**TITLE:** Developing a critical agenda to understand pro-environmental actions: Contributions from Social Representations and Social Practices Theories

**AUTHORS:**

Susana Batel (Instituto Universitário de Lisboa (ISCTE-IUL), Cis-IUL, Lisboa, Portugal)

Paula Castro (Instituto Universitário de Lisboa (ISCTE-IUL), Cis-IUL, Lisboa, Portugal)

Patrick Devine-Wright (University of Exeter, UK)

Caroline Howarth (London School of Economics and Political Sciences, UK)


**CORRESPONDING AUTHOR:**

Susana Batel

University Institute of Lisbon

Cis-IUL, Edifício ISCTE

Av. Das Forças Armadas, 1649-026 Lisboa

Tel: +351 21 046 40 17

Email: susana.batel@iscte.pt

**ABSTRACT:**

Debates over the value and compatibility of different approaches to understanding and changing environmental-relevant actions proliferate across the social sciences. This article reviews and discusses some of the (socio-)psychological and sociological approaches in those debates. We will start by critically reviewing the (socio-)psychological perspectives, highlighting two main shortcomings. First, they are often partial in their focus – concentrating on the consumption side of climate relevant actions and, relatedly in changing these actions at the individual level. They tend to assume that individual change equates to social change and, with that, fail to contextualise 'anti'-environmental actions in current neo-liberal, capitalist societies. Second, they usually present the mainstream (socio-)psychological approaches, which are ontologically individualistic and cognitive, as the only existent ones, therefore neglecting other perspectives within Social Psychology which might actually be (more) compatible with sociological perspectives. We then suggest that Social Representations Theory (SRT), as an ontologically social-psychological approach and a theory of social change, might be reconciled with sociological approaches, such as Social Practices Theory (SPT), in contrast to the more individualistic (socio-)psychological perspectives. After reviewing the main tenets of SRT, its discrepancies and potential synergies with SPT, we discuss how the two can be articulated to understand different stages of the social change process towards more environmentally sustainable societies. While SPT might be more suitable to understand stability or how some actions become habitual, SRT might be better equipped to understand how those change, or how individuals and groups negotiate new actions with old ones.

**KEYWORDS:** social representations theory; theories of practice; critical approach; pro-environmental actions

**INTRODUCTION**

"Today, there's no greater threat to our planet than climate change"[1]

"And when we dream it, when we dream it, when we dream it
Let's dream it, we'll dream it for free, free money"[2]

After World War II, environmental social movements began to develop in the public sphere to demand the end of the exploitation of the Earth by and for human activity, as this was drastically changing and endangering it[3]. Still today, and as highlighted by the President of the USA, Barack Obama, in his weekly speech just before the Earth Day 2015, climate change is by many – even if not by all[4,5] – seen as the biggest current threat to this planet. Within the social sciences this has led to research into how to understand and change people's environmentally relevant actions[a] being much shaped by the idea of the *anthropocene*, that is, that humans are the cause for the destruction of the Earth and its ecosystems (e.g.,[6,7,8]). This has led to much research on human behavior relevant to climate change, which can be organized into three main areas: adaptation to climate change (e.g., how do individuals and groups living in coastal areas adapt to increased flooding events?[9]), mitigation of climate change (e.g., how do individuals and groups react to large-scale wind farms being built in the place where they live?[10]), and communication on climate change (e.g., what is the impact that the media's framing of climate change has on public beliefs about it?[4]). However, within all three areas, the anthropocene assumption is rarely discussed with a view to highlighting that it is not human activity *per se* that has a certain essence that will inevitably lead to humans to consider themselves superior to ecological systems and to exploit them necessarily for their own human needs and desires (see[9,11]). It therefore hides the fact that it is not humans in relationship with ecological systems that are problematic, but rather the socio-economic and political system[11] through which most of them, particularly in societies in the global north, have been organised over the last centuries. As Donna Haraway[12] puts it, "the *anthropos* did not do this thing that threatens mass extinction [...] and if we were to use only one word for the processes we are talking about, it should be the *capitalocene*" (see also[13]). It is to this last aspect that the second quote above, from the lyrics of Patty Smith's song, calls our attention. This quote tells us that we have been living for some time in a capitalist and neo-liberal system where free-market, capital and the individual are central. Consequently, there is a close relation between capitalism, neo-liberalism and environmental degradation (see[14]), even if this is not often acknowledged in much social science research, for example within social psychology.

This paper will assume that close relation, through the review and critical discussion of the main (socio-)psychological and sociological approaches to understanding and changing environmentally relevant actions that have been proposed in recent decades. These approaches will be discussed with reference to their shortcomings, their ideological underpinnings and associated potential socio-ecological consequences, with the aim of proposing a new perspective for better understanding those actions, one that better highlights the relationship between socio-economic systems and climate change.

We will first discuss approaches that have been heatedly debated in recent years as being the 'best suited' ones to understand people's environmentally significant actions and to change them. Those approaches have been often presented as the (social) psychological (e.g.,[15,16]) and the social practices perspectives (e.g.,[17,18,19]), broadly speaking. We will then argue that within social psychology there are other perspectives, typically overlooked, that can contribute to a more nuanced understanding of climate-related actions. One such approach is the theory of social representations (SRT), which is ontologically a socio-psychological approach, contrary to the dominant individualistic and neo-liberal perspectives that are evident in some (social) psychology approaches (e.g.,[15,20,21,22]). Finally, we will discuss how SRT and social practice theories (SPT) can be combined to provide a better understanding of environmentally relevant actions.

**"PERSONAL CHANGE DOESN'T EQUAL SOCIAL CHANGE[b]": A REVIEW OF THE MAIN PSYCHOLOGICAL AND SOCIOLOGICAL APPROACHES TO CHANGING CLIMATE RELEVANT ACTIONS**

The 'typology' of ontological models of the individual that was put forward by Showm & Lorenzen[20] in this journal is a good starting point to review the main (socio-)psychological and sociological approaches that have been used to understand environmental-relevant actions - even though it tends to adopt a soft version of the social and neglect paradigmatic incommensurability (see[19,23]), as further discussed below. To generalize a little, while the mainstream (socio-)psychological approaches either conceive individuals/consumers as predictably irrational and/or *Homo Economicus* (e.g.,[15,24]), sociological approaches typically conceive the individual either as socially organized, through a social practice perspective (e.g.,[25,26]), or as locked-in to socio-technical systems, such as within multi-level perspectives of innovation (e.g.,[27]). We will now discuss what this means in more concrete terms.

**Predictably Irrational and *Homo Economicus*: The dominant (socio-)psychological approaches to environmental relevant actions and to change**

As Showm & Lorenzen[18] propose and others illustrate[15,16,21,22], social psychology has been mainly dominated so far by ontological perspectives that focus on the individual and tend to conceive her either as *predictably irrational* (or involved in habitual, automatic behaviours – e.g.,[15]), as *Homo Economicus* (as a rational decision-maker, involved in deliberative, mindful decisions – see[19,28] for a critique), or even both (see[15] for a review; also[24]). Social psychology applied to the environmental field is no exception, even if it has mainly been the *Homo Economicus* perspective that has dominated the literature so far in this area, incorporated in attitude models such as the Theory of Reasoned Action and the Theory of Planned Behaviour ([29]; see also[30,31] for derivative proposals, such as the Value-Belief-Norm theory; and[19] for a critique). Nevertheless, some authors have more recently concentrated on unconscious, habitual behaviours (e.g., [32,33]), and others on both, such as dual processing models (e.g.,[24]). The base assumptions of these models have been already thoroughly problematized, both from within (e.g., [34,35,36]) and from outside social psychology (e.g.,[19,37]).

Critiques can be organized around two main dimensions. First, that these models construct individuals as mainly rational and/or as manipulated by an external context to which they respond through automatic cognitive processes. Such studies look for direct and causal relations between variables such as norms and attitudes towards the environment, which in turn will predict how individuals will behave regarding it. In other words, as Howarth[34] has put it, "the individual is seen in isolation, outside of her or his environment and then responding to it. This environment, when it is considered, is taken as a given; there is no exploration of the fact that the individual may influence the nature of the environment and vice versa" (p.694). As Shove also highlights "there is no obvious limit to the number of possible determinants [of the 'environmental' attitude and/or behaviour] and no method of establishing their history, their dynamic qualities, their interdependence" (p.1275).

At a deeper, more substantial level, the issue is that these models are still mainly anchored in a Cartesian and realist perspective (see[38,39]) on the relation between the individual and the social (see[34] for a discussion) and therefore treat the context – both social and bio-physical[38] - as an external variable, independent from the individual, and that will influence her behaviour, instead of conceiving the individual and the context as interdependent, mutually constitutive, and transformative. Associated with this first aspect then, and as a second main critique, is the fact that these frameworks fail to recognize how history, ideology and communication constitute (and are constituted by) people's actions[39,] by developing a representation of the individual[38] as responsible for her own choices and behaviours. This fails to acknowledge that such individualism is not only a theoretical position but a political one[19], with specific social and ecological consequences[17] and antecedents. This is associated with a dominant trend that runs throughout the 20th century: the individualisation of psychology, which has led to a somewhat decontextualized, asocial and apolitical understanding of the individual/social beings[34], a position which is in itself shaped by a specific socio-economic context, as in the current neo-liberal capitalist one. There has been a growing acknowledgment of these limitations by Psychological research – at least by some authors (e.g.,[41]) - and even at a more institutional level (e.g., British Psychology Society report on Behaviour Change: Energy Conservation[c]), but these limitations are often still found in some psychologists' research and professional practices and therefore still often inform policies and measures on environmental behavior change.

For the present paper two particular shortcomings of these perspectives will be explored, as they are particularly relevant for environmentally relevant actions and as because they have been somewhat neglected in critiques in this field to date (for important exceptions see[17,41]). These are
a) *The construction of the consumer-citizen in neo-liberal and capitalist systems*
b) *The dominance of mainstream individualistic perspectives within social psychology*

### a) The construction of the consumer-citizen in neo-liberal and capitalist systems
The embeddedness of nature/human relations in specific socio-economic and political systems is rarely acknowledged (for exceptions see e.g.[41]) either within environmental psychology or, more

generally, by research on environmental-relevant actions (for some examples, see[15,16,20,22,31]). However, for a thorough understanding of 'anti-environmental' and (anti-)consumerist actions, it is crucial that we recognise that "Global warming and climate change are largely the result of globalised processes of capitalist production, while at the same time, it is not the human species as a whole who is to blame, but disproportionately the advanced capitalist nations of the world, and large corporate multinationals" as Barry[14] proposes, (p.150; see also[12]).

In turn, this implies that it is crucial to acknowledge that individualist, realist perspectives within psychology construct the individual through a neo-liberal lens[42,43], and thus, as a discipline and as part of everyday discourse, are contributing to re-producing and maintaining that ideology[34,42,43] (see also[44,45]). That individualism has influenced our psychology is however not usually considered by environmental psychologists (e.g.,[15,22,31]) – or (social) psychologists working on environmental issues. This overlooks the ways that the "research community is itself implicated in the reproduction and persistence of competing models of social change"[19] (p.1274) and that psychology has "the power to create the very forms of thinking that it attempts to identify"[34] (p.702), such as the self, autonomy, choice, identity[41]. For instance, Fresque-Baxter and Armitage[46], distinguish between the different approaches that can be used to look into people-place relations in their role for climate change adaptation, namely, the cognitive-behavioural approach, the health and well-being approach, and the collective action approach. But the authors seem to fail to recognize that these different discourses are institutionalized in our societies and so shape and are shaped by psychology itself – particularly within health and well-being discourses, associated with the governing of the self and biopolitics - a very pervasive example today[47].

Within this perspective the very idea of individual responsibility for environmental actions is considered as both an outcome and a driver of that neoliberal, capitalist rationality[42], where social beings are made to feel and think to be fully responsible for her own successes and failures in all domains of life, including the global environment. This is evident in how individualizing approaches tend to understand and transform non-environmental actions, namely habitual ones – these are thought to be only transformed through (neo-)behaviourist techniques (e.g.,[15]) as put forward by theories such as Nudge and currently integrated in policy initiatives in countries like the UK (e.g., UK Cabinet Offices of Behavioural Insights Team – see[18]; also[19]). This perspective aims to manipulate individuals' behaviours so that they change in a desired direction and it has been widely criticised for such, on ethical grounds (see[18]). Shove[19,25], in particular, highlights how it is antithetical to a Social Practice perspective, as it ignores the ways in which attitudes and behaviours are grounded in specific contexts and have a certain history, embedded in particular structures and institutions. In other words, it ignores how individuals' behaviours are embedded in particular practices.

Individualizing approaches construct the individual as a citizen-consumer, which vividly inserts her in a specific socio-economic and political system. What social and ecological consequences does this have? As several authors have pointed out[48,49,50], current neoliberal 'citizen engagement' societies are mainly post-political[d] and undemocratic, as they tend to foster only consensual understandings of political action and to minimise antagonism and conflict, therefore just keeping

'business as usual' and not allowing real, structural, social change to happen (see also[15,51]). As Swyngedouw[48] and Zizek[49] highlight, climate change is often used by the dominant socio-economic and political systems in the global north to present environmental and social problems not as the result of inequalities and unevenly distributed resources and power, but as the result of a universal 'us' – humans, as the sum of all individuals – and/or a non-controllable nature. This perspective obscures those very social inequalities and the capitalisation of nature by techno-managerial governments and corporations. In turn, this contributes to further de-politicizing our societies, to further accentuate social inequalities, and the human-nature divide (see also[38]).

In sum, what we have tried to highlight is that it is crucial to, first, recognize that re-presenting the individual citizen-consumer as the source of environmental concerns is actually part and parcel of the very socio-cultural and political context in which these re-presentations are embedded and, second, that endorsing this re-presentation will impede the necessary social and political change towards more environmentally sustainable societies (see also[41]). Doing this, in turn, allows changing the foci of research in very specific ways. As Uzzell & Rathzel[41] carefully argue, adopting a more individualising perspective often goes hand-in-hand with a focus on the analysis of actions in the private sphere to the detriment of actions in the public sphere - such as accepting a wind farm in the place where one lives or installing solar panels - and, more importantly, the fact that these actions are shaped by power relations between government, corporations and citizens[10]. As Uzzell & Rathzel[41] (p.342) put it "attacking consumer behaviour simply addresses the 'downstream' symptoms rather than the 'upstream' causes of environmental problems". In fact, this perspective tends to leave unacknowledged the fact that the production and supply side of energy systems is shaped by the political and socio-economic background in which it is embedded, as is clear in the UK where several environmental policies, such as those fostering the deployment of windfarms and solar panels or making new homes 'zero carbon', have been removed since the Conservative government went to power[52].

We suggest that in order to tackle this and examine people's environmentally relevant actions more comprehensively, to include the socio-psychological processes impacting them, and their inscription in socio-political and economic systems, we need to look for other perspectives that do not individualise human action and social change. We turn next to this challenge.

### b) The dominance of mainstream individualistic perspectives within social psychology

Associated with the criticisms outlined above, another important limitation of an individualizing perspective is that the researchers working with it tend to leave unacknowledged other epistemological perspectives and theoretical frameworks that exist within social psychology which are relevant to the field. Even when they are acknowledged, it is often without fully engaging with them, applying them and problematizing the very different assumptions and consequences that they bring forth (e.g.[15]; also[16,31,53])[e].

Within social psychology, perspectives that focus on the social and political nature of knowledge have been somewhat marginalised, such as discursive psychology[36], critical social psychology/discourse analysis[55,56], and SRT[57,58,59,60] [f]. In contrast to the mainstream ones within

psychology that are still mainly realist[55], these approaches are arguably all socio-constructionist[62], in this context meaning that they consider context and relations as constitutive dimensions of climate-relevant actions, and not as external variables. Scholars working with more realist perspectives tend to conceptualise meaning-construction and negotiation as cognitive processes, or to re-cognitivise these processes even if they do not explicitly seem to adhere to cognitivist assumptions. For example, this is clear in the review developed by Fresque-Baxter & Armitage[46], where they present the work of socio-constructionist scholars on place identity with a realist, cognitive perspective, with reference to the work of Dixon and Durrheim[63] arguing "we experience the social meanings of places held by others, these function to shape reality" (p.255). However, within a socio-constructionist perspective these meanings are (one) reality (among others), and we do not directly experience the social meanings of places held by others as such, but we co-construct meanings with others in context[64], even if it is in opposition to those others.

Using a distinction put forward by Wagner[58] between 'weak' and 'strong' versions of the social, we can say then that different perspectives operate with different versions of the social. Individualist realist perspectives mainly endorse a *weak* version of the social, by which individuals are seen as cognizers of an external world which can influence their behavior through a cause-effect relationship and which can represent that world either in a true or in a false way; more social perspectives such as SRT can be said to endorse a *strong* version of the social, as it assumes that objects exist and social constructed re-presentations about them exist as much in the cognitions of individuals as in societal institutions and structures[g]; similarly most discursive approaches can be considered as being closer to endorsing a *super-strong* version of the social, by considering that objects only exist insofar as they are socially and collaboratively enacted in discourse[h] [59].

In sum, and despite the pervasiveness of more individualist and realist perspectives within social psychology, this field of research is quite diverse and some of the other approaches that have been developed within/in relation to it, namely SRT[i], can be seen as quite close to more sociological approaches, such as theories of practice, to which we next turn.

**The sociological approaches to environmentally relevant actions and change**

"How do societies change? Why do they stay so much the same?" (p.1) are the questions that introduce SPT in the book by Shove, Pantzar and Watson[25]. Social practice theory "diverts attention away from moments of individual decision-making" focusing instead on "the 'doing' of various social practices"[51] (p. 83), such as showering, travelling or playing football. A practice is then "a routinized type of behavior which consists of several elements, interconnected to one another: forms of bodily activities, forms of mental activities, 'things' and their use, a background knowledge in the form of understanding, know-how, states of emotion and motivational knowledge"[72] (pp. 249-250).

To summarise, a practice is commonly considered to be composed of meanings, competences, materials and connections between these different elements[25]. Therefore, the individual is seen as a carrier of "conventionalized 'mental' activities of understanding, knowing how

and desiring [which] are necessary elements and qualities of a practice in which the single individual participates, not qualities of the individual" (p.250). Or as Spaargaren[73] puts it (p.815), "practices, instead of individuals, become the units of analysis that matter most" and it is practices that are considered to co-constitute individuals and not individuals that are considered to be responsible for those.

In this sense, within theories of practice it is the state and other institutions that are considered to "configure the fabric and the texture of daily life" and therefore social practices are considered to be "socially, institutionally and infrastructurally configured"[19] (p.1281). If we think again about the more individualist and realist perspectives within psychology, this brief presentation of SPT clearly highlights how this latter perspective is incompatible with them, despite some claims to the contrary (e.g.,[15,16]), and how it does propose and entail a completely different view on what is social change.

Furthermore, theories of practice are distinctive in other ways. The performance of social practices is generally seen as the routine accomplishment of what people take to be 'normal' ways of life[51] and in this sense "theories of practice are commonly thought to deal better with routine reproduction than with innovation" [25] (p.122; see also[74]). Nonetheless, social practice theorists do try to distinguish SPT from other theories, such as the multi-level perspective on socio-technical transitions (e.g.,[75]), by pointing out in contrast that change not only occurs in a layered, ordered and diachronic way, but also in a synchronic one, with stability being conceptualized as the "emergent and always provisional outcome of successfully faithful reproductions of practice"[25] (p.13).

There are different theories of practice (e.g.,[25,72,76,77]), and whereas discourse is mainly seen within SPT as also a routinized way of understanding and it is deemed as important as any other non-discursive practices, the role of 'things' has only started to be acknowledged in more recent versions of the theory (see[72,73]), following connections to Action Network Theory, specifically, Latour's work (see[72]). This is one of the main differences between SPT and SRT - the role of objects or things. As Reckwitz[78] argues, SPT recognizes and conceptualizes the impact of things in the social order "not just in terms of representations, or as things that are assigned and attributed meaning by human agents. The impacts and effects of the objects themselves, the role of inter-objectivity next to inter-subjectivity, and the idea of objects being 'constitutive' for social practices all have to be considered" (p.212). In this sense, SPT can also be said to endorse a strong version of the social[58 j], but explicitly conceptualizing and empirically examining inter-objectivity as a process, therefore trying to overcome the fact that "the concept of intersubjectivity falls short by neglecting the influence of artefacts and by failing to appreciate relative objectivities that permit inter-objective relations to take place"[79]. However, at the same time, and while doing so, one might say that SPT therefore aims to be, and generally is seen to be, more of a sociological or cultural theory, whereas SRT (see below) is intrinsically a socio-psychological theory.

However, Spaargaren[73] highlights how SPT can be said to have "left rather under-theorised the cultural dimension of green lifestyles and consumption routines", and, in particular the

conceptualization and analysis of agency and the role of symbols, while paying more attention to the role of technologies or the material (p.818; see also[17]). Spaargaren[73] (p.819) puts forward a proposal to try to overcome this limitation by suggesting that SPT has then to look into how "citizen-consumers get excited or disappointed, enthusiastic or sad, energized or bored with the objects that co-constitute the practice of consumption". However, this proposal lacks a more explicit and direct conceptualization of the role of the Other (and so of the social) in influencing the emotions and meanings that co-develop between agents and objects, which is (also) what gives practices their cultural dynamics. Moreover, this quotation also highlights one main critique that has been pointed out to SPT, which is the fact that it is too structural and therefore arguably reductionist, while

"ignoring actors' understandings altogether', including the rejection of 'any space for more conscious deliberation' and an ability to actively re-evaluate, sometimes contest, and live with, contradictory [enthusiastic AND sad, to re-phrase Spaargaren's quotation] social practices. It is remarkable that social practice approaches make little conceptual space for people's own awareness of ecological degradation [as one, among others, interpretations of 'reality'] and their possible contribution to it"[17] (p. 54).

In this vein, SPT can also be considered to not fully problematize the ideological and political underpinnings of this approach, at least empirically (albeit it does so to a much greater extent than proponents of the individualist perspective– e.g.,[15,16]), while limiting the role for citizens' agency. In fact, both the individualising psychology perspective and SPT in general seem to attribute the possibility for change as mainly coming from "above", from researchers and policy-makers that can, be it through manipulating individuals' behaviours (in the psychology mainstream perspective, through 'nudging' for example) or changing socio-technical systems (the government's providing people with already environmentally friendly houses, in SPT), foster change. However, it often also happens that change starts being proposed at that level only after citizens and active lay minorities have pressured and fought for such changes to be incorporated into laws and policy-making, or institutionalized (as further discussed below; see also[80]). In other words, we cannot forget that innovation can also emerge bottom-up from public spheres, and these can push for legal and scientific spheres to transform their practices. In a related way, in SPT, action and meanings – or doings/behavior and sayings/thought – tend to be viewed at both conceptual and analytical levels as one and the same, even if this is an important distinction in everyday knowledge and which allows people to deal with and accommodate contradiction[59]. It therefore leaves little space precisely for the possibility and examination of (the role of) contradiction and polissemy within and between discourses and practices in knowledge production and transformation[kl] (see[10,59,80]).

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**SOCIAL REPRESENTATIONS THEORY AS A SOCIO-PSYCHOLOGICAL PERSPECTIVE TO BETTER UNDERSTAND PEOPLE'S RESPONSES TO CLIMATE CHANGE**

In this section we will present SRT, arguing that it offers a strong account of social knowledge, a useful theorisation of social change, and an informative account of action. These three dimensions can contribute to a more complete understanding of climate-related actions, in particular if integrated and expanded with SPT. Starting with social knowledge, a central goal of SRT is to account for how "thinking is necessarily social"[81]. For this, it refuses the notion that meaning emerges from stable characteristics of subjects and direct subject-object relations, and centrally assumes that its genesis is relational, as the "relationship between Ego and Object is mediated through the intervention of another subject (Alter)" (pg. 52)[m]. By focusing on the dialogical nature of knowledge/practices production based in intersubjectivity, SRT is intrinsically a socio-psychological theory (see also[63,79]). It highlights how "all encounters with the world are mediated through relationships"[59] (p.479) with other social beings, and therefore on how meanings are always relational and co-constructed – and contested, in a community of others (see[60]).

In fact, two major consequences follow from assuming the Ego-Alter relation as the locus of meaning making[82]: (1) there can be no meaning making outside a given culture and its institutions (e.g. a nation, and its laws); (2) there can be no meaning making outside a given context – both social and bio-physical (e.g., a school). Furthermore, many, although not all, instances of meaning-making, involve an interaction with a present Other in a given context (e.g. a conversation in the schoolyard)[83]. So a corollary of the triadic model is that for understanding meaning making we need to take into account the three dimensions of culture, context and interaction, and acknowledge that these are not external variables.

The consequences of this model are then that "the central and exclusive object of social psychology should be the study of all that pertains to ideology and to communication"[84]. Looking at ideology – i.e. the systems of meaning and action of a culture – means taking culture into account. Looking at communication means taking context and interaction into account. However, the notion of ideology as used in this approach can be much better grasped if we extend the above definition by considering how the "systems of meaning and action of a culture" are not all equal and surely do not give voice equally well to all the groups of a society[85,86]. Some of these systems – or social re-presentations - are institutionalized and rather stable and consensual - or hegemonic - thus very powerfully capable of defining 'how the world is' and what is 'natural' or considered common sense; while others are still mainly being contested - or polemic - pushing for change and more unstable, or are at least still under some negotiation - the emancipated ones[85] (see also[70], for an illustration).

An important dimension of SRT's theorizing of social change is thus the notion that because there is in every culture and every context a battle between re-presentations of different types, it is not change *per se* that needs to be understood, but instead the relations between change and stability[59], therefore echoing Shove and colleagues' uptake of SPT[25]. For instance, hegemonic representations' power to define what is 'natural' allows them to set limits to what can be said and

done, and to thus exclude certain courses of action while keeping the door open for others[87]. Relatedly, when innovation enters a society or a context, they reveal the capacity to absorb innovation, making it more innocuous than it potentially could become[59]. In other words, representations exist before and after people, and produce certain effects that to some extent are independent of who voices them[88].

Finally, a further consequence follows from assuming the Ego-Alter relation as the locus of meaning making: that it is not behaviour per se, but action as *meaningful* behaviour that we need to understand to gain an understanding of social change. Behaviour can happen outside triadic relations, as a reflex, for instance, but action, as meanings, can only emerge from triadic relations. In other words, action is always social. It is this conceptualisation that supports defending that "representations exist in action as well as in belief and discourse"[89].

In turn, this implies that SRT's uptake of meanings and actions acknowledges the fact that re-presentations can either be transcendent or immanent to practices/actions[59,90] - see Box 1). This is the assertion that meaning, ideas, can exist in a society independently of the practice/action to which they are relevant, or be transcendent to it, as ideas proposed through laws and policies which usually take time to generalize to people's practices/actions – as is often the case nowadays in the environmental domain (see also[93], for another example regarding gender discrimination laws). In addition, they can just exist for/in the practices/actions to which they are relevant, or be immanent to them, being brought to life in actions and only then eventually transforming ideas and meanings about them (see[75], for another example on personal hygiene). This insight from SRT makes it easier to understand that recurrent phenomena of our societies, discussed above: a generalized agreement with normative new ideas, accompanied by a much less generalized consensus at the level of practices/actions. The 'gap' between ideas and actions so often found – or presented as found – regarding the environment can be looked at precisely as an example of the fact that contradictory meanings might co-exist and be used in different contexts when social change is happening (see also[10]) and, namely, when it stems from normative pressures – or transcendent representations - that do not imply direct sanctions to individuals and groups (see[59]; also[80]). In sum, SRT suggests that distinguishing talk and action at an analytical level might be useful to understand certain social phenomena, even because it is an important distinction in everyday knowledge. Nevertheless, we do consider conceptually that talk and action are interdependent and that talk is action.  SRT researchers have been analyzing this issue from this perspective and have developed specific analytical tools for understanding that (such as the concept of 'polyphasia'), as will be further detailed in the next section. In sum, social re-presentations are knowledge-making *practices*, materialized in social and institutional encounters[58,60,70,71].

TRANSCENDENT AND IMMANENT REPRESENTATIONS: EXAMPLES

Denise Jodelet[91] describes, based on an ethnographic study, a paradigmatic example of immanent representations. The context of the study was a French village with a psychiatric establishment, which would allow psychiatric patients to lodge with people living in the village. Dimensions of the villagers' re-presentations of 'madness' were only observable through their non-verbal actions, such as the use of separate utensils and crockery for lodgers, revealing their fear of being 'contaminated' – and often these actions were contradictory with their verbal reports (e.g., *There's nothing to be frightened of in the illness, it's not contagious. But, still, a lot of the lodgers would quite happily kiss a child and I don't like to see that*).

An example of transcendent representations is public engagement in environmental decision-making (see[59,86]). Public engagement has been institutionalized as a transcendent representation through several treaties and policies (e.g.,[92]), namely in the global north, aiming that experts and decision-makers involve the public in decision-making that affects them, in a participative, democratic way. However, as these treaties and policies do not affect actions directly – they do not sanction who does not comply with them -, they leave room for experts and decision-makers to agree with them – because they are normative – whilst at the same time not actually involving members of the public in environmental decision-making or just doing it in a tokenistic way.

## SOCIAL REPRESENTATIONS THEORY, SOCIAL PRACTICES THEORY AND THEIR USEFULNESS IN UNDERSTANDING DIFFERENT STAGES OF THE SOCIAL CHANGE PROCESS TOWARDS ENVIRONMENTALLY SUSTAINABLE SOCIETIES

In this last section, we aim to highlight how SRT, as a distinctly *socio*-psychological approach, can be articulated with SPT, in two ways. At an epistemological level, and as just described before, SRT and SPT certainly share several assumptions and are therefore compatible – in a way that contrasts directly with more individualising and realist perspectives in psychology. However, SRT and SPT are also different in several regards, in a way that might make their articulation productive. We will first look at these different aspects.

**Combining SRT and SPT in a synchronic way**

***How SPT can inform SRT***

One of the first aspects already clearly identified above in which SPT can add to SRT is the better conceptualization and examination of the role of the material in social re-presenting, not only in terms of technologies and infrastructures[65,94,95], but also regarding ecological or bio-physical systems[38,96]. The role of objects in social re-presenting – through an explicit SRT perspective – is increasingly acknowledged, namely through proposals around inter-objectivity in inter-cultural encounters (see[79]) or calls for recognizing the role of the material in re-presentations[97], particularly in relation to the environment[10]. Most concretely, a particular line of research has developed installation theory, which is closely connected to SRT[97]. This is particularly important if we consider that things and spaces are also performative of power relations and thus have very specific and powerful impacts on re-presentations[98]. Moreover, due to the original aims of SRT[57], this theory has not paid as much attention to ordinary practices and the everyday interactions between people and Others (people and objects) as SPT has been doing, with researchers using theories of practice focusing mainly on everyday practices and therefore paying more attention to the contextual contingencies of everyday actions, including environmental ones (see[73]). There is still then much open space for SRT to develop the role of the material in re-presentation, and while endorsing a strong version of the theory.

The same stands for the non-human generally which SRT has also often not taken into account. However, besides Actor Network Theory, other theories within sociology and human geography, such as cyborg/hybridity theories[38,96,99] have highlighted the importance of an ontological relational politics which does not 'kill off nature' and recognizes that it is enacted and co-produced by human beings (see also[17]). As Whatmore[96]suggests, this politics seeks to abandon dualisms and reifications such as those of distance and proximity, inside and outside, then and now, often applied in environmental studies and when looking at nature and wilderness – the point of departure should be that animals, people, soils are already hybrid, there are no pre-existing essences, only relations between different entities. Following Shove and colleagues[25], SPT, through taking these proposals more on board, can help to better understand aspects of human and non-human relations. In fact, while focusing on the examination of practices, SPT can help with understanding what those "cyborg/hybrid entities are actually doing" (p.9) – and in this way even go beyond Actor Network Theory (for more on this, see[25]). Nevertheless, both SPT and mainly SRT have been 'accused' of not sufficiently considering the bio-physical, ecological context in social practices and re-presentations' research, namely, through considering the role of place[100,101]. In fact, SRT has been pinpointed as also being Cartesian to some extent, not in relation to the social context, but to the bio-physical, ecological one[100,101]. SPT, on the other hand, even if, as highlighted before, better recognizing and integrating the idea of the co-production of practices by ecological and social systems, empirically tends to neglect the role played by place and space in practices such as washing up, heating the household, among others.

A second aspect that SPT can add to SRT then is precisely the focus on 'doing' or practices and the associated use of more ethnographic methodologies, such as in Jodelet's study (see Box 1),

which have not often pervaded SRT's research. Related with this, SRT has often been criticized for not taking sufficiently into account the history of meanings[102] (but see[103]). SPT, on the contrary, performs genealogies of practices, analyzing how "practices are classified and how categories themselves evolve"[27] (p.54). A good example of this is daily showering and how SPT traces its history - how in other historical periods, bathing would be a weekly activity (at most), and how infrastructures and associated meanings had to co-evolve for daily showering to happen more frequently and to be justified by the necessity to be clean (see more on[27]; also[18,88]).


### *How SRT can inform SPT*

In turn, SRT can add to SPT in at least two ways. First, by conceptualizing people as agentic in bringing about social change, and second by offering an account of the role of Self-Other and power relations in allowing, constraining and/or enabling it. As pointed out above, SPT has been criticized (see[17]) for ignoring actors' awareness of different practices, and their ability to negotiate them and to actually perform some instead of others. SRT's uptake implies emphasizing that social beings can be aware of the "co-existence of a social representation and its alternative "[105] (p.83). This awareness of alterity[n] and the capability of perspective-taking allows change to happen, at individual, contextual-relational and societal levels (see also[83, 86]) – even if it is also what allows resistance to endure. The analytical tools that SRT has developed in this regard, such as that of polyphasia[88,108], the notion of themata[105,109,110], the distinction between the normative and functional dimensions of representations[59,110], or the distinction between reification and consensualisation as communicative formats[88] ([64,79,112]), have been very helpful precisely in enabling the analysis of how both change and resistance to change happens. For instance, polyphasia refers to the coexistence of competing and even contradictory meanings, not only within the same culture and groups, but also within the same individual[64]. This notion is therefore very useful as an analytical tool in contexts of change as it calls our attention to the importance of analyzing if and how different meanings are used and in which contexts, therefore providing us with important insights about the social and psychological processes behind promotion or resistance to change (see also[88,108,110]). Also useful might be the distinction between reification and consensualisation as communicative formats used between different groups to negotiate change[86]. Batel and Castro[86] systematized a way of identifying when these two communicative formats are being used and what their consequences might be for knowledge construction or change and resistance to change. Reification is used for displacing the knowledge of others and has monological consequences therefore usual implying some type of power resources; consensualisation involves perspective-taking and has more democratic outcomes.

Conceiving the possibility of reflexivity then, does not necessarily equate with believing in individual agency and choice as in Shove's portrayal of the psychology ABC model or in Kurz and colleagues'[15] account of the dominant psychology perspective on habit (see[88, 105]). It just means that thinking is arguing[109,113], that is, it happens based on antinomies – or, as Batel[88] puts it:

"it allows us to, on one hand, uncover how agency and subversion, or the capability to use different rationalities or representations, can be limited or enhanced by specific power relations, institutional arrangements or other normative practices and discourses and, through that, contribute to slow down or accelerate change. And, on the other hand, to also consider that, nevertheless, unequal social relations and dominant representations can be challenged and contested by social agents, collectively" (p. 10.10).

As Shove and colleagues[25] themselves highlight "we have not explicitly engaged with big debates about the rise of capitalist society or with questions of social and economic power, but that does not mean that these are in any sense absent from our analysis of the dynamics of social practice" (p.137). In fact, specific conceptualizations and empirical examinations of how particular intergroup relations and the differential power of different re-presentations affect environmental relevant (social) practices are often absent or non-explicit in research using SPT. In other words, SPT should pay *more* attention to the political dimension of environmentally relevant actions not only at a structural level, but also at more contextual and individual ones – or to borrow Howarth, Andreouli & Kessi's[114] formulation, the analysis of re-presentations/social practices has to be "sensitive to the contexts, dynamics and specifics of intergroup relations as these are reflected in the processes of re-presentation" (p.23-24). The importance of taking this political dimension into account becomes quite clear if we think about how expert-lay relations – or re-presentations about these relations – strongly shape people's environmental practices, with the NIMBY (Not in my Backyard) re-presentation being a paradigmatic example of that (see[10,70]).

In fact, and as a second input from SRT to SPT, at its incept[57] SRT aimed to understand specifically how new scientific knowledge was appropriated and used as common sense in everyday lives. Therefore we can consider that SRT has more experience in examining cultural and techno-scientific change (e.g.,[10,108,111,114,115,116]) and how it is appropriated in contemporary heterogeneous public spheres[64]. For instance, SRT has identified anchoring and objectification (see Box 2) as the socio-psychological processes through which people make the unfamiliar, familiar[10].

In a related way, SRT has a long expertise in examining how Others shape people's re-presenting, and specifically the role of the media in doing this in contemporary public spheres, as the media is one of the main actors (re)creating the socio-cultural environments where we live. SRT has arguably done so more than SPT, therefore also usefully adding this expertise to research based on theories of practice. Research using SRT has illustrated, for instance, how the media can use different communicative modalities[117] to present new ideas – such as regarding GMOs, geo-engineering or climate change - which can in turn have very different consequences for how these and associated re-presentations are taken up and negotiated by publics (see[57,117,]; also[5,115,118]).

We can perhaps say then that SRT is better equipped to look at the extraordinary – or at when social change is just introduced in a society or in a community, such as when a new low-carbon energy technology is constructed in a specific place[10] - whereas SPT, due to the way it has been more frequently empirically used, can be considered as more conceptually suited to better understand climate relevant ordinary actions at the 'consumption' level, this is, when change has already started to be incorporated into people's everyday practices. To give some concrete examples in what regards climate relevant actions, whereas SRT has been more concerned with understanding and examining people's ideas and communicative practices regarding climate change in general (e.g.,[115,118]), public participation in environmental decision-making (e.g.,[70,86]), energy systems[119], renewable energy and associated technologies (e.g.,[10,116]), and biodiversity conservation[110]; SPT has been more focused on examining energy demand[104], travel/mobility practices[18], smart energy

domestic consumption[120], air conditioning practices[25], saving energy and reducing waste in the workplace[51]. Nevertheless, this suggests again that SRT and SPT can be articulated in a fruitful way for better understanding not only the same but also different facets of environmentally relevant actions.


**Combining SRT and SPT in a diachronic way**

SPT and SRT have common presuppositions that can allow their articulation, contrary to the more realist and individualist psychology perspective. Considering the 'strengths and weaknesses' of these two epistemological/theoretical approaches, we can consider that they might actually complement each other while contributing to understand different stages of the social change process towards environmental sustainability[121], and relatedly the change and stability of (non)environmentally relevant actions. Departing from a SRT perspective, Castro and colleagues[121,59] have proposed that environmentalism, as a process of social change, is currently at its 'Generalisation' stage (see also[10]): after its emergence as a social concern mainly through the influence of active minorities, namely grassroot movements[103,122], several treaties and laws at supranational levels have institutionalised it while setting specific targets for and constraints on the practices of people towards environmental sustainability. Now, mediating systems between the legal sphere and the public one, such as the mass media and community practitioners, are circulating the content of those laws – and specific interpretations of them[59] – which are expected to be appropriated by people, so that environmental sustainability can be attained. The proposal put forward by Castro and colleagues[121] (see also[80]) does not critically discuss the models of social change that are being pursued with such legislations and treaties and, namely, to what extent they are targeting individuals' behaviour change or more structural, social practices, change. In other words it conceptualizes how social change happens in current neo-liberal and capitalist systems, with a focus on mainly deeming individuals responsible for making that happen. Nevertheless, this model/proposal can also be seen as an in-between 'solution', which tries to conceptualize how social change happens in these socio-economic and political systems while, at the same time, showing how it can undermine them. In fact, it calls our attention to the importance of the legal system in contemporary societies, mainly Western, in fostering social change and, with that, to the fact, that contrarily to what both SPT and the individualist psychology perspectives seem to presuppose, individuals and groups can actually be aware of environmentalism and of alternative (and normative) representations to consumerism and anti-environmental action. To put it differently, it calls our attention to the important distinction, already highlighted above, between transcendent and immanent representations[59,90] (see Figure 1).

In this sense, we propose that while SRT might be more useful to understand how new meanings emerge, how they are disseminated throughout the public sphere and the socio-psychological processes associated with support, acceptance and/or resistance to change during that generalisation phase; SPT might be more useful to understand how those meanings then get

combined with technological innovation, material practices and the development of associated competences and how their connections are stabilized, become habits, and how these might act as barriers to new practices being adopted (see Figure 2). This framework can then be the basis for a research agenda regarding environmentally relevant actions which, by simultaneously highlighting the demand and supply side of those actions and how they are co-produced by individuals, institutions (both material and symbolic) and bio-physical contexts, can better uncover the socio-economic, political, psychological, institutional, cultural and historical processes behind the stability and change of those actions, and arguably work to change those. These ideas and framework should then be made explicit and clearly inform related interventions for social change in the context of the ecological crisis, namely while both informing policies on environmentally relevant actions and while engaging with individuals and communities about those – during research and through designing specific community interventions.

**Sidebar title:**

Sidebar 1 - TRANSCENDENT AND IMMANENT REPRESENTATIONS: EXAMPLES

Sidebar 2 – ANCHORING AND OBJECTIFICATION: A DEFINITION

**Conclusion**

The current capitalist and neo-liberal socio-economic and political system has devastating consequences for ecological systems, creates and perpetuates social inequalities and exclusion and has consistently driven us further away from forming participative democratic institutions[11,48]. This critical review of the main (socio) psychological and sociological approaches used so far to understand and change climate relevant actions (e.g.,[15,25]), has clearly illustrated two aspects of the relation between the current socio-economic and political system and these approaches. First, that despite the fact that authors developing and implementing (socio) psychology's mainstream approaches arguing for the neutrality, impartiality and scientific evidence-only based qualities of this research, it is unquestionable that similar to any other form of co-production of knowledge, this research is political – as in "the ontological dimension of antagonism"[11] (p.XII). In other words, it does assume, defends and develops a specific perspective, with particular social and political antecedents and consequences. Specifically, and second, as shown throughout this review, that individualizing perspectives prevalent within social psychology look into people's environmental-relevant actions in an age of climate change, by simulating that scientific positivist neutrality, is actually endorsing and reproducing the neo-liberal and capitalist context where it developed and that it helped creating, despite not acknowledging and critically discussing this. Not all research within social psychology, and the social sciences generally, adopts such an approach, and obviously it is important to acknowledge that there exists a spectrum regarding the role attributed to the individual and that therefore some approaches are further away from the extreme of considering the individual as the locus of everything. However, that this is still the mainstream approach being

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adopted within social psychology, related with the problems that we have just mentioned, highlights the urgent need to adopt other epistemological, ontological and, therefore, political, perspectives within the social sciences to examine and better understand peoples' (non-)environmentally relevant actions. We suggested specifically that sociological theories of practice (e.g,[25]) and SRT, as an intrinsically socio-psychological theory, can, in articulation with one another, be those perspectives, given how they conceptualize processes and drivers of change, basis of action, and the relation between practices/actions and meanings, how they position policy and how much lessons are transferrable across time and space (see Table 1). These theories not only contribute to a better understanding of (non-)environmentally relevant actions, but also better enable a process of change to the current socio-economic system that we live in towards another world, in which the individual, consumption and corporations are not the measure of everything and, thus, that can arguably contribute to establishing another form of hegemony[11,49] which aims at dissolving social inequalities and creating global environmental justice in social and ecological ways. This implies targeting not individuals but social practices[25] or/and representations, as in people's beliefs and actions. This, in turn, involves, generally, challenging the neo-liberal and capitalist system and, more specifically, might involve following three main courses of action. First, developing regulations and policy-making, which target the materiality of people's practices at production and consumption levels, instead of individuals' consumption itself. In other words, what should be focused on is "the political relations that produce environmentally damaging ways of producing and consuming"[41] (p.348) – or as also illustrated in the British Psychology Society's report on behavior change regarding energy consumption[c], if leaving TVs and computers on stand-by is so damaging, then it has to be questioned why we have a stand-by facility on electrical goods? Second, and in an associated way, critically engaging with relevant knowledge producers – policy-makers, academic researchers, NGOs, and so forth - to transform re-presentations of individuals as either passive dupes and/or totally rational beings, into re-presentations of individuals as, in their continuous relation with the Other, both influenced and constrained by the contexts in which they live, and as aware, conscious, and active political actors, much in line with SRT's representation of people[88]. In turn, this will contribute to the creation of more active forms of citizenship that can demand better regulations and policy-making. Finally, all of the above implies that the social sciences have an important role to perform and that it is therefore crucial that certain disciplines and research areas – such as Psychology – start to more fully acknowledge their impact on (re-)producing climate change and related issues.

## Notes

[a] Throughout the manuscript we use the concepts of environmental and climate relevant actions as defined within the social sciences generally to refer to "human behaviours that contribute to environmental problems" ([30], p.407). The use of this concept aims then to direct our discussion in a more specific way to a particular area of research and of public life which is that of the promotion of proenvironmental behaviors. However, and even following the discussion developed throughout this paper, it should be considered that all actions impact on, are affected by and co-evolve with the climate and the environment.

ᵇ Adapted from Jensen, D. (2015) Forget shorter showers: Why personal change doesn't equate political change. Retrieved the 15th February 2015 from http://www.filmsforaction.org/articles/forget-shorter-showers-why-personal-change-does-not-equal-political-change/

ᶜ British Psychology Society report on Behaviour Change: Energy Conservation retrieved the 25th January from http://www.bps.org.uk/system/files/Public%20files/energy.pdf

ᵈ As in fostering the consensualisation of a capitalist and neo-liberal ideology and not legitimising diverse and conflictive perspectives over socio-political and economic systems[11].

ᵉ Critics of social psychology, including those developing theories of practice, also tend then to only recognise as social psychology perspectives the mainstream individualist and realist ones and not to be aware of the epistemological and conceptual diversity of this field of research (e.g.,[19]).

ᶠ Which together with behaviourism were the main perspectives making the history and present of social psychology at least until the turn of the XXth to the XIst century[61], even if in the meantime other perspectives have grown like neuropsychology, evolutionary psychology and embodied cognition.

ᵍ Even if there are authors that use more individualist and cognitive versions of the theory (see again[58]), endorsing a weak version of the social and thus rejecting social constructivist assumptions (e.g.[22,65]).

ʰ For some time SRT and discursive psychology were seen as irreconcilably different, with SRT being criticized by discursive psychologists (but see[61,66]) for still being 'too' cognitive (taking into account its focus on representation) and thus too close to mainstream (socio-)cognitive and individualistic approaches (e.g.,[67]; also[68]). However, SRT as adopted in this paper, incorporates some proposals of discourse analysis (both theoretically and methodologically, see[69,70]) and looks at re-presentation (instead of representation), as a process 'in the making' involving the dynamic construction and re-construction of meanings (see also[71]).

ⁱ This is not to say that there are not other critical alternatives and conceptual imports, besides the ones discussed in this paper, that can be very relevant in allowing us to better understand environmental relevant practices, such as those coming from psychosocial studies, narrative analysis and psychoanalysis (for a discussion see[14]).

ʲ SPT can be said to incorporate more in its analyses the materiality of reality, contrarily to SRT – as will be further discussed in the paper. Nevertheless, and whereas SPT gives more importance to interobjectivity than SRT, it also equally recognizes the importance of intersubjectivity for the stability and transformation of social practices (see[78]), this being the reason why we consider that SPT can also be seen as endorsing a strong version of the social.

ᵏ With this we are not assuming a dualistic Cartesian perspective that separates the mind from the body, but instead suggesting that analytically considering that doings and sayings might not be totally articulated is useful to understand the polissemy of symbols and meanings and how sometimes those can be strategically used by social agents to deal with change. In other words, we concur with Hinchliffe[38] (p.62), borrowing from Deleuze, in suggesting that any differentiation of doings and sayings "can only be differences of degree and not of kind".

ˡ Some versions of SPT do recognise or started to the importance of the Other through the focus on social networks; the existence of contradiction between the elements of practices[25]; and the fact that structures do also exist in individuals, not only in practices and thus that practices are structured in between the individual and societal structures[78]. Nevertheless, generally one can say that whereas authors like Spaargaren and Shove do suggest to take them into account, there does not seems to exist yet a rigorous approach that specifically accounts for these issues.

ᵐ The Ego-Alter-Object triadic relation proposed by Serge Moscovici[57] as the main basis of SRT, intends to signal the importance of the Other, that is, of relationships and intersubjectivity for knowledge construction of the Self about an object (and how the object impacts on the self). Introducing the Other in conceptualizing knowledge production instead of considering simply subject-object relations following the Cartesian, positivist tradition, implies then recognizing the importance of the spaces of mediation "that lie on the in between of intersubjective and interobjective relations"[63] (p.15).

ⁿ What we are proposing here is that individuals can be aware of different meanings insofar as they are part of communities/groups where different representations are available – we are not proposing it as an individual

process. In this vein, we are talking about reflexitivity – not rationality - as used by Kessi and Howarth[28], which is the ability to be aware of different knowledges, which are constructed collaboratively, and can be used contextually to fulfill different functions and interests.

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**Figure captions**

Figure 1 – Relation between different forms of change/re-presentations and practices (meanings and actions)

Figure 2 – The different stages of social change

**Tables**

Table 1 – Behavior, Practice and Re-presentation

| | Theories of behavior | Theories of practice | Theory of social representations |
|---|---|---|---|
| **Basis of Action** | Individual choice | Shared, social convention | Social and individual as interdependent; individuals constrained by and creating the contexts where they live; political |
| **Processes of change** | Causal | Emergent | Emergent |
| **Positioning of policy** | External influence on the factors and drivers of behavior | Embedded in the practices it seeks to influence | Embedded in the practices it seeks to influence |
| **Transferrable lessons** | Clear: based on universal laws | Limited by historical and cultural specificity | Limited by historical and cultural specificity |
| | | Limited by bio-physical/ecological specificity | |
| **Drivers of change** | Top-down, focused on individuals Bottom-up, individually driven | Top-down, institutionally and infrastructurally driven; focused on practices | Top-down, institutionally driven; focused on meanings and actions Bottom-up, communities-driven |
| **Units of Analysis** | Individuals's attitudes and behaviors | Social Practices | Social Re-presentations (meanings and actions) |
| **Relation between meanings and actions** | Attitudes/Meanings $\Rightarrow$ Behaviors/Actions | Meanings = Actions | Meanings $\Longleftrightarrow$ Actions |

**Further Reading/Resources**

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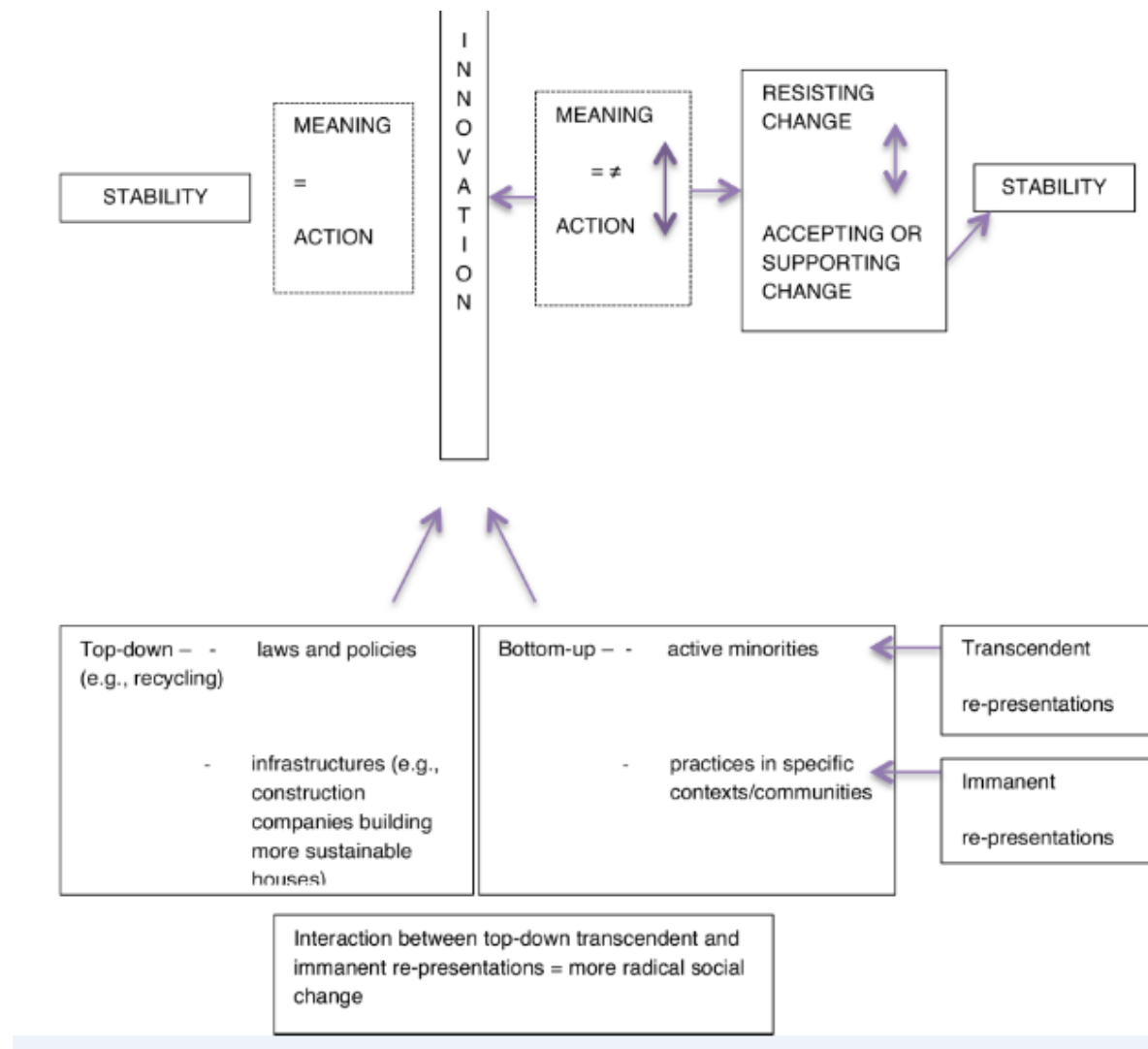| DOI | Article title |
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Figure 1

Figure 2