Playing with Environment without Destroying It: The Chances for Education[1]

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The paper is a speculation on environmental ideologies, in search of new meanings and sources for action. The paper's aims are 1) to illustrate some eco-ideologies, looking at their assumptions and their capacity to interpret environmental crisis charismatically; 2) to show whether the metaphor of game playing is a way to increase the heuristic capacity of these ideologies; and 3) to exemplify this effort by looking at environmental education. Four main environmental ideologies are identified: eco-modernity, environment stewardship, political ecology and deep ecology. They are held within classical dichotomies (actor-system and symbolic-instrumental) that neglect a typical free human relationship, motivated by the search for amusement. Thus, the game/play metaphor is recalled, adapted to environmental crisis, and applied to a special but very frequent activity: environmental education.

Keywords: eco-ideologies, game playing, environmental education

Premise

There are two urgencies in interpreting environmental crisis. The first is to overcome both the simple optimism-pessimism dichotomy, or faith in problem-solving technology, and the inevitable tendency towards catastrophe. Both perspectives support a naïve interpretation of the human being as naturally good or intrinsically wicked. The other concerns the search for pro-environment motivations that should overcome humans' emotional response—pity or wonder for animals or nature—and their rational knowledge. To be clear, both are very important for founding a strong engagement with the environment, but they are not enough. We look for further motivations in the field of situated relationships, thinking that the pleasure of interacting with humans is strictly and positively coupled with pleasure in the environment that hosts those interactions. Such a vision is not a political blueprint but, inevitably, there is a link between the normative and the analytical dimension of a social phenomenon (Wutich et al. 2018). A clear and convincing interpretation of reality moves people to action, and vice versa. We could call it ideology—that is, a systematic vision of the world innervated by a charismatic perspective of social change: Gramsci's concept, according to Knud Erik Jørgensen (1992, 37), that can be found in peasants' mobilisation (Borras 2016). The challenge is to see whether environmental ideologies can be improved by adding some ludic meanings. A rich terrain to explore such meanings is environmental education.

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Embedding Environmental Ideologies

Two general pairs of concepts are used for embedding the great variety of positions on environmental crisis. The first runs along the instrumental-symbolic continuum. It is a well-known dichotomy used in many fields of research (Pryor et al. 1989; Cary 1993), conceptualised by psychologists in terms of intrinsic and instrumental motivation (Deci 1975, 23). It has long been discussed in environmental studies, too (Kaufman 1980). Despite many doubts (Klain et al. 2017), the dichotomy still guides research on sustainability:

> Instrumental values represent the value of ecosystems as merely means to an end and are often measured in monetary terms. By contrast, intrinsic values refer to the value of ecosystems as ends to themselves and are often represented as moral duties (Arias-Arévalo, Martín-López, and Gómez-Baggethun 2017).

The second pair is more a part of sociology and concerns the contraposition between the actor-oriented and system-oriented perspective (Lele et al. 2018, 9). The former insists on conscious choices of actors, the latter on impersonal mechanisms working among systems. Classical debate has reflected this dichotomy, opposing Weber, expounding a sense and will of action, to Durkheim, emphasising categories, classes or areas. Such opposition is found in many fields of research: the sociology of development (Verschoor, Hebinck, and Ouden 2001), science and technology studies (Geels 2004) and environmental sociology (Spaargaren and Mol 1992).

The most famous attempt to overcome this dichotomy was the structuration theory of Giddens (1984). Many other authors in the past and more recently have sought a stratagem for managing the supposed ontological difference between agency and structure (Forsyth 2003, 135; King 2010). The point is that it still works in organising our research. Thus, it legitimates the building of a typology of environmental ideologies.

Crossing the two pairs of categories, we obtain a fourfold typology for placing the different ideologies of the human-nature relationship (Figure 1). We call them ideologies because they are both representative of a socio-environmental issue and a source of militancy for changing it. In other words, they contain both an analytical perspective and an activating ethic (see Public Sociology, Stuart 2021).

		Attitude towards environmental goods	
		Instrumental	*Symbolic*
Analytical perspective	*Actor-oriented (overcoming nature)*	Eco-modernity	Environmental stewardship
	System-oriented (integration with nature)	Political ecology	Deep ecology

Figure 1. Main ideologies of environmentalism in social and cultural disciplines

Four Environmental Ideologies

Eco-modernity is a legacy of ecological modernisation. Even if they have a different background, they share the idea that environmental issues can be reasonably overtaken: it is a matter of means. For Mol and Spaargaren's (2000) ecological modernisation, these were essentially socio-political: environmental issues can be tackled with more social participation and governance. It is therefore a matter of reflexive modernisation, implying the enlargement of closed circles formally enrolled with each ecological issue, from water to air and land use (Mol and Spaargaren 2000). A consequence of this approach is the *over-socialisation* of nature (Murphy 2002), with the risk of completely absorbing nature into human societies. It is a position to be found in the epigones of ecological modernisation.

Eco-modernity supporters 'affirm one long-standing environmental ideal, that humanity must shrink its impacts on the environment to make more room for nature, while we reject another, that human societies must harmonise with nature to avoid economic and ecological collapse' (Asafu-Adjaye et al. 2015, 6). Eco-modernists then recognise a basic assumption of ecologism, that the human species has enlarged too much, but they simultaneously refuse another solid principle of the same ecologism: fusion with nature, being the idea that humans must integrate their own aims within a more general ecological balance.

Such a balance does not exist. People throughout history have so modified the natural settings that their pristine, original, intact nature can no longer be recognised. Wilderness disappeared both because of massive final colonisation— of America in 1610 (Mentz 2015)—and because of the capacity of humankind to modify its generation of life and energy. Bio-engineering and atomic energy can be taken as symbolic and practical examples of a turning point. In fact, eco-modernity is associated with a new era, the Anthropocene (Di Paola 2018).

Eco-modernity more than ecological modernisation legitimates the idea that technology is specifically a human product which irreversibly transforms the internal and external nature of humans. Moreover, this change is largely positive, or at least not to be challenged or stopped for moral reasons. It is a matter of freedom to develop our own individual creativity. Modernity in fact means change, without any other attribute. Changing continuously is the character and the duty of our times. It is not possible to stop the ongoing transformative action of human beings.

This implies the end of nature-culture dualism or, rather, that distinction is no longer a source of knowledge and moral bonds (e.g. natural rights). Political ecology—an ideology we will see later—contextualises the idea of eco-modernism followers that pristine nature has disappeared. According to Andrew Bauer and Mona Bhan, nature is still used as a performative category, a point of reference that works both for imposing the hegemony of Western culture and neglecting a variety of social, gender and ethnic features characterising humans. They problematise 'the Anthropocene narrative's use of Nature as a universalising category that previously stood outside culture, society, politics, and history' (Bauer and Bhan 2018, 104).

Thus, the overcoming of nature enacted by modern individuals, presented in Figure 1 as a feature of actor-oriented perspective, is lately confirmed along with the full instrumentality of everything. Eco-modernists drastically solve the problem of the nature-society border: such a border no longer

exists. All the synthetic products are rights; possibly, attention must be paid to by-products and then to recycling, according to the principles of a circular economy. Not surprisingly, wide support for nuclear energy is seen among eco-modernists (Lynas 2015).

On the same lines of the actor-oriented perspective, when mixed with a less instrumental meaning of nature, we meet environmental stewardship ideology (Passmore 1974). According to Welchman (2012, 299), there are four attributes that make the term stewardship fitting for a moderate commitment to the environment: guardianship, landholding, enduring relationship and the exercise of moral virtues. Contrary to the previous ideology, stewardship induces an enlargement of pro-nature militancy. Everybody can become a steward, a good administrator of common resources. The eco-modernist background is strongly marked by scientific appointments (a sort of scientific environmentalism), while environmental stewardship insists on voluntarism, daily actions, the caring attitude of normal people.

We can add that in environmental stewardship there is a stronger motivation to act that comes from the religious origin of the practice. People, NGOs and institutions have to manage a general public good to keep it in a good condition for future generations against the claims for immediate and irreversible use that can arise from privatisation or free riders. It is clear that this ideology motivates the conservationist wing of the ecological movement (Osti 2007). A sense of responsibility for public values of the environment justifies the placement of this ideology under a symbolic attitude (Figure 1).

The objections to this position are twofold. One concerns the degree of respect and the selection of species of which to take care. Stewardship maintains a paternalistic attitude towards nature without specifying the mix of use and conservation for every single species or ecosystem. The stewardship ideology is not accountable because its background is clearly anthropocentric; no clear criteria of protection can be established, justifying the camouflaged depletion of natural resources.

The other source of criticism concerns paternalism used as a general reproach to stewardship: not only is it imbued with meanings of domination over nature, females, minorities and so on, but it is also supported by a religious creed. Good administration of nature is done on behalf of a third superior entity, traditionally God. Without the existence of this entity, it is not possible to activate stewardship. In a secularised world or a lay context, as most public places are, environmental stewardship risks remaining without inspiration.

Welchman (2012, 306) says that some values, like justice and the wellbeing of future generations, can work in a God-like way. They alone have the prestige and sacredness to substitute, for example, the Christian God. This is an old problem for secularised societies: they need shared, collective values, but they cannot sanctify them too much. The robustness and cultural matrix of the original motivation thus remains a problem in this ideology. Nevertheless, it has achieved two important results: it has reconciled the Christian Churches to environmental issues after a long period of misunderstanding about ecological movements (the Lynn White quarrel), and it has allowed companies to find an active role in the environmental renaissance, even if with the weak (and debated) instrument of corporate social responsibility.

Mixing a system-oriented perspective with a more instrumental use of nature, we have an ideology called political ecology. This is part of a broader political economy approach to environmental issues.

> It is political economy (not 'economics') in the sense that it sees the creation and distribution of wealth as a process involving both regulation by extra-economic institutions (notably the national state and its ancillary bodies) and social struggle—struggle between different actors over their size of the economic pie (e.g. capitalists and workers), and/or with those contesting the wider implications of economic activity on ostensibly non-economic grounds (such as 'deep ecologists' protesting against airport expansions and road building programmes) (Castree 2010, 1735).

This definition contains three analytical elements: a) three structures: the state, companies and non-economic actors; b) the struggle for distribution of wealth; and c) the instrumental role of environmental protest. Such a framework seems then well placed in the system-instrumental combination (Figure 1): social bodies and ecological conflicts turn around the wealth distribution, emphasising deep inequalities (Sovacool 2016, 531).

Such a school pays indirect attention to actors (e.g. environmental movements): its main focuses are the impersonal advancement of capitalism, the logic of opposed interests, and the situation of injustice that it is so created. The environment, energy or other issues, such as the welfare state, are only research fields in which to exemplify the struggle of capitalism against the forces opposing it. In that sense, environmental issues are instrumental to a wider conflict happening on the world scale.

Thus, the real analytical dimensions of political ecology are a) accumulation by dispossession; b) economic interests; and c) the regulation of possible conflict between capital and peripheral classes. Capitalist forces can be so overarching that struggle does not even happen. However, the reference to a spatial dimension of exploited classes opens up new scenarios. The principal territorial scale is international: companies are able to extract and move values in every corner of the world. Moreover, such an economic complex can use scaling up and scaling down to reinforce its activities of dispossession (Green 2016). However, more flexible political economy approaches recognise that local communities, sometimes supported by transnational NGOs, can react to the overarching forces of capitalism. We thus arrive at comparative political economy—a sort of network-institutional analysis in which the autonomous role of public administration and third sector organisations is considered crucial for socio-environmental balance (Owen-Smith and Powell 2008).

If the stewardship approach focuses mainly on natural goods conservation, political ecology looks at uneven distribution of the same resources. Thus, environmental injustice is the heart of this approach. To the extent that it considers grassroots action or independent government agencies, it moves from a simple perspective of the dependency of one system on the other to a broader approach overcoming the categorisation of Figure 1. This situation is indeed quite common, because the dialectic of conceptual positions is always open.

Crossing symbolic value given to nature and with the system perspective has been called deep ecology, a very old label. The Anarchist Library put online the 'Basic principles of deep ecology' elaborated by Arne Næss and George Sessions in 1984. The original source is the website www.deepecology.org; the retrieval by the Anarchist Library in 2011 is an important sign of who is interested in this label.

The first principle is 'The well-being and flourishing of human and nonhuman Life on Earth have value in themselves (synonyms: intrinsic value, inherent value). These values are independent of the usefulness of the non-human world for human purposes' (Næss and Sessions 1984). This overlaps perfectly with the first metavariable of the scheme (intrinsic vs. instrumental value). Less apparent is the coincidence with the second metavariable, system perspective. Some signs of that are seen when Næss and Sessions underline that 'the term "life" is used here in a more comprehensive nontechnical way to refer also to what biologists classify as "nonliving"; rivers (watersheds), landscapes, ecosystems' (Næss and Sessions 1984).

The authors also explain the basic programme of deep ecology: 'Ecological processes of the planet should, on the whole, remain intact. The world environment should remain 'natural)'. In this sentence, there is a strong assumption that human beings are a simple part of an environment, to be kept intact.

The second principle relates to what we call now biodiversity: '[The r]ichness and diversity of life forms contribute to the realization of these values and are also values in themselves' (Næss and Sessions 1984). The successive principles are less linked to the concept of ecosystems; they contain suggestions for humans of a decrease in demographic and interference; radical changes, especially at the ideological and political level; and glocalism. The latter two principles show the moral duty for subscribers to implement these ethics.

The third principle contains an exception that must be mentioned: humans have no right to reduce the richness and diversity except to satisfy vital needs. It continues: 'The term "vital need" is left deliberately vague to allow for considerable latitude in judgment. Differences in climate and related factors, together with differences in the structures of societies as they now exist, need to be considered (for some Eskimos, snowmobiles are necessary today to satisfy vital needs)' (Næss and Sessions 1984).

These statements reduce dramatically the supposed radicalism of deep ecology. Nevertheless, this ideology has produced many socio-environmental forms. According to Nathan Kowalsky (2014, 95), 'the "depth" that attracted so many people to the movement, Abram suggests, was the element of subjective relation to the perceived world which embedded the human being within the landscape, as opposed to the "detached and impartial perspective" idealised by modern scientific ways of knowing. It is not a refuse of science in se but a cognitive function: the neat non-interference position attracted for its radicalism and capacity to mobilise social energies'.

This radical cognitive function, however, seems finished: neither scholars nor militants relate to deep ecology. Probably the two weaknesses of this ideology are the lack of clarification on the special position of human beings in the cosmos (Zimmerman 2014) and the confrontation with the social question of how environmental issues interact with differences and inequalities among

humans.[2] Despite eco-modernism being the specular position of deep ecologists, the main challenges are with environmental stewardship, which insists on weak anthropocentrism, and political ecology, which emphasises environmental injustice. Kowalsky (2014, 99) thus concludes a special issue on (philosophical) deep ecology: 'if it has an essence, is its dispersal equivalent with death? I'm inclined to think that deep ecology is constituted by the intuition that there is something fundamentally flawed about the current state of global civilisation'.

So we return to the cognitive function exercised by radical criticism toward Western civilisation. The position of deep ecology is strong, but evidently without a specific analysis of people's position in the world and in the society, it is destined to lose its revolutionary impetus.

Lateral Connections between Eco-Ideologies

Following the presentation of the main eco-ideologies, the next step is to identify relationships among these ways of thinking about environmental crisis. We have seen some contraposition—for example, that of deep ecology with political ecology and stewardship. Thus, what seems a lateral position becomes opposition, and what seems radically different presents some conjunctions. The lines of conjunction are visible in Figure 2. The dotted line can be labelled 'interactive models': it means that for both stewardship and political ecology, relationships are important, even if for different reasons. For the former, care is essentially a relationship of assistance between someone in need and someone else able to provide a benefit. We tackle the criticism of how paternalistic this relationship is, using the concept of asymmetrical reciprocity (Young 2001; Alici 2004).

This kind of reciprocity is the link with political ecology. The Marxist background of this approach is clearly relational and asymmetrical. In fact, the exploitation is based on an unbalanced production relationship: it can take a centre-periphery or an ethnic discrimination form, but it is, after all, a relationship. This interactivity is then the common feature of two ideologies that return to divide each other on the meaning of the asymmetry.

<table>
<tr><td colspan="2"></td><td colspan="2">Attitude toward environmental goods (mainly)</td></tr>
<tr><td rowspan="3">Perspective of Analysis</td><td></td><td>Instrumental</td><td>Symbolic</td></tr>
<tr><td>Actor-oriented (overcoming nature)</td><td>Eco-modernity</td><td>Environmental stewardship</td></tr>
<tr><td>System-oriented (integration with nature)</td><td>Political ecology</td><td>Deep ecology</td></tr>
</table>

Figure 2. Logical interconnections of eco-ideologies

The continuous line of the scheme represents models focused on unilateral behaviours in the environment. Eco-modernists exalt the creativity of men and women (design); synergistic action

[2] Here the position of social ecology is compared with deep ecology (Bookchin and Biehl 1995).

with the environment will not only close the circles of production and consumption, but also increase biodiversity. Humans are agents, but acting in only one direction: the progressive modernity of individuals. Deep ecologists develop the same unilateral behaviour in the direction of extreme adaptation to a degraded and irrecoverable environment.

Damian F. White notes that 'For such currents of end times ecology [romantic environmentalism and deep green politics], the Anthropocene as catastrophe necessitates a melancholic politics of mourning for the world that has been lost and perhaps the need to embrace a new survivalism as we await collapse' (White 2016, 176). The negative evaluation of environmental trends pushes towards a retreat from the world in alternative practices and places. This withdrawal entails the strict selection of relationships, if not complete isolation from other human beings considered as 'rapacious primates' (White 2016, 179).

Thus, the opposition to the other interactive model is deep and indicated by an anthropology highlighting a specific behaviour or tendency of human kind: the explosion of creativity (eco-modernists), or the capacity to resist with dignity and coherence to the collapse (survivalism). Evidently, the attitude towards the world—optimistic or pessimistic—is diametrically opposed, but the model of humankind is similar. For the interactive model, network and critical analysis are favoured; for the environment and behaviour model, experimental researches and cultural studies are preferred. Despite all these distinctions and intersections, such ideologies touch only part of human action towards the environment. A further perspective, based on game, is promising.

Game Playing, the Addendum to Environmental Crisis Interpretations

The game/play perspective has a wide range of meanings. Three fields of research seem prominent: a) studies of a historical and anthropological nature; b) researches on recent massive social phenomena; and c) the use of game as a metaphor for the entire functioning of society—that is, 'every institution partially works as a game' (Callois [1967] 1981, 83). The latter field is favoured in this section and will be used in an attempt to create a framework for interpreting environmental issues.

a. The first type of study places game at the core of human adventure. It is an activity existing in human communities since the beginning of history. It also has ethological meanings—that is, playing has many similarities with parts of the animal world (Doni and Tomelleri 2011, 16). Furthermore, it is a primary source of people aggregation, as well as sexuality, parent-son relationships (Meyer 1996). Games work as rituals for recovering the past, elaborating the loss of persons and objects, and covering a sense of emptiness. Games exorcise ambivalences—the fear and attraction of danger, the pleasure in being tormenter or victim. Specifically for the environment, the fear of losing species or ecosystems can be alleviated through the practices and rituals of safeguarding.

Anthropological meanings change over time. There is a strong stream of research on the history of games. Huizinga is the progenitor, offering the first organic definition of game (Huizinga 2002, 35). The seriousness of games can be seen in the accuracy with which authorities organised them.

However, it would be simplistic to think of games in history purely as tools for maintaining power. They hold an intrinsic ambivalence between the security coming from following rules precisely (rituals) and the indeterminacy of the results, when the weaker or the marginal team can win, embarrassing the authorities organising the games.

b. For the second type of study, it is convenient to distinguish some concrete and widely spread activities. The first is the analysis of organised, well-delimited sport activities. The most important example is football. Despite it being played in remote corners of the world by boys without shoes, it is the *ne plus ultra* of organisation, financial impact and number of followers. The second field concerns ludic activities, which are activities undertaken for pleasure, even if modern societies have organised them, too. They overlap sports in some points—for example, biking is a way to play, a tourist activity and a means of competing at different professional levels. However, the most concrete macro-example is tourism. The third field is gamification. This is the tendency to introduce elements of competition by the quantification of activities that generally are done in a simpler way. It may concern both ludic and sport activities, but the novelty is the pleasure of 'measurable agonism'—that is, the desire to outdo others and oneself (comparison) in a particular way thanks to a better performance. Thus, for volunteer artistic activities, a prize competition is organised for the best theatre company play. The number of spectators or followers on social media are accurate indicators of relative successfulness.

c. The multidimensional and overlapping nature of game/play offers a formidable metaphor for what humans do with environmental goods and ecosystems. Generally, we think according to the previous dichotomies that people contemplate/take care of the environment or they transform it for instrumental reasons. Indeed, there are further motivations, among which is playing with the environment to achieve pleasure for oneself and others. Thus, the primary scope is not protection of the environment, but support for improving intra-human relationships.

The aim is to develop a model of environmental actions that is plural: it should consider the classical stewardship and instrumental motivations, but add specific drivers coming from the pleasure of playing. This idea is not new. Environmental NGOs have discovered the great potential of gamification, creating mild competitions among young people for recycling waste (Szaky 2016). Psychologists of the nudge approach have demonstrated that making a dweller aware of the better performances of neighbours pushes that neighbour to improve his or her own energy use (Cialdini 2007).

These evidences show that game is deeply rooted in the human condition, almost an ontological dimension. It can offer not only a means for people involvement in a cause, but also interpretative keys for their behaviours. The approach is thus to develop the metaphorical or representative potential of game/play theory. We start with some advantages game can provide to social sciences theorisation.

The first is the already mentioned distinction between game and play that Callois ([1967] 1981) formulated respectively with *ludus* and *paidia*. Usually, the former indicates a set of rules, the latter the practice, the effective execution of the game. The fusion between the two terms comes from the idea that rules are not simply followed, but interpreted and partially modified during each game.

‘We can understand these actions as moves in a game, of which the rules somewhat alter while the game is being played’ (Geels 2004, 908).

Situational factors and relational contingency intervene in compliance with game rules. Thus, game playing helps to overcome a typical actor-structure dilemma, as indicated by Bourdieu: the best example of disposition is undoubtedly the sense of game (Bourdieu 2009, 163).

Another advantage of game metaphor is the capacity to keep a variety of types under the same umbrella. Scholars agree that it is better to speak of games in the plural (Rovatti 2017). Callois ([1967] 1981) identified four types of game: *agon, alea, mimicry* and *ilinx*. This delineates a conceptual improvement in social analysis, always searching ways to conjugate differentiation and unity of society.

Play has ‘primacy over the consciousness of the player’ (Gadamer 1992, 104). This is a famous statement that can be interpreted in opposing ways: to mortify actors’ subjectivity or with a proper consideration for the dynamics of society, a so-called emergent quality that justifies sociology. Nevertheless, Gadamer’s insistence on playing as an over-individual context does not simply affirm games’ rule constraints.

According to Mongardini (1998), game is an institution (or a fixed representation of society); beside this, there is the capacity to play with the rules— that is, the ability to interpret and manipulate the rules, like a lawyer or an orator. Finally, there is the third level— the game of sociability that is played outside society. This is Simmel’s term,[3] indicating soft relationships into which the personality and social rank of the actor do not enter.

Thus game metaphor represents very well the actor-structure continuum, going from a super-socialised individual to those able to abstract themselves from any role or identity. Game as the ability to distance oneself from an assigned role is an idea also expressed by Goffman (1961) and Fink (2008). It is a further way to overcome the classical dichotomy between actor freedom and structure conditioning: the subject, limited by rules and nature, constantly searches for new combinations or game schemes. The footballer has precise rules to follow and some physical limits; his ability consists in combining actions and relations with other players in a way to achieve a certain result. In this perspective, game playing becomes a metaphor for society—a continuous and changing assembling of things, gestures and environments.

Beside conceptual advantages, there are some heuristics of game: seriality and the blurring of borders. Seriality is motivated by the fact that nobody is able to take complete control of the situation. The game remains in a sense ‘always open’; thus, indeterminacy moves to a further game in an endless relationship (Carse 1987). Carse adds that it is difficult to close a game because it is based on reciprocity, the desire to maintain a relationship with others. This is closer to the meaning of a modern gift, in which the partners take pleasure in the relationship itself or, at least, they are

[3] ‘Playing cards have a decidedly ludic function that evokes Simmel’s 1910 address to the German Sociological Association in which he defines sociability as the play form of association, a form related to the content-determined concreteness of association as art is related to reality’ (Ereck 2014, 51).

unable to stop it, because of duty to give, receive and return (Godbout 1998). Playing games falls in the register of free activities, gifts, donations and not-for-profit organisations.

Doni and Tomelleri (2011) place repetition in the grammar of game as an invariant and basic feature. However, the meaning they ascribe it is ambivalent. Firstly, there is a pleasure in repetition: children and older people generally like catchphrases. Moreover, repetition gives a sense of security: the game becomes a sort of bubble of happiness in a grey or threatening world (Fink 2008). However, the benefit of game repetition also risks being a mask in Freud's sense: the obsessive repetition of an action hides neurosis, almost an impulse to death (Deleuze 1976).

This interpretation moves towards pathologies like compulsive gambling disorder, a universe of hurt and addiction that shows the dark side of game and gamification. Nevertheless, repetition can assume a radically different meaning: reversibility, sequence, seriality—that is, an ordered replication of the scheme but not of the result. The immediate example is the regular season of a championship. In this case, the rule of matching all twice protects the weaker teams. Game works in a double sense: as a legal guarantee for the weak and as chance to reverse the results. The possibility of repeating the game gives insurance for those who are not the favourites. The rules of seriality, moreover, reduce conflict. It is channelled within robust rules and a sequence of games that dilute sharpness and hostility. Regular games sublimate violent opposition. They have a diplomatic function, well known since antiquity.

A further heuristic of game metaphor is the blurring border between reality and fiction. We usually confine game in the sphere of the ludic, non-instrumental, imaginative, relaxing. It is a sphere completely detached from real life, which comprises working, keeping healthy, gaining money, going to school and so on. When playing or watching a game, people are in the aforementioned bubble. Scholars say the situation is more complex because the border is osmotic.

According to Fink (2008), games were magic in origin and represented the foundation of society. More than clans or power celebrations, games united the community in explosive festivals. Games have been successively secularised, becoming something more similar to the relaxing bubble previously described. However, the original meaning is not fully lost: the Olympic Games are probably nowadays the last common celebration of world community. In sum, games represent a real moment of foundation, and ludic activities legitimate the serious ones.

A second factor of connection is the interdependency between real and game moments. The latter are functional to keep order in the former. People need *panem* and *circenses* to keep them subjugated or ready to give support to a leader or political faction (clients). The modern version of "bread and circuses" has several variants. The cases of gamification affecting work or consumption regulation presented by Bittanti and Zilio (2016) can be interpreted in this way.

A third point of conjunction is space, the physical space in which both ludic and real activities happen. Again, Fink (2008) raises this matter. Such spaces can be contiguous—think of the workplace gym, for example and allow players to compare themselves with others and show their different abilities (De Conciliis 2017, 83). But there is a deeper relationship with space. We have codified game as always present in human relationships as Goffman's role distance, the ironic interpretation of a task—in general, a capacity to play with others' expectations. This joyful

dramatisation requires not only an actor's ability, but also scenery and a setting—in other words, a place. Game and reality are then mixed in most of our activities, especially in those practices with high relational content, such as negotiations between diplomats. In this latter case, game represents almost all the ambassadors' dealing.

We can stylise the interconnections between fictiveness and serious activities in the following ways:

- All real situations are a fiction. During a funeral, not all the people feel pity for the dead, but they cry or show grief. It is the triumph of hypocrisy, the ideal typical situation considered by Erving Goffman (1956) in his theory of dramaturgy.

- In any situation, moments of fiction and moments of realism alternate. On a battlefield, the commander moves troops for real or sham attacks. These are the strategic behaviours thought by Crozier and Friedberg (1977) to describing life within industrial organisations.

There is a third situation in which game and seriousness are so intertwined that it is difficult to keep the conceptual distinction. The extreme ability and ambiguity of actors, coupled with difficulties in the perception of the environment, produce such situations. The world of spies and secret services is an example. Not only are double-cross (*doppio gioco*) pertinent cases, but there is also an element of self-cheating, where people play with their own lives without full awareness of what they are doing. Not by chance, Simmel ([1908] 1989) assimilates game with other strange activities like adventure and travelling.

The Environmental Game Framework

We have arrived at a point in dealing with the game/play perspective where a translation to environmental issues is possible. The focus is on the bundle of intra-human relationships in which playing games is relevant. To look at games means to consider human-environment relationships in new ways, adding to traditional instrumental-symbolic meanings a relational dimension that is usually lacking in environmental sociology.

The framework, already experimented with in relation to energy (Osti 2018), can be divided into game conditions and qualities. The former are necessary elements for envisaging an environmental game; the latter are specific features that are present in a big way, allowing us to elaborate a research hypothesis. The conditions are:

1. An environmental issue broadly framed as game (competition, race, performance, trial, context, talent show).

2. Socially recognised players: NGOs, environmental agencies, eco-entrepreneurs. Competitors can be alone against an impersonal body like an ecosystem.

3. A playground—a physical place where the game happens. Generally, for environmental causes, this is a public place like a tribunal or meeting room, or a square. Virtual games are excluded.

4. A referee or arbiter. This is not simply about observing the game rules, but having a person or a team ready to interpret those rules in situ.

Game qualities are:

1. Publicity, in two senses: an environmental game is stronger if there are many spectators (public), and a game is more representative when rules and conditions are known (transparency).

2. Tokens: a game is more attractive when the tools for playing—toys, in Fink's (2008) language—are important symbols for the society. Charismatic species or mega-fauna are a good example in the environmental field (Ducarme, Luque, and Courchamp 2013).

3. The chance to repeat the game. Repeating the game provides many opportunities, not least developing cooperation among players, which is codified in classic game theory.[4] Repetition promotes abilities and usually protects the weaker player. Finally, it has a special meaning for environmental goods, whose problem is irreversible degradation. The idea of repeating the game imposes conservation of the environment that is an integral part of the competition.

4. Game-seriousness swing. It is difficult to codify this dimension. Evidently, relationships in which seriousness alternates with jocular moments are more mature and productive, because of the flexibility of the actors, a shared sense of humour and an awareness of each other's limits. How to capture such a dimension rests on participant observation and ethnographic methods.

Games for Environmental Education

Environmental education (EE) is a good test for game/play theory because it is considered an amusing and involving ecological activity. It is often considered a secondary activity (Palmer 1998, i) compared to environmental politics, but organisations rarely do nothing in the field. A quick search on the issue of water shows how educational activities are flourishing in a variety of organisations: utilities, NGOs, schools, companies. EE evidently has an ancillary function; its relevance is linked to the dominant idea of environmental issue in a society (Bohr and Dunlap 2018).

According to our scheme (Figure 1), followers of stewardship ideology should prefer environmental education. To take care of the environment necessitates actors' knowledge and the enrichment of relationships between humans and ecosystems. Because EE leverages actors' awareness, its results are too slow and de-politicised for political ecology's followers. 'Political ecology has historically lacked a framework for understanding how pedagogical processes mediate relationships with the environment' (Meek and Lloro-Bidart 2017, 214). On the other hand, eco-modernists can see environmental education at worst as a set of instructions on the physical world, at best as an institutional activity capable of 'instilling environmental awareness' (Olya and Alipour 2016, 124). Finally, deep ecologists insist on holistic full immersion approaches to nature and learning by feelings (Jickling 2000). These are general observations, giving the sense, however, that environmental education is not considered in all its richness.

[4] We call it 'classic game theory' to distinguish it from the anthropological approach used in this paper. See Axelrod (2006).

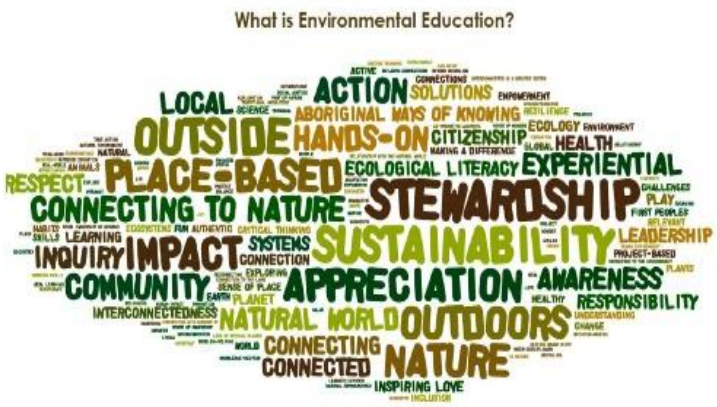

Figure 3. Word cloud of environmental education (Source: https://cbeen.ca/cms/wp-content/uploads/2015/07/Environmental-Education--e1503356462362.jpg, accessed 26 July 2018)

It is interesting then to ascertain whether the game/play perspective adds some insights to the pedagogy of most important ecological ideologies. In general, EE programmes mention games as a technique for improving the learning process and satisfying the authentic needs of children (almost all the programmes are for young boys and girls: they rarely cater for teenagers). A second general aspect is the competitive formula. Individuals and, more often, groups and school classes are invited to attend a quiz or write an essay on an environmental issue, the prize for which can be money, a cultural trip or educational tools. Prizes are delivered publicly in the presence of authorities.

This is the usual phenomenology. Game metaphor, however, aims to penetrate the intimate structure of environmental education to find some heuristics. Many disciplines deal with the subject of game and education. In the Marxist-inspired urban sociology, reference to game is ambivalent: on the one hand, gamification is seen as the quintessential control of minds and expropriation of value; on the other, it is a source of liberation and sense-making:

> One can say that there will be play between the parts of the social whole (plasticity)—to the extent that play is proclaimed as supreme value, eminently solemn, if not serious, overtaking use and exchange by gathering them together (Lefebvre 1996, 172).

Lefebvre soon after this sentence mentions the arts and philosophy as tools for organising urban games, seen as oeuvre. According to Huizinga (2002), poetry and music are strictly linked to games because of their capacity to represent respectively myths and useless activities. Desire to know (*epistemophilia*) is frequently mentioned in attitudes towards nature (Fellin 2018). Both appear fundamental tools of environmental education. However, both remain ambivalent, because the desire to represent or know nature is a typical individual activity (New 2015; Sciachittano 2017).

In contrast, games most often are relational. The Self has to face the other—often others or the generalised other. Egocentric perspectives and positions are then tempered. Games' temperance allows the introduction of another possible heuristic for environmental education. As mentioned in the introduction, we have to overcome Manichean positions on environmental issues. A measured use of games in environmental education can promote gradualism, incremental change and the dialectical composition of oppositions.

Gradualism, seen by John Urry (2010) as one of three main discourses on climate change, is typical of every educational activity that advances by steps, loops and evaluations. Game playing has the same structure, especially when repeated. Such uniformity does not concern how nature or society change. In this case, game metaphor represents an exception, that suspension from the world that provides insightful chances for education.

Zoletto (2017), following Masschelein and Simons (2010, 2013), develops the metaphoric capacity of game, considering school as a vacuum, an empty space where students can play without the constraints of their social origin or personality. This recalls the wonderful concept of sociability (Simmel [1984] 1997) applied to the school context. Real inclusion—think, for example, of sons of foreigners—is not to promote differences but to allow a free and protected stream of experiences. This is playing a game. With some rules to follow, it means experimenting with a world partially closed to the external sharp rules of competition and discrimination.

The game metaphor can be applied to different school disciplines: some are so important and easily evaluated, such as mathematics, and they tend to reproduce social and cognitive unbalances; others, such as the arts, religion and physical education, can be better viewed as a vacuum in which to experience creativity and deliberation. EE can be the same. However, the parallel is more intriguing. The real stake, like in a game, is not to give students maximum freedom as they go wild in the classroom, but to foster a new intermediation with the external world. It is again the swing of realism and fantasy during human game-playing (Winnicott 1975; Monnier 2012).

If we consider the environmental crisis a new phenomenon without a specific discipline for studying it, then EE can cover that space. It is not physical sciences, nor economy nor geography. We can reverse the idea of school as a free space protected from external inequalities and discriminations, imagining the relationship with the (external) environment as an experience of freedom. Pupils playing in a green space experiment with the same freedom and inclusiveness they have with ‘minor’ disciplines within the classroom. Thus, not only does playing at school increase sociability, but so too does playing in open green spaces. EE is in a strong position to provide this experience.

A further possible parallel between game/play and environmental education concerns humour. Game, in its sense of leisure and recreational activity, has many connections with humour and making others amused. Callois’ four game meanings probably neglected the ridiculous side of playing together: game is too much charged with tremendous serious meanings. Indeed, playing is also not taking reality too seriously, showing weaknesses, funny aspects and clumsiness.

In any case, humour can be an important educational strategy, even for environmental issues which are generally seen in a very dramatic way. According to Cyrulnick (2009), humour can promote personal resilience. We add environmental resilience—that is, the capacity of a residential community to recreate a satisfying balance with the material world after a perturbation. Garista (2018, 112) says ‘more bodily and physiological aspects of resilience highlight some specifically educational veins that recall the materiality of education’ (my translation). EE is not a pure cognitive flow, but a transformative force of both an internal and an external nature (bodies and environments).

Humour, being a force able to show the unexpected funny sides of humans, opens new ways to understand and transform reality and thus learning capacity. Noteworthy is the limited irony developed towards environmental militancy or lifestyles: it is very rare to find texts of any kind in which the environmentalist is ridiculed. This shows that the issue is not mature; it has not fully entered into people's normal life, allowing us to show the funny side of ecological habits, like tics or manias. Like religion (don't mix the sacred with the profane), environmentalism is too serious and rational a practice to be mocked.

It is as rare to use humour in environmental education; it seems tremendously serious and boring. However, this register has been used in very dramatic situations—for example, after disasters and to support people with serious diseases (Cyrulnick 2009). The problem, as Garista (2018) says, is that humour has different registers, faces different public tastes, is used for different things. Sarcasm, for example, is a way to offend people. The line between a healthy use of sense of humour and offence is very fine, especially in today's multicultural contexts.

Nevertheless, EE offers a wide field of experimentation for developing this aspect of games. Animals are lovable, but are often quite funny. That increases our attachment to them (hence all the videos on funny incidents involving animals). To find a ridiculous side of ecosystems is more difficult, but not impossible. There is the expression 'trick of nature' to describe ridiculous combinations in the natural world. Look, for example, at the BBC programme *Nature's Tricks*. Design and innovation are inspired by natural world. Emily Anthes investigates the scientists, architects and engineers taking their cues from nature's ingenuity to create a better blueprint for our world.[5] Environmental educators surely have more imagination and the great advantage of looking not only at human and nature separately, but in their intimate and frequent relations. This provides material for thousands of funny situations to be used for educational aims. Thus, the game goes on, infinitely.

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