (2017), synthesises the type of practical engagement with the environment that is required to maintain the complex network of interdependencies that are supporting life on earth, starting from the life of soils. She argues that if we take life dynamics, or «bios», seriously as a matter of concern, then the traditional notion of collective is challenged and it has to include other than human beings.

As a mode of engaging with the environment, care calls for the daily exercise of concerned attention, awareness of the vulnerability that is peculiar to the human form of life, which is of a relational and ecological nature. This attention becomes action of support where necessary. This action must be guided by the comprehension of the specificities of the context rather than by abstract rules. Care is therefore always contextual and not essentialist.

Moreover, once applied to the environment, it becomes clear that care does not mean generalised love or compassion but it also means choice, exclusion and struggle (Tsing, 2012a). Ecological care requires coping with plagues and the need to ally with certain beings against others. Care is not immune to tragic choices; on the contrary, it implies an increased awareness of the tragic dimension of life, as discussed by philosopher Martha Nussbaum (2001).

According to Tronto (2012, 9), care can "free us from incessant refrains about our powerlessness to act" in the face of the socio-ecological crisis. However, practices of care can be articulated with conservative or emancipatory political endeavours. It

This is a draft version of the chapter. Please do not circulate without permission.

depends on the social imaginaries that articulate care practices, as alternative value practices, with a larger normative horizon shared with others.

For example, the encyclical letter that Pope Francis recently devoted to the ecological crisis is entitled *Laudato Sii*. *On care for our common home*. In the case of this encyclical, which has very strong anti-capitalist tones, the perspective of ecological care is translated into the idea of an "integral ecology" to point to the bond existing between humans and the natural world and the need for an integrated approach to environmental problems and social justice issues.

Not surprisingly, however, and in line with the Catholic doctrine, a central dimension of this integral ecology is the complementary union of man and woman in heterosexual marriage, seen as the expression of the natural order of things. In the political vision delivered by the Pope, practices of taking care of the environment are, therefore, combined with an imaginary in which, at some point, there is a natural order to be respected and protected. Depending on the kind of collective actors that mobilise the encyclical letter in the political arena, some may stress the need to promote socioecological justice while others emphasise the conservative tone of the "integral ecology" perspective. Although both can express a critique of capitalism through care as the main value argument, they may be on opposite sides in terms of emancipatory struggles.

In particular, the emancipatory understanding of practices of care is based on the idea that engaging with the environment through ecological care produces "naturecultures" an approach that comes from an (eco)feminist tradition. In this case, there is no such thing as a "natural order" to respect but a co-construction of a variety of local naturcultural orders that are always in the making. The imaginary of naturcultures, however, is not per se emancipatory. As remarked by Luigi Pellizzoni, the contingency and indeterminacy that are implicit in this vision "resonates with the way in which science and the biophysical world are being 'neoliberalized'" (Pellizzoni, 2014, p 83; see also 2015).

For a better understanding of how this ecological care perspective can inspire and influence environmental engagement in practice and make it emancipatory, I decided to combine this more theoretical exploration about care and the environment with research on the permaculture movement, for which the three guiding ethical principles for an

This is a draft version of the chapter. Please do not circulate without permission.

ecological way to live are: *earth care*, *people care* and *fair share*. As a result, I started a research project in 2015 on the permaculture movement as an environmental and transnational movement based on practices of ecological care. More specifically, I am currently doing research on the diffusion of permaculture in Italy.

My analysis of permaculture initiatives is based on several data sources as well as a large corpus of permaculture books and writings (in English, French and Italian). Data were collected through semi-structured interviews I conducted with permaculture activists (in Italy, France, Spain, Portugal, Australia); a survey administered to Italian permaculturists in December 2016; participation in national and international permaculture "convergences" (that is, regular meetings of permaculture associations); attendance of a Permaculture Design Course in Catania and of two other permaculture courses in Milan (Italy); the direct observation of permaculture initiatives in Italy. Other data were collected through the analysis of permaculture activists' blogs, permaculture groups' social media pages (especially *Facebook*) and permaculture magazines and webzines devoted to transition issues.

Reinhabiting: promises and perils of permaculture's alternative value practices

Permaculture - a term that derives from the contraction of "culture" and "permanent" - is a concept that originated in Australia, specifically in Tasmania, and was developed in the 1970s by Bill Mollison (1928 -2016), an eclectic environmental psychology professor, and David Holmgren (1955), his student at Hobart University (Mollison and Holmgren, 1978; Mollison, 1988; Holmgren, 2002).

The 1970s in Australia, as elsewhere, were years of environmental struggles and counter-cultural movements, including the highly composite "back-to-the-land" movement (Calvário and Otero, 2015). Permaculture was first conceived as a support tool to facilitate these "returns to the land" so that people with very little familiarity with agricultural practice could settle in rural areas and develop subsistence economies based on agriculture.

But permaculture is not a set of techniques for agriculture. Permaculture is a *method* to *design the organisation of basic human activities* (food, health, education, housing, agriculture, forestry, etc.) in such a way that they are not simply sustainable but

This is a draft version of the chapter. Please do not circulate without permission.

"perennial". In permaculture, human activities are seen as generating socio-ecological systems that should be designed in a permacultural way. A permacultural design aims at reducing and optimising the need for energy input (including work), increasing diversity (of functions, populations, species, etc.) and resilience and guaranteeing an abundance of diverse and varied forms of "wealth" (material and immaterial). This is done through imitating problem-solving strategies that are observable, or have been observed, in "healthy" ecosystems. This is a principle usually defined as of *biomimicry* even if "ecomimicry" would be a more accurate description of such design practices.

In Mollison and Holmgren's view, the "back-to-the-landers" of the 1970s needed above all frameworks to guide the "reintegration" of their activities in ecosystems in such a way as to be able to trigger virtuous processes of coevolution. This "reintegration" in ecosystems is basically a change in the way people individually and collectively respond to basic needs and, more generally, how they organise human activities. This is not just a matter of techniques but also of what I have previously defined as value practices.

Permaculture value practices are based on the combination of *ethical principles*, *design principles* and *attitudinal principles*. Design principles are rules of thumb and problemsolving strategies inspired by the experience of human communities' management of environmental resources all over the world and the observation of healthy ecosystems. David Holmgren (2002) provides a concise list of twelve basic permaculture design principles including: «use and value diversity», «use edges and value the marginal», and «creatively use and respond to change». They partially overlap with attitudinal principles that aim to develop a practical wisdom in the approach to the design of complex socio-ecological systems, like «work with nature, not against it» and «the problem is the solution».

Design and attitudinal principles help define strategies of action that must be guided by principles of "earth care", "people care" and "fair share" (or return of the surplus), the three ethics of permaculture. Earth care, people care and faire share are the main value arguments in permaculture. These value arguments of *care* and *distributive justice* are extended from humankind to the many non-human beings and entities that guarantee life is maintained in ecosystems, since "all are our family" (Mollison, 1988, p.3). Consequently, earth care in permaculture means the care of soil, which is in turn

This is a draft version of the chapter. Please do not circulate without permission.

understood as a heterogeneous living community. I propose the term "multispecies commoning" (Centemeri, 2018) to describe the practices of mutualist and non-antagonistic interspecies entanglements that permaculture promotes through its design method and ethics. This implies the adoption of appropriate value practices. My observations confirm that an important part of permaculture teaching and training involves an investment in reawakening the attention given to the importance of what and how we value, with the goal to help to recognise the diversity of modes of valuation and value arguments that should inform a permacultural design. In permaculture teaching and training, the logics of valuation are taken beyond human-centred universal or standardised goal-oriented understandings of value, to stress the importance of context sensitive modes of valuation, including what I have previously defined as "emplaced modes of valuation".

In permaculture design, it is essential to nurture plural perspectives on modes of valuation, from the most universal to emplaced modes. Therefore, a crucial skill in permaculture is the capacity to combine diverse logics of value in the organisation of human activities, with the aim of renewing the bonds of positive collaborations with the "biotic community" (Leopold, 1949). At the same time, permaculturists also strive to avoid "remoteness". Remoteness, as discussed by ecofeminist theorist Val Plumwood (2002, p.77), is the belief that given the right conditions, "'living close to the land' may help generate knowledge of and concern for ecological effects of production and consumption within a local community". As Plumwood (*Ibid.*) emphases, however: "neither this closeness nor the local ecological literacy it might help generate is sufficient to guarantee knowledge of ecological effects and relationships in the larger global community or even a larger regional one. This requires a larger network whose formation seems unlikely to be assisted by economic autarchy".

Permaculture is not simply a technique to regenerate soil. It is conceived and transmitted through teaching, training and "demonstration" (Rosental, 2013), as an *art* (de Certeau, 1990) meant to repair socio-ecological systems and to help people *reinhabit* them. At the same time, it is a movement that, in order to avoid remoteness, tries to foster the creation of networks of reinhabitants and progressively larger "networks of networks" through which alternative institutions can emerge.

This is a draft version of the chapter. Please do not circulate without permission.

"Reinhabitation" is a concept drawn from the intellectual tradition of American bioregionalism. According to anthropologists Joshua Lockyer and James R. Veteto (2013, p.8-9), reinhabitation entails "a process whereby individuals and communities decide to commit themselves to a particular bioregion and live 'as if' their descendants will be living there thousands of years into the future. (...) Bioregionalists often take the indigenous societies of their bioregions as models of long-term inhabitation and sustainability, but work within their own cultural traditions, with a sense of dynamism that does not reify or essentialize traditional place-based cultures".

Through the concept of reinhabiting, Lockyer and Veteto underline the fact that, together with other "ecotopian" and new materialist movements, the permaculture movement promotes an understanding of both politics and the economy from "the standpoint of place" but at the same time has an emancipatory vision: "anyone of any race, any religion, or origin is welcome, as long as they live well on the land... This sort of future culture is available to whoever makes the choice, regardless of background" (*Ibid.*, p.34).

These authors see choosing to be committed to a place (and live well on it) while being engaged in creating new institutions and nurturing networks that ensure certain forms of circulation between "localities" (so as to share knowledge, goods, experience and to support struggles for global justice) as a possible reaction against the standardisation and the ever-increasing dominance of commensuration through the generalised marketisation of all aspects of life induced by dominant value practices. It also represents a challenge to the politically reactionary anti-modernist understanding of place, as the "homeland" determining the entirety of one's identity, past, present and future, in an immutable natural order of things.

The observation of Italian permaculture initiatives confirms that the *art of reinhabiting* requires the development of alternative value practices, resting primarily on context sensitive modes of valuation. This implies that they are "nonscalable", that is, they are permeable to the diversity of contexts and the indeterminacies that originate from the encounter with this diversity (Tsing, 2012b). They challenge locally the hegemony of current dominant value practices but they are always at risk of being recuperated by capitalism.

This is a draft version of the chapter. Please do not circulate without permission.

Like the autonomous urban social centre activists interviewed by Paul Chatterton (2010, p.1216), Italian permaculturists also share the same condition of "dwell(ing) both in the hoped-for and actual world": this implies paying attention to a "more complex and subtle understanding of anti-capitalist practice as not actually just 'anti-', but also 'post-' and 'despite-' capitalist" (*Ibidem*, p.1221).

In line with this more complex and subtle understanding of anti-capitalism, my fieldwork shows how Italian permaculture initiatives leads to the emergence of local "pericapitalist" (Tsing, 2015) economiesⁱⁱⁱ, in which alternative value practices are combined with dominant value practices. Monetary returns are important but not as a goal per se. There are frequent discussions concerning the "just price", especially for the tuition fees to attend permaculture trainings. Diverse solutions are provided to the problem of "just price" with no shared guidelines, with the exception of a generic call for transparency and fairness. Those permaculturists that are actively involved in the movement usually justify their prices, "accept feedbacks" (a permaculture principle) and discuss collectively about it. They share the concern that permaculture risks becoming just another niche in the market of consultancy and professional training, generating mechanisms of competition for profit. Even if some of them consider the market as a potential ally to spread permaculture (according to the permaculture principle that "the problem is the solution"), there is general agreement on the need to reduce consumption and limit profit accumulation.

More in general, the place of dominant value practices in permaculture initiatives seems to become less important when they are integrated into networks of pericapitalist economies that support cooperation and "mutual aid" across localities. Equally important is the participation in networks that openly try to challenge dominant value practices and arguments through also resorting to protest. The *Genuino clandestino* network (De Angelis, 2017, p.294-300) is one such example. Originating from the 2001 initiative of activists in the Italian city of Bologna concerned about the issue of "food sovereignty", this network challenges official systems of food certification, especially for processed foods, through the creation of participatory systems of self-certification and a network of farmer markets distributing self-certified products. It constitutes an alternative economic institution intended to support local initiatives of regenerative agriculture, whether or not they are inspired by permaculture. Actors in the *Genuino*

This is a draft version of the chapter. Please do not circulate without permission.

Clandestino network try to develop not just alternative economies but subversive economies, in that producers and consumers are considered as "commoners". This means the value practices that structure the socio-ecological system they become part of are not oriented towards producing profit but a diversity of ecological and social forms of (common)wealth from which all participants can benefit.

Nevertheless, some of the permaculturists I have met express a certain pessimism about being able to change political and economic actors' visions of value so that other measures of value besides profit are given importance. They believe that the ability to produce economic results is the best proof of the social desirability of permaculture, especially in agriculture. Although these permaculturists seem quite disenchanted, particularly in relation to professional farmers, they try to find opportunities to engage with this public regardless of any initial hostility. For example, Gautier is a French permaculturist living in the Catania province in Sicily who is trying to develop alternative fertilisers based on fish fermentation. He not only promotes them by showing traditional farmers that they are less expensive and more effective but also provides a concrete example of the principles of the circular economy through offering a solution to dispose of spoiled fish. Gautier believes that being able to influence standard production practices at the margins (like fertilising practices) is an important step towards a wider change, even though value practices are not directly addressed. In his view, promoting agricultural regenerative practices is considered a realistic enough objective.

However, this emphasis on the good of ecological regeneration *per se* risks eclipsing the importance of issues of "fair share" and "people care". Permaculturists should be concerned in their initiatives also about issues of social inequalities and forms of exploitation other than soil depletion.

These concerns have a central place in the *Saja* permaculture project started by Salvo and a group of friends in their thirties in Paternò (Sicily) in 2011. Together, they have gradually turned an abandoned citrus grove of 1.8 ha, bought by Salvo, into a diversified polyculture. In Salvo's own words, this citrus grove – called in Sicilian dialect "u Jardinu"(the garden) - is "a place of production and contemplation" and "an oasis of diversity, sociability and resilience", where agriculture is practiced according to principles of collaboration and cooperation with human and non-human beings. The

This is a draft version of the chapter. Please do not circulate without permission.

Saja project also promotes a culture of hospitality, of sharing knowledge, mutualising competences and resources, while valorising diversity. In Salvo's vision, this different approach to agricultural work experimented at Saja's should contribute not only to ecological regeneration but to changing the imaginary of agriculture in the local community, especially among the young. In fact, oranges are the dominant production in Paternò through an intensive monocultural agriculture and the youth unemployment rate in 2011 was 51.3%. Through promoting a local network of alternative agricultural projects that adopt the same culture of hospitality, sharing knowledge, mutualising competences and resources and "multispecies commoning", Salvo aims to contribute to the local production of broader cultural change by "demonstrating" the virtues of ecological care.

The alternative value practices that I observed in Italian permaculture initiatives are articulated with alternative value arguments and emerging socio-technical imaginaries. Recurrent topics in these arguments and imaginaries are those of "transition", "degrowth", "slow living", "conviviality", "living in harmony with nature", "abundance", "rurbanity", inclusion and emancipation, but also "collapse", self-sufficiency, natural order.

There is a certain syncretism in these arguments and imaginaries. This accounts for the fact that some permaculture initiatives focus mainly on self-sufficiency, while other permaculture-inspired projects evolve in niches of the market economy. Whereas some actors believe that you can only change the system by stepping out of it, others think that you have to transform the system from within or build alternative institutions. These approaches to social change coexist in the Italian permaculture community, not without frictions. They pertain to diverse, and sometimes conflicting, *political cultures*. Political cultures can be defined as shared social imaginaries and common "styles of action that organize political claimsmaking and opinion-forming, by individuals or collectivities" (Lichterman and Cefaï, 2006). In permaculture terms, political cultures can be considered "invisible structures", that is, as part of the cultural elements that influence how we relate to other people and the environment. However, they are not explicitly addressed in permaculture thinking either as obstacles or resources for designing effective collective action for change.

This is a draft version of the chapter. Please do not circulate without permission.

Networks of networks and *political ecotones* against the risks of recuperation

Permaculture is generally considered as the expression of a form of environmentalism in which direct actions of repairing, caring and reinhabiting are privileged over more classical forms of political engagement such as protest or lobbying. Instead of being focused on denouncing what is wrong in the current situation, permaculturists are supposed to be positively engaged in taking responsibility and changing things, through creating new forms of organisation of human activities that will hopefully make the existing ones obsolete. Similar to other neo-materialist movements, in permaculture initiatives "the development of community movements and institutions – beyond solely individualized action – is purposeful and pointed" (Schlosberg and Coles, 2016, p.165). What emerges from my Italian fieldwork is that some permaculture practitioners consider individual direct action as the only meaningful way to be politically engaged. These permaculturists show a profound distrust in collective action, including the permaculture movement, and in public institutions. This can lead to a form of "socially conservative individualism", similar to what Matthew Schneider-Mayerson (2015) observed in the population of US "peakists". These are usually "do it yourself" permaculturists who do not participate actively in the associative life of the permaculture movement and refuse formal permaculture training. In other cases, permacultural practices of reinhabiting are considered as complementary to other more classical forms of environmental engagement. They make it possible to reach people who are not into environmentalism, through practical activities and the demonstration of the existence of alternative ways of organising subsistence activities. However, in order to promote social change towards sustainability, policies have to be modified and governments must be convinced to sustain grassroots initiatives. This implies challenging current patterns of power organisation and wealth distribution. More traditional forms of collective action, like lobbying and protesting, are required. To reach these objectives, the permaculture movement supports a strategy of collaboration, coalition and alliances with other collective actors, providing tools and methodologies to organise "networks of networks", designing them as ecosystems whose resilience is related to diversity and the capacity to recognise and sustain emergent positive "patterns". This is done through openness to a certain level of «hybridisation» (Tosi and Vitale, 2009) and the active involvement of permaculturists

This is a draft version of the chapter. Please do not circulate without permission.

in other political movements, in public institutions, in international organisations and in the private sector.

Equally important is the development of what I call "political ecotones", that is, physical spaces - like collective gardens, recurrent gatherings like festivals or fairs, certain local markets, occupied urban open spaces - that can be analysed as transition areas between diverse forms of environmental engagement and diverse political cultures. Through bringing together a variety of people in a specific place around ecological care practices - like agroecology, bioconstruction or local food networks - the idea is to get citizens and activists of diverse political cultures to get to know each other and to recognise common concerns.

In these political ecotones and "networks of networks" that are designed to encourage the expression of diversity, shared value arguments and socio-technical imaginaries start to take shape and try to gain critical strength. But conflicts also emerge, which demonstrates the difficulty of finding a shared normative horizon.

This is a controversial topic in the permaculture movement. In fact, permaculture founders supported a vision of a "non-polarized and non-contentious politics", based on the assumption that "it is possible to agree with most people, of any race or creed, on the basics of life-centered ethics and commonsense procedures, across all cultural groups" (Mollison, 1988, p.508). This "post-political" (Swyngedouw, 2010) belief in the power of life to create a spontaneous alignment underestimates the fact that "life-centered ethics" can be reactionary and not necessarily emancipatory. How should we deal with governments which deny fundamental democratic values while promoting ecological regenerative practices?

In this respect, a crucial issue seems to be the way in which care and its relation to nature is conceived. In permaculture earth care, nature is presented as both a teacher and a partner. References to nature seem to oscillate between an understanding of nature as an expression of an order we have to respect or as an "assemblage" (Dodier and Stavrianakis, 2018), a composite web of life, a variety of "naturecultures" emerging from practices of ecological care. These two opposite understandings of nature - as order and as naturecultural assemblage – entail diverse interpretations of the place of care in the construction of the political community: as a politically conservative or, on the contrary, as a potentially emancipatory value argument. But the emancipatory

This is a draft version of the chapter. Please do not circulate without permission.

potential of care as value argument can express itself only if care is combined with fair share, that is, with the taking into account of solidarities and issues of social and ecological justice.

Permaculture is committed to transforming the modern understanding of the relationship between society and nature, which goes hand in hand with the modern understanding of the relationship between knowledge and experience and between reason and emotion. Permaculture thinking tries to rethink these dichotomies, not as static oppositions but as dynamic and moving frontiers (Cohen, 2018). It is necessary to make this radical challenge to some of the fundamental pillars of Western modern culture while preserving a commitment to social justice and individual freedoms so that a new social imaginary, both ecological and emancipatory, can emerge. French philosopher Serge Audier (2017) discusses the notion of "ecological open society" to define a society in which a social imaginary of justice and emancipation is articulated with the taking into account of ecological interdependencies. More precisely, from my research on the permaculture movement, the real stake appears to be that of finding a way to combine the aspiration to socio-ecological justice with the call for emancipation and the development of "an ethos" that acknowledges that we are immersed, as humans, in non-human natural systems (Schlosberg and Coles, 2016, p.166).

The complexity of the cultural challenge raised by permaculture mirrors the severity of the crisis we are living through, in which ecological, financial and social dimensions are interweaved (Fraser, 2014). The response to this crisis requires change to the personal and the political; it requires reinventing our value practices and our ways of conceiving what worth is, while re-imagining the political community as the result of practices of multispecies commoning grounded in the aspiration to social justice and emancipation. Even if local pericapitalist economies, structured by alternative value practices and arguments, do not represent "the" alternative, they "can be sites for rethinking the unquestioned authority of capitalism in our lives. At the very least, diversity offers a chance for multiple ways forward – not just one" (Tsing, 2015, p.65). However, an economic system that recognises the legitimacy of non-scalable value practices and context sensitive value arguments is, without doubt, not easily compatible with the current form of capitalism.

References

- Armiero, M. and Sedrez, L. (eds) (2014) *A History of Environmentalism: Local Struggles, Global Histories*. New York, Bloomsbury.
- Audier, S. (2017) La société écologique et ses ennemies. Pour une histoire alternative de l'émancipation. Paris, La Découverte.
- Auray, N. (2016) L'alerte ou l'enquête. Paris, Presses des Mines.
- Barua, M. (2016) 'Lively commodities and encounter value', *Environment and Planning D*, vol 34, no 4, pp725–744.
- Boltanski, L., and Chiapello, E. (1999) *Le nouvel esprit du capitalisme*. Paris, Gallimard.
- Boltanski L. and Esquerre, A. (2017) *Enrichissement. Une critique de la marchandise*. Gallimard, Paris.
- Breviglieri, M. (2012) 'L'espace habité que réclame l'assurance intime de pouvoir', *Études Ricoeuriennes / Ricoeur Studies*, vol 3, no 1, pp34-52.
- Calvário, R. and Otero, I. (2015) 'Back-to-the-landers', in G. D'Alisa, F. Demaria and G. Kallis (eds) *Degrowth: A Vocabulary for a New Era*. Oxon and New York, Routledge.
- Cefaï, D. and Lichterman, P. (2006) 'The Idea of Political Culture', in R.E.Goodin and C.Tilly (eds) *The Oxford Handbook of Contextual Political Analysis*. Oxford, Oxford University Press.
- Centemeri, L. (2018) 'Commons and the new environmentalism of everyday life. Alternative value practices and multispecies commoning in the permaculture movement', *Rassegna Italiana di Sociologia*, vol 64, no 2, pp289-313.
- Centemeri, L. (2017) 'From public participation to place-based resistance.

 Environmental critique and modes of valuation in the struggles against the expansion of the Malpensa airport', *Historical Social Research*, vol 42, no 3, pp97-122.

- Centemeri, L. (2015) 'Investigating the "Discrete Memory" of the Seveso Disaster in Italy', in S. Revet and J. Langumier (eds), *Governing Disasters. Beyond Risk Culture*. London, Palgrave Macmillan.
- Centemeri, L. (2011) 'Retour à Seveso. La complexité morale et politique du dommage à l'environnement', *Annales. Histoire, Sciences Sociales*, vol 66, no 1, pp213-240.
- Charbonnier, P. (2017) 'Généalogie de l'Anthropocène. La fin du risque et des limites', *Annales. Histoire, Sciences Sociales*, vol 72, no 2, pp301-328.
- Chateauraynaud, F. (2015) 'Environmental Issues between Regulation and Conflict. Pragmatic Views on Ecological Controversies', *GSPR Working Paper Series*, EHESS.
- Chateauraynaud, F. and Debaz, J. (2017) *Aux bords de l'irréversible. Sociologie pragmatique des transformations*. Paris, Petra.
- Chatterton, P. (2010) 'So What Does It Mean to be Anti-capitalist? Conversations with Activists from Urban Social Centres', *Urban Studies*, vol 47, no 6, pp1205–1224.
- Cohen, A. (2018) 'Usage des oxymores et pratique des lisières', *Cahiers philosophiques*, vol 2, no 153, pp25-37.
- De Angelis, M. (2017) Omnia Sunt Communia On the Commons and the Transformation to Postcapitalism. London, Zed Books.
- de Certeau, M. (1990) L'invention du quotidien. Paris, Gallimard.
- Diaz-Bone, R. and Salais, R. (2011) 'Economics of Convention and the History of Economies. Towards a Transdisciplinary Approach in Economic History', *Historical Social Research*, vol 36, no 4, pp7-39.
- Dodier, N. and Stavrianakis, A. (eds) (2018) Les objets composes. Agencements, dispositifs, assemblages. Paris, Editions de l'EHESS.
- Dussage, I., Helgesson, C., Lee, F. (eds) (2015) *Value Practices in the Life Sciences and Medicine*. Oxford, Oxford University Press.
- Fraser, N. (2014) 'Can society be commodities all the way down? Post-Polanyian reflections on capitalist crisis', *Economy and Society*, vol 43, no 4, pp541-558.

- To be published in: Jens Hoff, Quentin Gausset and Simon Lex, *Building a sustainable future. The role of non-state actors in the green transition*, London, Routledge.
- This is a draft version of the chapter. Please do not circulate without permission.
- Guha, R. and Martínez-Alier, J. (1997) *Varieties of environmentalism: essays North and South.* London, Earthscan.
- Haraway, D.J. (2008) *When Species Meet*. Minneapolis, MN, University of Minnesota Press.
- Haraway, D. J. (1991) Simians, cyborgs, and women: the reinvention of nature. New York, Routledge.
- Holmgren, D. (2002) *Permaculture. Principles and Pathways Beyond Sustainability*. Hepburn, Holmgren Design Services.
- Ingold, T. (2000) *The Perception of the Environment: Essays on livelihood, dwelling and skill.* London, Routledge.
- Kapp, K.W. (1983) Social Costs, Economic Development and Environmental Disruption. Lanham, University Press of America.
- Latour, B. (1993) We have never been modern. Cambridge, Mass., Harvard University Press.
- Leopold, A. (1949) A Sand County Almanac. New York, Oxford University Press.
- Lockyer, J. and Veteto, J.R. (eds) (2013) Environmental Anthropology Engaging Ecotopia. Bioregionalism, Permaculture, and Ecovillagies. New York and Oxford, Berghahn.
- Martinez-Alier, J. (2002) *The Environmentalism of the Poor. A Study of Ecological Conflicts and Valuation*. Cheltenham, Edward Elgar.
- Mollison, B. (1988) *Permaculture A Designer's Manual*. Tyalgum, Tagari Publications.
- Mollison, B. and Holmgren, D. (1978). *Permaculture one: a perennial agricultural system for human settlements*. Tyalgum, Tagari Publications.
- Nixon, R. (2011) *Slow Violence and The Environmentalism of the Poor*. Cambridge and Oxford, Oxford University Press.
- Nussbaum, M. (2001) *The Fragility of Goodness: Luck and Ethics in Greek Tragedy and Philosophy*. Cambridge, Cambridge University Press.

- To be published in: Jens Hoff, Quentin Gausset and Simon Lex, *Building a sustainable future. The role of non-state actors in the green transition*, London, Routledge.
- This is a draft version of the chapter. Please do not circulate without permission.
- Pellizzoni, L. (2014) 'Metaphors and Problematizations Notes for a Research Programme on New Materialism', *Tecnoscienza*. *Italian Journal of Science & Technology Studies*, vol 5, no 2, pp73-91.
- Pellizzoni, L. (2015) Ontological Politics in a Disposable World. The New Mastery of Nature. Farnham, Ashgate.
- Piketty, T. (2014) *Capital in the Twenty-First Century*. Cambridge and London, Harvard University Press.
- Pink, S. (2009) Doing Sensory Ethnography. Thousand Oaks, CA, Sage.
- Plumwood, V. (2002) *Environmental Culture: The ecological crisis of reason*. London, Routledge.
- Polanyi, K. (1977) The Livelihood of Man. New York, Academic Press.
- Puig de la Bellacasa, M. (2017) *Matters of Care: Speculative Ethics in More than Human Worlds*. Minneapolis, University of Minnesota Press.
- Rosental, C. (2013) 'Toward a Sociology of Public Demonstrations', *Sociological Theory*, vol 31, no 4, pp343 –365.
- Schlosberg, D. and Coles, R. (2016) 'The New Environmentalism of Everyday Life: Sustainability, Material Flows, and Movements', *Contemporary Political Theory*, vol 15, no 2, pp160-181.
- Schneider-Mayerson, M. (2015) Peak Oil. Apocalyptic Environmentalism and Libertarian Political Culture. Chiacago and London, The University of Chicago Press.
- Steffen W., Grinevald J., Crutzen P. and McNeill J. (2011) 'The Anthropocene: Conceptual and historical perspectives', *Philosophical Transactions of the Royal Society A*, vol 369, no 1938, pp842-867.
- Stoler, A.L. (ed) (2013) *Imperial Debris. On Ruins and Ruination*. Durham and London, Duke University Press.

- To be published in: Jens Hoff, Quentin Gausset and Simon Lex, *Building a sustainable future. The role of non-state actors in the green transition*, London, Routledge.
- This is a draft version of the chapter. Please do not circulate without permission.
- Swyngedouw, E. (2010) 'Apocalypse forever? Post-political populism and the spectre of climate change', *Theory, Culture & Society*, vol 27, no 2-3, pp213–32.
- Thévenot, L. (1984) 'Rules and implements: investment in forms, *Social Science Information*', vol 23, no 1, pp1–45.
- Thévenot, L. (2001) 'Pragmatic regimes governing the engagement with the world', in K. Knorr-Cetina, , T. Schatzki, and E. v. Savigny (eds) *The Practice Turn in Contemporary Theory*. London, Routledge.
- Thévenot, L. (2006) *L'action au pluriel. Sociologie des régimes d'engagement.* Paris, La Découverte.
- Thévenot, L. (2007) 'The Plurality of Cognitive Formats and Engagements: Moving between the Familiar and the Public', *European Journal of Social Theory*, vol 10, no 3, pp413–27.
- Thévenot, L. (2015) 'Certifying the World: Power Infrastructures and Practices in Economies of Conventional Forms', in P. Aspers and N. Dodd (eds) *Re-Imagining Economic Sociology*. Oxford, Oxford University Press.
- Thibaud, J.-P. (2011) 'A sonic paradigm of urban ambiances', *Journal of Sonic Studies*, vol 1 no 1, http://journal.sonicstudies.org/vol01/nr01/a02, accessed 24 January 2019.
- Torre, S. (2018) Contro la frammentazione. Movimenti sociali e spazio della politica. Verona, ombre corte.
- Tosi, S. and Vitale, T. (2009) Explaining How Political Culture Changes: Catholic Activism and the Secular Left in Italian Peace Movements, *Social Movement Studies*, vol 8, no 2, pp131-147.
- Tronto, J.C. (2012) Le risque ou le care? Paris, PUF.
- Tronto, J. C. (1993) *Moral boundaries: a political argument for an ethic of care*. New York and London, Routledge.
- Tsing, A. L. (2015) The mushroom at the end of the world: on the possibility of life in capitalist ruins. Princeton and Oxford, Princeton University Press.

To be published in: Jens Hoff, Quentin Gausset and Simon Lex, *Building a sustainable future. The role of non-state actors in the green transition*, London, Routledge.

This is a draft version of the chapter. Please do not circulate without permission.

- Tsing, A.L. (2012a) 'Empire's Salvage Heart: Why Diversity Matters in the Global Political Economy', *Focaal–Journal of Global and Historical Anthropology*, vol 64, pp36–50.
- Tsing, A. L. (2012b) 'On Nonscalability: The Living World Is Not Amenable to Precision-Nested Scales', *Common Knowledge*, vol 18, no 3, pp505-524.
- Zask, J. (2010) 'Self-gouvernement et pragmatisme; Jefferson, Thoreau, Tocqueville, Dewey', *Etica & Politica / Ethics & Politics*, vol 12, no 1, pp113–133.

¹ This contribution presents some of the results of the research programme SYMBIOS - Social Movements For The Transition Towards A Frugal Society, directed by Gildas Renou (University of Strasbourg) and funded by the French ANR (ANR-14-CE03-0005-01). Additional funding was provided by the Ecole Française of Rome and the CNRS international mobility programme. I wish to thank Gildas Renou and Anders Blok for their comments on a previous version of this paper.

ii Natureculture is a term that points to the inseparability of the natural and the cultural against an ontological split largely supposed in modern traditions (Haraway, 1991; see also Latour, 1993).

iii Here economy is understood as "an institutionalized interaction" between human beings and their natural surroundings, providing them with the conditions to satisfy "material wants" (Polanyi, 1977).