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From an essential being to an actor's becoming: political ecology transformational learning experiences in adult education

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ABSTRACT

Adult education in political ecology entails critically and constructively observing the interactions among the actors involved in socioecological conflicts at global and local scales. This definition invites transcending environmental education and education for sustainability's frontiers, examining the ontology, or the 'place', from where actors co-construct these conflicts. If actors don't question the reified and divided assumptions of the 'self' and 'reality' at the base of these conflicts, the creative and transformative potential of becoming together cannot unfold. The transformational learning approach is a coherent way of addressing this challenge, as it promotes an ontological change in actors and their worldview. The training experience offered by the University of Santiago provides insights into how transformational education's perspective can contribute to education in political ecology, inciting an acknowledgment of the self and the world as a complex and dynamic entanglement of actors.

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Introduction

UNESCO has officially defined education for sustainable development (ESD) as an education that 'allows every human being to acquire the knowledge, skills, attitudes and values necessary to shape a sustainable future' (UNESCO 2016). It thus 'promotes competencies like critical thinking, imagining future scenarios and making decisions in a collaborative way. ESD requires far-reaching changes in the way education is often practised today' (Idem). Looking at this approach's objectives closely, we can see that ESD primarily focuses on the development of theoretical and practical skills, so that actors can act towards reverting the negative impacts derived from local and global resource management.

ESD's view, however, departs from an understanding of nature as an other which is reified, essential, and susceptible of possession (Haraway 1993; Lloro-Bidart 2015; O'Sullivan 1999) and/or conservation by human society, following the principle of environmental responsibility. Under these assumptions, 'the very setting up of a culture/nature division is inherently transcendent, depicting "nature" as a pre-given category' (Clarke and Mcphie 2016, 3). Reciprocally, the existence of a transcendent 'I' is affirmed as a 'being' that observes, interprets, and recreates 'natural' or non-human otherness. The challenge for ESD is thus to review the relationship between two transcendent and incommensurable entities

(human/non-human), in order to avoid the destruction of one in the hands of the other, but without questioning who is the actor that incarnates or performs the promoted interactions.

However, the problem of an education that assumes actors' transcendent ontologies, is the neglect of recurrent phenomena, habits, and transcendent assumptions from where subjects perform actions (Echeverría 2003). Actors consider themselves 'essential beings', and this hinders their capacity of going through uncertainty, complexity, and divisiveness in the reality they observe. The acceptance of the reified cores of an 'I' and nature entails that actors look to change an 'outside' world, which is understood as a manifestation of a transcendent reality (the system, society, reality), which is distinct and external. While considering themselves essential 'beings', they reduce their possibilities of action to the parameters of a reified reality and 'being'.

To live in a world in crisis, as an enclosed being in a transcendent reality, thus hinders the possibilities of transformation required to act in current conflicts. Therefore, it is important to link education in political ecology to the premises of transformational learning, with an emphasis on actors' becoming, and their entanglement with the realities they recreate. Without questioning this ontology, education in political ecology risks leaving reified and transcendent assumptions intact, assumptions that are at the foundation of the society-nature distinction.

In order to promote transformational learning experiences from actors involved in socioecological conflict, the professional team from the Group of Agroecology¹ and the Environment at the University of Santiago is implementing the Diploma in Social Ecology and Political Ecology (2013–2016) for adult activists. In this paper, we review and assess this experience, examining students' accounts on the perception of themselves and their acting as leaders at the beginning and at the end of the process, seeking to contribute to the discussion on the challenges posed by the transformation of the subject-society ontology in adult education. We consider transformational learning's (and its variants) perspective a pertinent approach for this transformation.

Actor's becoming in political ecology

As a field of study, political ecology transcends the traditional understanding of ecology, centered on the environmental impact of human activities, and on natural resources' struggles, which understand nature as subjugated otherness. Political ecology criticizes the conventional definition of 'nature', emphasizing the analysis of the interaction between history, biology, and the cultural elements of those interactions, which have developed in concepts such as 'socio-nature' (Angelo and Wachsmuth 2014, 17, 18). Political ecology acknowledges 'that environmental transformations are based on political actors, and thus, on power relations' (Bustos, Prieto, and Barton 2015, 42, our translation).

More recently, post-humanist perspectives have deepened the critique of a transcendent nature, separated from society, proposing that '... nature is not a physical place to which one can go, nor a treasure to fence in or bank, nor an essence to be saved or violated. Nature is not hidden and so does not need to be unveiled' (Haraway 1993, 22). The concept of 'nature' – and the 'reality' it entails – has to be understood as an operational distinction that refers to a relation and a dynamic and co-created habitat (Rozzi 2015; Sepúlveda and Sundberg 2015), rather than to a univocal preexisting reality. From this perspective, notions such as 'strong sustainability' (Gudynas 2004) and 'ontological multiplicity' (Mol, quoted by Sepúlveda and Sundberg 2015; 170), as well as feminist post-humanism (Lloro-Bidart 2017), converge in the acknowledgement of nature, society, and actors as a multiple and emergent phenomenon.

The focus of political ecology on interactions invites us to transcend the conventional frontiers of scientific disciplines, and to observe the social and political interactions that make the emergence of certain, but not other, phenomena possible. Hence the multidisciplinary and political condition of this ecology (Lloro-Bidart 2015; Meek 2015b); and its implications for governance, the management of territories, the approach to conflicts, the production of knowledge, and also education. It is thus possible to understand political ecology as a process of understanding the relations between:

political economic forces affecting the production, dissemination, and contestation of environmental knowledge at various interconnected scales. It also affords the possibility to explore downstream effects on access and control over natural resources, interactions with cultural landscape, as well as local conceptions of nature-society relationships. (Meek 2015b, 448)

From a similar perspective, Lloro-Bidart (2015) states that 'the political ecology of education links insights from political ecology and the political economy of education to unpack human-nature relations in educational spaces' (Lloro-Bidart 2015, 131). According to this author, some of the main challenges for learning and research in political ecology are transdisciplinarity, transcending the humanist approach that separates and reifies the concepts of nature and society, the critique to the scientific neutrality assumption, and communities' participatory construction of knowledge.

However, the critique of a transcendent understanding of nature and society, and the construction of educational processes in line with this critique, requires us to identify *who* is participating, learning, and recreating reality (individually and collectively). We argue that actors are also in constant movement, becoming and co-creating with others in the world they inhabit. For education in political ecology, conceiving actors (human and non-human) as immanent phenomena, represents an opportunity to open up the actors' and inhabited places' creative possibilities. Furthermore, and as Clarke and Mcphie (2016) propose, we have to acknowledge reality as an immanent phenomenon:

Immanence is a philosophical perspective which presumes that all of reality exists within (or more properly 'of') the world and that all things exist without a pre-given (transcendent) form or conceptualisation. Immanence is oppositional to structured notions of the world, denying that things have essential qualities or characteristics which, when taken together, form the physical or conceptual boundaries of material objects and conceptual categories, such as 'nature'. (Clarke and Mcphie 2016, 3)

The concept of immanent actors highlights the notion of subjects as a co-producers and co-creators of the world, rather than as pre-existent phenomena. From this perspective, power is enacted by each actor inhabiting the world in reciprocal influence and co-presence (Clarke and Mcphie 2016; Ñanculef 2016). Similarly, the world can be observed as a dynamic place, sustained by these reciprocal influences.

Furthermore, there are different cosmological variants that converge with this definition. The concept of 'interbeing', coined by the Buddhist Tich Nhat Han (García Montaña 2008, 78) proposes to acknowledge the ties of multiple influence that sustain actors' existence. There isn't an individual, transcendent 'being' (Deleuze and Guattari 2004; Clarke and Mcphie 2016). In the case of the worldview of the Mapuche people, located on the Southern end of the American continent, the interbeing is at the base of an 'epistemology of comprehensiveness' that entails no separation between the actors that conform it (Ñanculef 2016, 41). Other authors, such as Clarke and Mcphie (2016), quote studies on aboriginal people's worldviews from Southern India and Western Apache peoples that refer to interconnection as 'co-presence', also including the notion of perspectivism (Viveiros de Castro 2004).

This approach is crucial to review the actor's concept at the base of traditional political ecology. It questions the notion of a rational and conscious subject that negotiates or affects the reality of other actors, which have an impact on nature. From the perspective of interbeing, actors inhabit a world in reciprocal influence, and this inhabiting involves our rationality, emotionality, corporality, and worldviews in an inseparable way.

If we consider that the Western educational paradigm reifies the (predominantly rational) self and nature as separate entities, the education of adult social leaders constitutes a major pedagogical challenge. It requires changing the way we observe and inhabit the world of teachers and students (Maturana and Vignolo 2001). It is thus crucial to recognize this process as transformational learning, an approach from which it is possible to observe and promote, in adult education, the processes of ontological change in a dialogical context. If we want actor-apprentices to recognize themselves as becoming actors, and that they recognize reciprocal influence's power, they need to be involved in a process that resonates with this possibility. According to Dirx (1998):

Transformative learning aims at identifying these forces and freeing us from their coercive influence through reflection, dialogue, critique, discernment, imagination, and action. Adults are understood to be active, engaged participants in the learning process, co-creating or constructing what it is they are learning as they learn ... Thus

transformative learning is essentially a way of understanding adult learning as a meaning-making process aimed at fostering a democratic vision of society and self-actualization of individuals (Dirkx 1998, 9).

Learning to transform (us) in times of socioecological crisis

Transformational learning promotes learning to observe our vital experience and understand it in new ways, encouraging the emergence of new possibilities. The transformation, according to Dirkx (1991) in its analysis of actors' role in focus groups, doesn't take place as individual, but as collective phenomena, where each actor expresses the present contradictions, criticizes the status quo, and mobilizes or energizes the group in new directions. This approach is coherent with education in political ecology, as a learning process that recognizes and promotes the opening to new ways of inhabiting the world, changing actors' essential and reified perspectives of being and reality.

As a pedagogical proposal, transformational learning distances itself from the traditional conceptions in terms of processes of knowledge accumulation and transmission, emphasizing creative, iterative, and dialogical processes (Baumgartner 2001; Clarke and Mcphie 2016; Gravett 2004). It is for this reason that it focuses less on contents and more on the approach and orientation of adult learning processes. The different streams of this approach share the conception of the actor as a co-creator of realities, moving from approaches centered on the individual and the cognitive dimension of change as 'emancipation' towards approaches focused on transformation through collective research-action (Baumgartner 2001).

The different strands of transformational learning are pertinent to address adult learning in the current context of socioecological crisis. The first of them, promoted by Paulo Freire (1975), proposes learning as a process of consciousness emancipation, oriented towards subjects' liberation from the structures of domination.

However, for Jack Mesirow (1991), and while acknowledging that transformational learning offers a critical resignification opportunity of actors' assumptions (Diduck 1999; Dirkx 1998; Taylor 2001), this doesn't necessarily translate into playing an active role in the change of social and political structures. Transformational learning can lead to change, but at the individual level.

Maturana (1990) and Echeverría (2003) address the latter challenge, emphasizing the relevance to meta-observe 'speech acts' in education and politics (Maturana 1990) that give form to the historical drifts where actors inhabit. From this premise, political ecology can tension present meanings in Western speech, such as growth, development, ownership, continued improvement, progress (Barkin, Carrasco, and Zamora 2012; Bustos, Prieto, and Barton 2015; De Sousa 2005; Huanacuni 2010), and open up new possibilities through new signifiers.

Other authors acknowledge the risk of reducing the complexity of the transformational process to the world of language and communicative actions, neglecting the role of emotions (Taylor 2007), and the more deep and unconscious dimensions that sustain actors' becoming (Dirkx 1991). Exploring these fields, we find Maturana (1990) and Echeverría's (2003) reflections on the role of emotions and the body in our way of inhabiting the world, and thus, in learning processes. Taylor (2001) adds to this reflection neurobiology's advances in the study of emotions and implicit memory, questioning the 'disproportionate' predominance of pure reason in the learning phenomenon. Emotions and implicit memory would be at the base of our decisions, valuations, and habits. Contrary to traditional assumptions, 'it is feelings that are often the trigger for reflective exploration, and by exploring one's feelings, greater self-awareness and change in meaning structures occur' (Taylor 2001, 225). At the same time, implicit memory's remembrances 'can be received, stored and recovered without the participation of the limbic system and outside the conscious awareness of the individual (...) These memories seem to be long term, consistent and reliable, and provide an array of nonconscious ways to respond to the world' (Taylor 2001, 226).

These dimensions escape what traditionally is considered relevant in learning processes, which are fundamentally centered in the development of skills and competencies with a cognitive base. The weak inclusion of other dimensions constitutes an important limitation in education and an unavoidable challenge for education in political ecology. Actors' transformative power, expressed in socioecological

activism, seems to uphold in deep, intuitive, and emotional processes, and not only in cognitive or rationally directed processes (Kovan and Dirx 2003). Even more, the emotional dimension widens the possibilities of interaction with the non-human collective as a non-rational valid interlocutor: 'we can come to see any living or non-living entities as "persons like me" (e.g. plants, fungi, rocks) if we develop emotional relations/relationships with those entities' (Lloro-Bidart 2017, 117). The notion of 'non-human' extends the possibilities of interaction beyond biology's limits to entities that emerge from entities' interactions (such as ideas, technologies, artistic creations, among others).

From the perspective of political ecology, we need to open up possibilities to cross, transcend, and ideally change the course of the civilization crisis we are inhabiting. We need to learn to open up possibilities to the unfolding of our power as actors becoming in reciprocal influence, considering all the dimensions described above: the emancipation of consciousness and a critical perspective (Diduck 1999; Freire 1975); the meta-observation of the speech-acts we inhabit (Echeverría, 2003; Maturana, 1990); the acknowledgment of emotional dispositions and of implicit memory (Echeverría, 2003; Maturana, 1990; Taylor 2001); the entangled actor in the collective (Dirx 1991, 1998; Kovan and Dirx 2003); as well as the reciprocal influence of inter-being (Clarke and Mcphie 2016; Deleuze and Guattari, 2004). The experience presented here explores these possibilities and offers clues for its further development.

An experience in transformational learning in political ecology: An opening process

In Chile, official environmental education and education for sustainability initiatives—promoted by the government—have been directed towards children and teenagers in the formal school system, through the Environmental Education and Citizen Participation Division, which develops the Certification of Schools and Environmental Builders' programs. The deficit in adult education was addressed in August 2015, with the inauguration of the Adriana Hoffmann Environmental Education Academy, which has, among its objectives:

... the **transmission of knowledge and the teaching of modern concepts** of environmental protection, oriented towards environmental problems' understanding and awareness... [secure] the teacher's role as a **disseminator of environmental contents** in his or her education center ... update environmental contents, normative, and legal processes in public sector professionals ... train organized workers in public and private companies in **environmental topics in their respective capabilities**. (Ministry of the Environment, 2016, our emphasis and translation)

From the perspective of a Chilean civil society organization, Abogabir (2010) argues that the challenge regarding environmental education refers to management's rationality, looking to 'question the logic behind the concept of development in order to design a future that reasonably satisfies everyone's aspirations, according to their visions, interests, and roles' (Abogabir 2010, 132; our translation). Similarly, Vliegenthart (2010, 136–137) observes that the success or failure of environmental education in Chile depends on its level of institutionalization, the installed capabilities, the resources available, and the articulation of actors. These approaches share an understanding of the actor as a rational subject, oriented towards ends, and separated from the 'environment'. Nonetheless their intention of transformation, integration, and critical analysis, they reduce education for sustainability to 'an instrumental function assigned to educational processes under essentialist approaches and with the absence of specific pedagogical subjects' (Arias and González 2009, 15, our translation).

In this context, the Diploma in Social Ecology and Political Ecology from the Group of Agroecology and the Environment at the University of Santiago, offered since 2013 to date, emerged as an initiative of a multidisciplinary team (including professionals from natural, social, and political sciences, and the humanities) to offer an educational space based on a critical stance towards the ontology of actors and their assumptions. The Diploma is oriented specifically to actors in the public, private, and civil society sectors, without disciplinary distinction, who are actively involved in socioecological conflicts. Following Meek's approach, we believe that 'the political ecology of education lens draws attention to the importance of iterative relations between scale, political economy, and the creation of critical environmental learning opportunities at educational institutions' (Meek 2015b, 455). Although the Diploma is restricted to a particular territorial and institutional context, and although it doesn't address

the larger challenge of a national (and probably global) educational and ecological political reform, it represents an incipient, but significant contribution to education in political ecology's challenges.

The backgrounds of students enrolled in the Diploma are diverse. Considering the four graduated cohorts (2013–2016), 43% had undergraduate studies related to social sciences and the humanities; 31% from different engineering and technical degrees; 10% from the arts; and 17% from medical sciences and the so called 'natural sciences'. There is parity regarding participation of women and men, with a slight majority of women (53%). Regarding age, 80% were between 25 and 35 years old when starting the Diploma. The totality of participants has three or more years working as leaders or activists. They come from student, feminist, and farmers organizations, not for profit organizations, unions, and research centers. This diversity attests to the principle of multi-disciplinary required for learning in political ecology (Lloro-Bidart 2015).

During eight months of work, with a total of 120 face-to-face and 120 not in-person pedagogical hours, the Diploma offers three learning dimensions. First, it is a reflection space with experts in the analysis of critical areas of the ecological crisis (water, energy, biodiversity, food) and its theoretical-epistemological foundations. The predominant approach is the critical assessment of social relationships at the base of emergent and current conflicts, promoting a critical analysis and the resignification of the concepts of nature, society, subject, and power. In the not in-person sessions, the students meet in working groups to conduct critical readings, relating these contents with their experiences as leaders and activists. In this way, the construction of participatory knowledge is possible (Lloro-Bidart 2015).

A second dimension invites the meta-observation of students' learning paths through personal monthly reports. These reports are reviewed by the Diploma's coordinator, who provides feedback using the perspective and tools of ontological coaching (Echeverría, 2003; Olalla 2015). The feedback consists of a series of queries that fundamentally question the assumptions of 'being' and 'must be' declared by the actors-participants, motivating their acknowledgement as learnings, interpretations, historical drifts, recurrences, among others. The rationale behind this is that participants discern new interpretative possibilities of their inhabiting the world, understanding it like a 'path' and not as fixed 'places', so that they can think and design new possibilities of action (Dirkx 1998; Echeverría, 2003; Maturana, 1990; Meek 2015a).

The third dimension relates to the collective space. Following the perspective of actors becoming with others (Clarke and Mcphie 2016); Freire's (1975), and Ranciére's (1987) transformational pedagogic proposals, and the notion of the collective as 'rhizomes', suggested by Deleuze and Guattari (1976), during the face-to-face sessions a series of dynamics of encounter and dialogue among peers are offered, which actively involve three dimensions: body, emotions, and language (Echeverría, 2003; Maturana, 1990; Taylor 2001). These dynamics offer an observation of bodily, emotional, and speech acts. The emphasis is not on the message or contents, but on the recurrences, that is, the emotional, bodily, and linguistic learnings that participants express as habits. At the end of each experience, the group dialogs in order to make visible those recurrences and habits, as a peer meta-observation practice. The process tries to evidence the essential and transcendent assumptions of participants, and offers the opportunity to observe them and to choose new courses of action, in a space of shared intimacy. The Diplomas coordinator's role is oriented fundamentally to the generation of favorable conditions (containment, opening, respect) that enhance a respectful listening (Echeverría, 2003; Olalla 2015), being also involved as an actor-apprentice in the learning phenomenon (Lloro-Bidart 2015; Meek 2015b).

Personal meta-observation and dialogical dynamics are oriented towards the transformation of the present recurrences in bodily, emotional, and linguistic dispositions that are at the base of actors' reified perceptions; and to tension the expected conduct premises present in the definitions of education for a global environmentally responsible citizenship, with a predominantly prescriptive approach (Clarke and Mcphie 2016, 8). Actors are invited to acknowledge themselves as drifts in an ensemble of learnings and recurrences, which are acting and performing realities, looking to liberate participants from the assumptions of irreversibility or guilt (derived from essentialist and prescriptive approaches). The leaders and activists can risk exploring, with their peers, new paths and possibilities of becoming.

Additionally, and acknowledging that participants' learning isn't only a rational and conscious process, the bodily practices and the exploration of the emotional dimensions are explicitly suggested as 'dialogue free'. Acting in silence, it is hoped that participants can experiment a wide range of possibilities, familiar or not. In this way, new dispositions for action are expected to 'settle', removing the emotional and bodily barriers that limit their actions and paths.

It is hoped that while promoting a learning experience that enables personal transformation linked to peers' transformation, participants recognize, at the same time, their dynamic conditions and reciprocal influences (Deleuze and Guattari 1976). In this way, the barrier between individual and collective learning is weakened: it becomes more evident that their cognitive, emotional, and bodily processes are not unique, but that they are locally and historically placed; and that they constitute spaces of convergence and encounter. This convergence exercise, settled in the learning processes described above, urges the emergence of the other as a 'legitimate other' (Maturana 1990), which is fundamental for the coordination of collective actions (Echeverría, 2003; Maturana, 1990; Olalla 2015).

Upon this foundation, participants design, at the end of the Diploma, a joint action related to their activism. It is expected that participants manage to observe the challenge of coordinating actions acknowledging the complexity, uncertainty, and dynamisms of all the actors involved and reciprocally influencing each other, an indispensable challenge to tackle situations of socioecological conflict (Diduck 1999). The evidence of these learnings is presented in the next section.

Transformations as new paths and becoming possibilities

The Diploma's learning process looks to promote actors' transformation. In order to assess these processes, we analyzed personal meta-observation reports and a semi-structured questionnaire focusing on participants' declared transformation/change. We reviewed two sources of data. First, personal meta-observation reports corresponding to 46 graduate reports (80%) from the 2014 and 2015 cohorts, and 32 reports (90%) from the present cohort (2016) two months before graduating. The selection criterion was reports' availability. Second, we analyzed semi-structured questionnaires applied to 31 volunteers graduated between 2013 and 2015.

The gathering and analysis of student's accounts that follows constitutes an interpretative and ethnographic exercise (Bray 2010). During each stage of the process, students were asked to present reports, where they had to include reflections on their learning processes. The Diploma's coordinator provided feedback that usually took the form of questions, such as: 'What I hear in your report is ... Can this be? Does it make sense to you?'; 'What new learning territories would you like to address now?'; 'What costs have these views, judgements, assumptions, dispositions, habits, etc. in your life and your acting as an activist and leader?'; or statements, such as: 'What I learn with you is ...'; 'I thank you for ...'. Dialogue, presented in this way, offers students the opportunity to build their own knowledge (Lloro-Bidart 2015, 136) on their way of inhabiting the world, in a space where the Diploma's coordinator is also part of the exercise of 'observing the way (we, ourselves) observe'.

Additionally, a questionnaire was completed by students participating in the first Diploma's graduates meeting, which took place in 2016, as a new meta-observation exercise. Here, we focus on the personal account section. It is also important to state that the Diploma's coordinator and the authors of this publication have participated in social movements in Chile, and thus they have an 'active involvement in the everyday politics of the community as knowledge producers, disseminators and mediators' (Meek 2015a, 5). This contributes to the interdisciplinary and participatory construction of knowledge, an important element for political ecology when applied to education.

Regarding content analysis, our research is focused on understanding the meaning of student's accounts on their way of 'inhabiting the world', understanding this inhabiting as a practice. This methodological approach is related with exploring the 'how' of studied phenomena, providing a better understanding of how different processes take place (Zoe Bray 2010). The main results of this analysis are presented in this section.

Regarding participants' initial accounts, they show the reification and fragmentation of the assumptions regarding being, nature, and reality. Table 1 summarizes these accounts, illustrating students' perceptions of themselves, the environment, other actors, and activism at the beginning of the Diploma. The affirmations behind the prevalent discourse are shown in the second column, and are exemplified with students' accounts (third column) that show how affirmations are sustained.

The accounts entail a sense of loss of students' own power and capacity of action, and are marked by the fear of 'not being' enough and 'not being able' of having the required influence to change their context. Coherent with this view of themselves, participants also had a reified view of the world as 'the reality' or 'the system', with a drift of its own, threatening and overwhelming. Fear about themselves and the surroundings were also reflected in a weakened perception of other actors; specifically, the idea of being 'too few' and of having to 'take over alone' activism as a burden. Participants also arrived to the process with a perception of their role as leaders, and their possibilities of achieving change centered on rationality, and without considering themselves as part of the process of required change.

The combination of these three perceptions generates what we have called an 'impossibilities' loop'. The perception of insufficiency and inferiority of their being is complemented with the perception of an 'other' and 'the system' as superior externalities; and this is fueled with distrust in themselves and others. From this place, any action to generate changes turns out to be sacrificial, even tragic: an 'essentially' small and lonely actor, confronted with an 'essentially' enormous and threatening system. Students can only deploy 'essentially' insufficient actions, and thus, they have no other option than accepting their 'essentially' limited influence. The popular phrase 'I contribute with my grain of sand' is emblematic to represent this position.

The Diploma entails a questioning of these perceptions. In conjunction with this questioning, a new conception of inhabiting the world emerges, sustained by a sense of connection and even of co-presence. Table 2 illustrates the changes in students' perceptions, affirmations, and discourses at the end of the learning process. As the table shows, the validation of the legitimate other and the opening of the possibilities of influence, sustained by affects and trust, stand out. The 'exterior' world, reified and essential, seems to dissolve. The same happens with isolation and the lack of networks. In addition, the notion of 'exterior' is modified by a multidimensional and complex notion of places and relations, including in this perspective actors (i.e. people, communities) as observers and co-creators.

These accounts, in turn, translate into concrete actions: the creation of an organization not for profit to articulate the proposals and projects from the Diploma's graduates in its four

versions; the organization of local meetings to analyze and tackle socioecological conflicts, with a simultaneous focus on the strengthening of ties and theoretical analysis; media presence through public statements and articles; joint participation in conferences and seminars; continuous knowledges, experiences, and proposals' exchange on virtual platforms; among other experiences.

Finally, and regarding Diploma's actions that are related to these learnings, and to the change in perspective, participants state the following, in this order of prominence: group dynamics, relationship with peers arising from these dynamics, and meta-observation exercises (personal periodic reports). The Diploma's multidisciplinary approach is also highlighted, as well as its politico-theoretical stance:

I could review my personal life to give place to cooperative work. The emotional work and experience has been vital to ... the strengthening of our ties' (Questionnaire 3); '(I value) The balance between the emotional, technical, and political in all the units. (Questionnaire 10)

We can thus state that the change in participants' accounts opens up possibilities that were not available before. Learning to understand themselves as entangled and dynamic actors mobilizes new ways of understanding their power as co-creators, and strengthens the acknowledgment of their actions' reciprocal influence, removing the limiting barriers established by an (internal and external) transcendent reality. This learning constitutes a favorable context for the emergence of cooperative relations and creative synergies with others. In addition, a multidimensional understanding that involves the body, emotions, and language broadens the perspective from where to create, observe, and tackle the challenges of the places the activists choose to act upon.

Table 1. Perception at the beginning of the process^a.

Dimension	Affirmation	Discourse
Perception of themselves	I can't have influence I have nothing relevant to contribute	'I had the feeling that I wasn't capable of being a relevant actor in social processes' (Questionnaire 23) 'I had the feeling of not being of much contribution, because I felt that I didn't want to talk, thus I better didn't talk ... So, I always doubted whether giving my opinion or point of view' (Report No. 20, 2015) [At the beginning] it was very difficult for me to open up to dialogue ... I told myself 'maybe it's not that necessary,' 'maybe what I want to say will be annoying,' that kind of excuses nullifying all that is behind, invalidating myself' (Report No 10, 2015)
Perception of the environment	Crisis is imminent and unavoidable	'I saw a path where everything was stuck and common. I only saw the typical system's path and to go on with that, boring and sad ... I only saw a territory wearied away, thus I only expected to continue eroding it' (Questionnaire 25)
Perception of other actors	Changes are too difficult There are no allies	'I saw as very difficult to change my reality and to see it from another place' (Questionnaire 22) '[I thought] that society was too complex to achieve concrete changes' (Questionnaire 11) 'I saw that socially there was almost none or a lacking development of socioecological issues troubling us' (Questionnaire 2)
Perception of activism	I don't need allies It doesn't require a personal change It is a rational act	'I thought that it was possible to conduct changes alone, that I didn't need support to achieve what I decided' (Questionnaire 14) '[I thought] that revolution could be made towards the outside, without transforming oneself' (Questionnaire 2) 'In general, my participation has always been from the rational, without taking into account my emotions and experiences' (Report No 8, 2016)

^aAll participants' statements have been translated from Spanish by the authors.

Table 2. Perception at the end of the process.

Dimension	Affirmation	Discourse
Perception of themselves	I'm with others	'And this is what is happening in this long path, some leave, others arrive in our lives, and so it is how we all receive small pieces of other people that we never met, but that are somewhere in the person that is in front of us today, and so we will continue meeting others, and giving them small pieces that were given to us, to me the interconnection is there, among all of us and everything... we are here because in some place, many years ago, many dreamed and prayed for this moment. There is nothing left than to honor them in the same way that we honor the ones to come' (Report 16, 2015)
Perception of the environment	I'm entangled I acknowledge complexity	'Now I can clearly see that we are part of a huge network of knowledges, which provides a foundation to each local initiative' (Questionnaire 3)
Perception of other actors	I acknowledge diversity I mobilize with others We are co-creators	'Today I can diagnose a territory with the tools acquired without a biased view. I relate to my territory, I understand its processes, I understand its problems better' (Questionnaire 18) 'Understanding the communities from all the edges reviewed in the units, and understanding that these are linked according to the area where they are located and develop' (Questionnaire 1) 'I move with them, with my peers, to generate networks of linked worlds with others to create collectively, share learnings, knowledges, and experiences' (Report No 19, 2015) 'The different actors ... participate in the construction of this vision of the territory' (Questionnaire 4)
Perception of activism	I acknowledge the importance of non-rational dimensions I put my strength and creativity at the community's service	'I asked myself in which way we will be capable of collectively working in the future, if in general we have been taught to keep in permanent deafness our emotions and our body, and thus to not pay attention to those who surround us' (Report No 8, 2016). 'I understand not only from the politico-social, but from a more comprehensive approach. Widening the view of understanding pains' (Questionnaire 7) 'Now I feel the conviction that I can put the creative force I have at the community's service' (Questionnaire 3)

Conclusion

The challenge of adult education in political ecology, as we have observed here, requires an opening from an education focused on rational knowledge and the promotion of different practices and values, to learning processes that transform the essentialist and reified assumptions of the 'actor' and 'reality' at the base of society-nature relations. To recognize actors as co-creators of multiple realities is crucial to address the urgency of the changes of the current civilizing paradigm, avoiding three recurrent tendencies from socioecological activism: (i) the perception of actions' insufficiency and distrust in our own power; (ii) the notions of 'truth' and 'reality' at the base of accounts, and the subsequent reproduction of hegemonic and reductionist tendencies; and iii) the difficulty to identify cracks in the civilizing paths to expand the possibilities of action.

In this paper, we reflect on some points of convergence between education in political ecology and transformational learning, presenting as evidence of this convergence the process and results of incorporating the transformational learning perspective in a graduate program. Linking these two perspectives is crucial to address the challenge of overcoming the notion of an essential 'being' in need of education; a concept that predominates in environmental education and education for sustainability processes. Questioning the premises of the notion of a transcendent subject-human, and highlighting activists' condition as actors and co-creators of realities, is a necessary precondition to further questioning the essentialist-transcendent tradition underlying society-nature distinctions. Actors that recognize themselves as dynamic and interwoven with the community of actors they inhabit and co-create, can further acknowledge their own power and co-responsibility in the reality that has been constructed from their own interactions. This is crucial to understanding education in political ecology as a space of transformation that doesn't reproduce the ontological assumptions of an education oriented towards the change of practices and the acquisition of competences.

Nevertheless, it is crucial to observe new actions carried out by activists participating in processes of transformation learning in their territories and communities; and how organizations and social movements where these activists participate are influenced. These are some of the challenges opened up by this research and that future research and initiatives will have to address.

In times when the ecological crisis seems to not subside, we understand that trusting in the generative power of our dynamic becoming is an urgent call so that life's meshwork, with all its actors, can go on deploying itself in its splendor and diversity. The encounter among actors synergizes and expands the possibilities of mutual influence.

Note

1. Agroecology is an agri-food production system that arises as a critique to the epistemological reduction of agroindustrial modern development (Altieri et al. 1999). It is not only a techno-methodological critique, but an epistemological critique, because it engages with the challenge of moving from a modern episteme to a complex approach in food production systems, revaluing local identities, knowledges, and biodiversities. With this end, agroecology is defined as 'pluri-epistemological', that is, a 'holistic discipline that apprehends and applies knowledges generated in different scientific disciplines, and that is nurtured by the knowledges and experiences of farmers, fishermen, indigenous communities, afro descendants, and other social actors involved in the rural development processes' (Nieto, Francis, and Giraldo 2013, 205, our translation).

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