For "a meaning-centered, culturally oriented psychology" of climate change

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Abstract

The present paper emphasizes the central role of meaning in human action, highlighting how the analysis of its emergence and reproduction can offer insights into complex phenomena, including the challenges posed by contemporary society, with a particular focus on the climate crisis. A microgenetic model of the constitution of experience is initially proposed, followed by a presentation of the concept of "value of life" of signs. Next, the article introduces the Semiotic-Cultural Psychology Theory (SCPT), highlighting its processual interpretation of culture understood as a continuous sensemaking process. Two empirical studies are presented that apply the theoretical framework of SCPT, demonstrating the impact of meaning systems on pro-environmental behaviors: the first explores the relationship between wildfire risk perception and preventive behaviors and the moderating role played by symbolic universes, while the second analyzes the role of affect in the link between attitudes and pro-environmental behaviors. The results underscore the crucial importance of the symbolic universes and lines of semiotic force in shaping individuals' perceptions, thoughts, and actions, suggesting relevant theoretical and practical implications for promoting a culture of sustainability.

Keywords: meaning, sensemaking, sign, value of life, affects, climate change, environmental attitudes, pro-environmental behavior.

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Introduction

The concept of meaning plays a fundamental role in human action (Bruner, 1990). However, contemporary psychology tends to treat meaning as a stable and predefined entity, separate from the semiotic flow (i.e., sensemaking). In this perspective, meaning is viewed as ontologically static, pre-existing to the social dynamics in which it manifests and develops (Manzotti, 2010; Salvatore, 2016; Valsiner, 2014). This conception is the basis not only of common sense, but also of some theoretical traditions in psychology, including classical psychodynamic approaches (for a discussion of this point see Salvatore & Zittoun, 2011). This view reduces the horizon of psychological inquiry because it omits the analysis of the processes through which meaning originates and is experienced as psychological reality (Reho & Salvatore, 2024; Salvatore, 2012). In fact, this approach results in an overlap between the *explanans* and the *explanandum* (Salvatore, 2013): meaning, instead of being the object of interpretation, becomes the means of interpretation. For example, contemporary psychology is led to explain the psychological event "frightening thought" as motivated by the meaning "fear". As a result, fear, instead of being the phenomenon to be analyzed, becomes the explanation itself, obscuring the reasons for its existence (Salvatore *et al.*, 2024a).

This conception of meaning, considered as independent of its expression, is equivalent to imagining the mind as a photo album that can be observed by the individual, where sensemaking is likened to the photo that recalls pre-existing memories in the subject, independent of the act of interpretation (Salvatore, 2013). Such a view, which privileges a strictly semantic dimension of meaning, has its roots in the theory of de Saussure (1916), who argued that linguistics concerned language itself (*langue*) rather than its use (*parole*). In this context, meaning is conceived as an entity intrinsic to the sign, arising from the relationship between the signifier (content) and the signified (expression) (Eco, 1975), as if the meaning of a gesture or word were inherent to the gesture or word itself (Reho & Salvatore, 2024).

This perspective ignores the pragmatic dimension of meaning (for a pragmatist theory of meaning see Austin, 1962), according to which the latter emerges as a product of the interpretative activity (i.e., sensemaking) and not as something that pre-exists and is independent of it

(Salvatore, 2016). This approach is inspired by the philosophy of Wittgenstein, who, contrary to de Saussure, argued that the meaning of a word is not inherent in it, but is related to its use (Wittgenstein, 1953/1958). In short, adopting a pragmatic view of meaning involves investigating the processes through which meaning emerges and is reproduced.

The Semiotic-Cultural Psychology Theory (SCPT; Salvatore, 2016, 2018; Salvatore *et al.*, 2019a; Valsiner, 2007, 2014) argues that sensemaking is inherently social and situated, as it develops within the cultural milieu in which individuals are embedded. In this perspective, the culture is conceived as a dynamic and continuous process of sensemaking, through which individuals interpret their surrounding context, attribute meaning to their experiences, and consequently shape their behaviors. This process is profoundly influenced by generalized affective meanings, which SCPT defines as "symbolic universes" (Salvatore *et al.*, 2018). Symbolic universes operate as embodied systems of assumptions, which guide, orient and constrain the ways in which reality is interpreted (Salvatore *et al.*, 2019a). In this theoretical framework, sensemaking is never an isolated individual activity, but is always linked to the cultural context in which it takes place and involves a continuous construction and reaffirmation of identity. Indeed, people interpret and act in ways that not only reflect but also reinforce and legitimize their system of cultural assumptions (Salvatore *et al.*, 2019a).

It is worth noting that symbolic universes are patterns of meaning held together by their affective valence, which SCPT conceptualizes through the concept of "lines of semiotic force" (cf. Salvatore *et al.*, 2019a). The latter represent hyper-generalized, embodied, and affect-laden dimensions of meaning (for a theory of affects as generalized meanings see Salvatore *et al.*, 2022, 2024b; Salvatore & Zittoun, 2011), constituting the fundamental structure by which individuals attribute meaning to reality. The lines of semiotic force are primary and elementary dimensions, not further decomposable into simpler units, and not mediated by cognitive processing (Zajonc, 1980). Therefore, they act as an immediate form of perception of the environment, which does not require inferential processes (Salvatore *et al.*, 2019a). For example, it is not the perception of the landscape that evokes an affective response of pleasantness; on the contrary, it is this affective response

that generates the perception and subsequent interpretation of the landscape.

From an applicative perspective, the analysis of meaning and culture offers an innovative theoretical framework for understanding complex phenomena that characterize the challenges of contemporary society, such as climate change. Exploring the role of meaning and culture in the context of the climate crisis enables the development of new knowledge that can provide valuable insights for the design of interventions geared toward promoting a culture of sustainability.

This paper is organized into four parts. In the first part, a micro-genetic model of the constitution of experience will be presented that shows that meaning is not a static entity defined a priori. Next, the concept of "value of life" of signs will be explored, illustrating how some signs, unlike others, take on existential relevance for the subject. The third part of the article will be devoted to a processual conception of culture, understood as a continuous flow of sensemaking. In this section, the concepts of symbolic universes and lines of semiotic force will be explored. In the forth and final part, empirical research findings will be presented that show that pro-environmental behaviors are indirectly influenced by the meaning systems that characterize the cultural milieu within which the individual is embedded.

A micro-genetic model of the constitution of experience

According to Peirce's (1897/1932) triadic theory, meaning is conceived as the effect produced by the sign. In contrast to a dyadic view of sign that identifies meaning as intrinsic to the sign itself, Peirce argues that meaning emerges in relation to the following sign in the semiotic chain (Peirce, 1897/1932). In other words, a sign acquires its meaning by means of the activation of another sign. For example, sign *A* acquires meaning only through sign *B*, which is evoked in the mind of the interpreter as a response to the former. The interpretation elicited by sign *B* consists in defining what Peirce calls the "aspect or capacity" (Peirce, 1897/1932, p. 228) of the object that sign *A* represents; in other words, the "ground". In this framework, meaning is not a concrete and stable entity, but an abstract process determined by signification – that is, the relationship between sign *A* and sign *B* – where

what exists is the continuous and dynamic flow of signs (Salvatore, 2016).

Meaning, moreover, has a bivalent nature: the interpretation of the preceding sign by the following one is based on the selected ground, that is, the aspect or capacity by which the preceding sign stands for the object (Peirce, 1897/1932). It follows that the extracted ground represents the meaningful aspect of the object to be represented at the expense of the infinite possible grounds in the terms of which the object could be signified (Salvatore *et al.*, 2024b). According to this perspective, therefore, asserting a thesis implies the negation of the opposite one (Salvatore *et al.*, 2024a). In other words, stating that "something is X" means that that something is not something else. According to such logic, for example, the assertion "Angela is clever" implies the selection of the quality of intelligence as the relevant ground, while other possible grounds – that Angela is a philosopher (profession), that she's a female (gender), or that she's Italian (nationality) – are relegated to the background.

This dual valence of the sign has been conceptualized by Salvatore (2016) as *Meaning in Praesentia* (SIP) and *Meaning in Absentia* (SIA). The SIA represents the set of infinite potential grounds that are backgrounded rather than what is said about the object. Therefore, it is in the dialectical relationship between SIP and SIA that the content of experience is constituted and that the meaning-maker is able to think about it (Reho & Salvatore, 2024).

Furthermore, meaning possesses a contextual character, as it emerges from the network of relations between the signs that precede and the signs that follow within the contingency of the present moment (Salvatore, 2013). In fact, the meanings emerging from the dialectical relationship between SIP and SIA are closely related to the specific and contingent conditions of communication, that is, to the evolutionary history of the signs that define the discursive activity in a given context (Salvatore *et al.*, 2024a). In other words, there are discursive circumstances in which the statement "Angela is a woman" can mean |she is not a man|, but also |she is not a person of different gender|, or even |she is not a chair|. Each of these meanings, as well as a wide range of other possibilities, can emerge by reason of a specific historical evolution of sign relations that makes particular oppositions relevant (Salvatore, 2013).

The presented model – which adopts a processual view of meaning (De Luca Picione & Salvatore, 2023) and emphasizes the relational character of the psyche (De Luca Picione, 2020, 2022; Fronterotta *et al.*, 2018; Salvatore, 2016; Salvatore & Venuleo, 2013) – allows to overcome the conception of the world as something already out-there that work as a repository of predetermined objects. According to such a model, the world is instead a potentially infinite set of actualizable possibilities (Salvatore, 2013). In other words, the world does not have a definite nature or intrinsic essence but is rather understood as a state of potentiality that takes a particular form – extracted from the infinite set of possible forms – depending on the network of constraints being characteristic of a given contingency (Salvatore, 2013, 2018). In this sense, the world possesses a structure of a negative nature: it is not defined by what it is, but by what it cannot become (Salvatore *et al.*, 2024a).

At the representational level, the process through which meaning emerges – thus constituting experience – is characterized by three specific aspects, namely dynamics, structure and content (Salvatore & Cordella, 2024). Dynamics refers to the way signs combine with each other over time, causing meaning to emerge through their succession. Structure represents the organization of dynamics, that is, the ground that acts as a constraint for the selection of signs that enter the semiotic chain (Reho & Salvatore, 2024). Moreover, the ground can be decomposed into elementary components, each of which describes an aspect of the variability with which the signs combine (Salvatore & Venuleo, 2013). It is important to note that structure and dynamics are not separate dimensions, but rather interdependent and circular: structure organizes dynamics and the latter, as it unfolds, reproduces and reaffirms structure (Salvatore & Cordella, 2024). Content, on the other hand, concerns what is said, acted, and thought: in other words, the input of the whole process of signification.

Figure 1 provides a graphic representation of the proposed model.

As shown by the figure, at first there is the sign [Angela is 29 years old] mobilized at time 1 (i.e., *S1*). Sensemaker *A* interprets *S1* mobilizing the sign [she does her job very well] at the next time (*S2A*). Sensemaker *B* interprets *S1* mobilizing the sign [but she looks younger] (*S2B*). Sensemaker *C* interprets *S1* mobilizing the sign [she is very kind] (*S2C*).

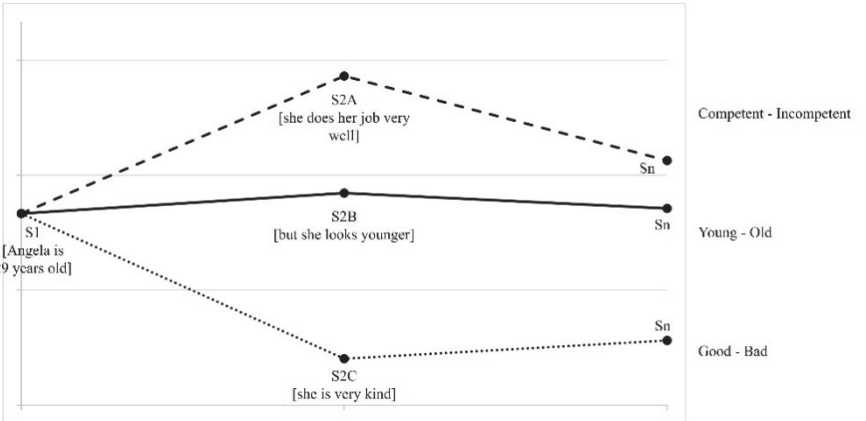

Fig. 1. Graphical representation of the micro-genetic model of the constitution of experience

Each *S2* instantiates an interpretation of *S1* that consists of a ground made relevant with respect to the potentially infinite set of other grounds (i.e., competence in the case of *S2A*, youth in the case of *S2B*, and goodness in the case of *S2C*). Thus, to the extent that signs are taken as points in a semiotic space (Salvatore, 2016; Salvatore *et al.*, 2022; Valsiner, 2007), each interpretation corresponds to a trajectory taken by the sign-to-sign transition within that space.

The concept of "value of life" of meaning

According to what has been presented in the previous paragraphs, the process of sensemaking concerns signs, that is, according to Peirce's (1897/1932) view, something that stands for something else. However, in everyday life, people do not experience signs as representations of reality but rather experience them as concrete entities being immediately present in the world. The relationship between mind and world, therefore, always turns out to be mediated and occurs through signs, which serve as a medium for the relationship with the object of experience. Yet, meaning emerges precisely when – and in terms of – the mind-world relation is experienced as immediate, that is, when it is perceived as direct and not mediated by any sign (Salvatore, 2016). Salvatore (2012) translates such immediacy through the

concept of "value of life" of signs. That is, individuals treat the sign not as something that represents something else that is absent but as if it were the thing it represents (Salvatore, 2019). In this way, signs are endowed with subjective cogency (i.e., value of life), assuming an existential relevance that directly influences the subject's experience (Salvatore, 2012).

It is worth noting that the perception of immediacy in experience – from which value of life emerges – is not a stable or constant condition. Many situations involving objects of great existential relevance may be experienced as having no value in life, thus being distant and abstract. At the same time, there are circumstances in which events that seemingly lack concreteness can assume significant existential relevance (Reho & Salvatore, 2024; Salvatore, 2012). Consider, for example, how dramatic events such as floods, fires, earthquakes, or droughts can be perceived by some people as purely abstract concepts lacking existential power, thus arousing indifference. Conversely, an abstract reality devoid of physical substance, such as a nation, can acquire a tangible value of life. Consider, for example, wars: a soldier is prevented from reaching a particular territory not because the latter prevents him from doing so but because there is an opposing soldier who recognizes that territory as an entity endowed with existential relevance and, therefore, to be defended at the cost of his own life.

These examples illustrate the independence of the psychological object from its ontological status, as already argued by Meinong (Albertazzi & Jacquette, 2001). Once this independence is recognized, it becomes essential to understand the processes by which the mind confers psychological reality, that is, value of life, on its contents. In this sense, how the mind operates to attribute cogency and meaning to the elements of experience constitutes a crucial aspect of understanding the nature of meaning itself.

The dynamics of sensemaking as a matter of symbolic universes and lines of semiotic force

The semiotic approach to cultural psychology (see § Introduction) postulates that the sign-to-sign transition depends on pre-reflective worldviews. This is due to the fact that sensemaking does not

develop in a vacuum, but within a specific cultural context (Russo *et al.*, 2020). Worldviews act as implicit systems of assumptions that guide and direct how individuals interpret elements of the social environment.

The SCPT conceptualizes these worldviews as symbolic universes (Salvatore *et al.*, 2018, 2019a). Each individual structures perceptions, thoughts, and actions based on the symbolic universe she/he identifies with. Thus, each symbolic universe can be interpreted as a set of beliefs about how the world is and should be (Salvatore *et al.*, 2018). Computationally, each symbolic universe can be represented as an attractor that influences the trajectory of sign-to-sign transitions (Salvatore *et al.*, 2019a).

The SCPT defines symbolic universes as an affect-laden form of asemantic meaning. Specifically, each symbolic universe is a pattern of meanings consisting of a network of less generalized meanings that are linked together based on their affective valence, regardless of their semantic relationship (Salvatore *et al.*, 2019a). This implies that two semantically distinct and unrelated concepts can be combined by reason of their similar affective valence. For instance, the image of climate change as a threat may combine the semantic category of "climate change" with that of "risky objects" due to their shared negative connotation (e.g., Reho *et al.*, 2023).

The affective nature of symbolic universes characterizes them as generalized forms of meaning that do not refer to a specific object or domain (e.g., family, work, or climate change), but provide a comprehensive interpretation of the person's entire field of experience (Salvatore *et al.*, 2019a) by influencing the way she/he perceives, thinks, and acts.

Moreover, symbolic universes do not operate in a top-down manner – as external frames that regulate cognitive processes (cf. Christopher & Bickhard, 2007) – but rather as constraints that reduce the variability of possible interpretations, bringing some meanings to the foreground and relegating others to the background (Salvatore *et al.*, 2019a, 2024b).

It is worth noting that symbolic universes are inherently cultural and plural. They do not reside in the minds of individuals but are internalized through participation in the social and discursive practices that constitute the cultural milieu (Salvatore *et al.*, 2019a). The SCPT assumes a pluralistic view of such milieu, conceiving it as a network

of symbolic universes interconnected by links of similarity and opposition. Each symbolic universe represents a specific position within the cultural milieu (Cobern & Aikenhead, 1997; Salvatore, 2016), emphasizing particular patterns of meaning and standing in dialectical relation to opposing patterns. For example, a defensive worldview reflects an emphasis on the |enemy|-|powerful| meaning pattern, while implicitly opposing the juxtaposed |friendly|-|weak| pattern. Thus, the fact that individuals belong to the same cultural context does not imply that they share the same symbolic universe, but rather that they interact within a network of common affective meanings that forms the basis of cultural variability (Cremaschi *et al.*, 2021).

The cultural milieu is characterized not only by the symbolic universes, but also by their semiotic organization, that is, the network of relations of similarity, difference, and opposition among the symbolic universes that determine their meaning (Salvatore *et al.*, 2018, 2019a). The content of each symbolic universe is shaped by hypergeneralized dimensions of affective meaning that involve opposing polarities, such as friend/enemy or engagement/passivity. These polarities set the content of the symbolic universes by highlighting one pole while suppressing the opposite (Salvatore *et al.*, 2024b). The network of such affectively connoted dimensions is called "semiotic field", while the individual dimensions of meaning are called "lines of semiotic force" (Salvatore *et al.*, 2019a). Each line of semiotic force represents a component of the influence that the semiotic field exerts on the sensemaking process. Accordingly, symbolic universes can be viewed as attractors, i.e., regions of intensity within the semiotic field, where the influence of the symbolic universe on sensemaking can be modeled as the combination of one or more lines of semiotic force (Salvatore *et al.*, 2018, 2019a). Figure 2 visually illustrates this point. Borrowing a metaphor from physics, each symbolic universe can be conceived as a body located within a gravitational field, which in our discussion corresponds to a semiotic field. The mass of such a body is responsible for inflecting the field, thus determining the ways in which individuals perceive, think and act. Each line of semiotic force shapes a component of the influence that the semiotic field exerts on sensemaking. Therefore, the trajectory taken by each body is determined by the lines of semiotic force active within the field, which push the body toward a specific direction.

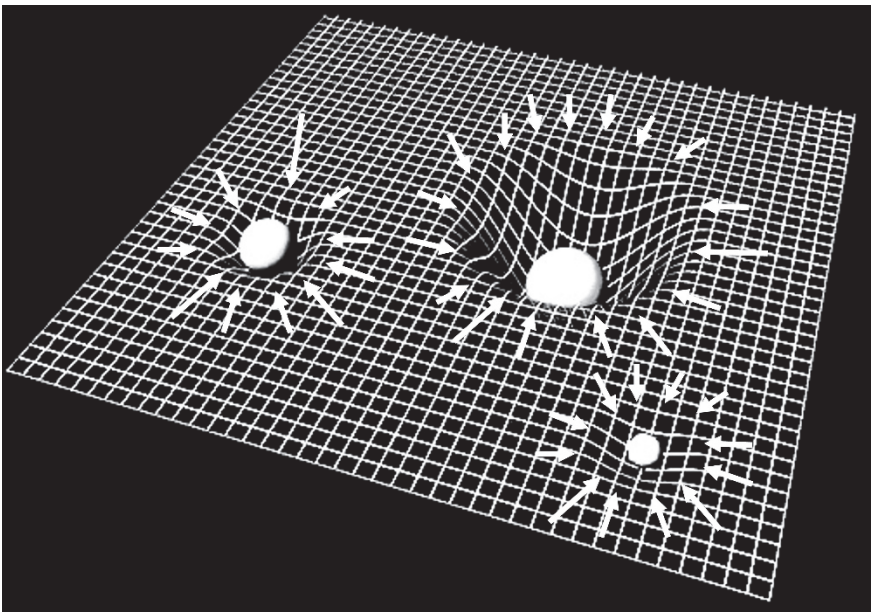

Fig. 2. Representation of symbolic universes as attractors within the semiotic field

Salvatore and colleagues (2018, 2019b) conducted an analysis through which they mapped five symbolic universes active within the cultural milieu of eight European countries:

Ordered universe: morality and efficacy are interconnected; what is right is also effective in making things better because of the inherent harmony of the universe. Conforming to this universal order ensures that one is on the right path.

Interpersonal bonds: life is beautiful and fulfilling because of relationships with close people and the emotional experience that comes with them.

Carying society: confidence in life, the future, and one's autonomy is nurtured by institutions and societies that support people by providing them with what they need to develop.

Niche of belongingness: pessimism, distrust and fatalism, the group of belonging is the only refuge to survive in an inhospitable and threatening world.

Other's world: anomie, hopelessness, and fatalism create a vision

in which losers have no choice but to live by the day and try to survive, as the world belongs to those in power.

As illustrated in Figure 3, the authors identified the symbolic universe "Niche of belongingness" as a result of the combination of the |foe| polarity, belonging to the friend/foe line of semiotic force, and the |passivity| polarity, related to the engagement/passivity line of semiotic force. Therefore, "Niche of belongingness" operates as a semiotic attractor that directs the sensemaking of its members toward interpretive trajectories that define the world as a hostile place to defend against (Kerušauskaitė *et al.*, 2023; Salvatore *et al.*, 2018, 2019a,b).

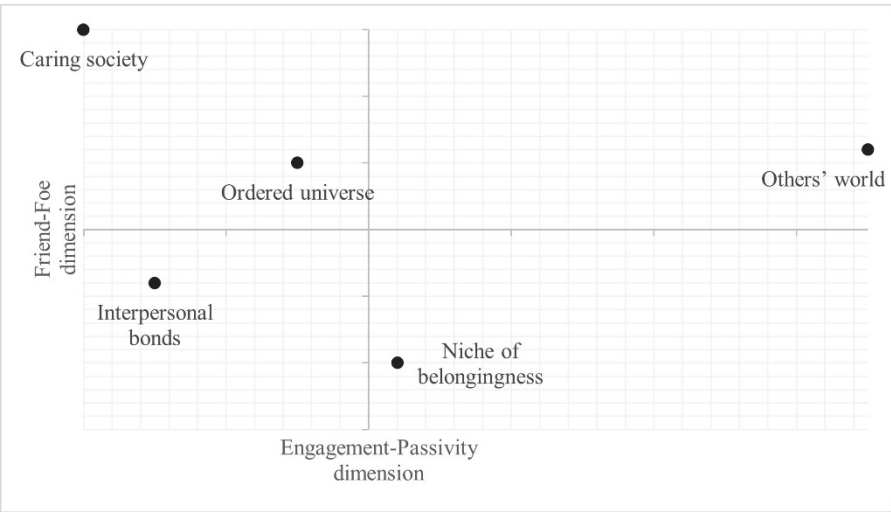

Fig. 3. Position of symbolic universes in the semiotic field defined by the lines of semiotic force

Integrating the mapping of symbolic universes with the identification of underlying lines of semiotic force allows for a deeper understanding of the cultural milieu. In fact, the lines of semiotic force must be understood as fundamental semiotic components that enable the understanding of the content of symbolic universes (Kerušauskaitė *et al.*, 2023). For example, in the study by Salvatore and colleagues (2019b; cf. Figure 3) it was found that the symbolic universe "Niche of belongingness" turned out to be juxtaposed with the symbolic universe "Caring society". The latter consists of the |friend| and |engagement|

polarities, as opposed to the |foe| and |passivity| polarities associated with "Niche of belongingness". Consequently, the overall meaning of the latter symbolic universe depends not only on its intrinsic content but also on the fact that it constitutes the negation of the opposite symbolic universe, which values commitment and a positive view of the context. If "Niche of belongingness" had been juxtaposed to another symbolic universe, its overall meaning would have been different.

A "meaning-centered, culturally oriented" approach to studying climate phenomena: research evidence

The model proposed in this paper has been adopted in the field of environmental psychology in recent years, offering an innovative perspective on the contemporary climate crisis and demonstrating how a "meaning-centered, culturally oriented" (Bruner, 1990, p. 15) approach is able to provide useful tools for understanding the complexities of this global phenomenon.

Research in this area has often focused on various constructs to explain individuals' preventive and sustainable behaviors, such as risk perception (Brenkert-Smith *et al.*, 2012; Champ *et al.*, 2013; Gordon *et al.*, 2012; Nagle, 2018), place attachment (Ghasemi *et al.*, 2020), perceived self-efficacy (Martin *et al.*, 2009), and experience of extreme climate events (Brenkert-Smith *et al.*, 2013; Ghasemi *et al.*, 2020). Moreover, the literature has highlighted the role of cognitive biases in modulating perceptions of climate change and support for mitigation and adaptation strategies (Leiserowitz, 2006; O'Neill & Nicholson-Cole, 2009; Smith & Joffe, 2013).

The individual affective dimension has also been shown to be a key factor in determining pro-environmental behaviors (Li *et al.*, 2019). In particular, affective valence influences the intention to adopt ecological practices (Koenig-Lewis *et al.*, 2014). Experimental studies have indicated that affectively positive messages tend to promote ecological behaviors, while the impacts of negative affect are more complex, with evidence suggesting both favorable and adverse outcomes (Xie *et al.*, 2019; Russell *et al.*, 2017).

Environmental attitudes have also been identified as significant determinants of pro-environmental behaviors (de Groot & Thøgersen,

2018; Plavsic, 2013). This awareness has encouraged the adoption of strategies to promote pro-environmental attitudes as a means to foster behavioral change (Abrahamse, 2019). However, the results obtained through interventions centered on changing individual attitudes have been mixed, as the relationship between pro-environmental attitudes and the adoption of sustainable behaviors has not always been uniquely confirmed (Ballarotto & Velotti, 2023; Juvan & Dolnicar, 2014), and the causes of this discrepancy remain partially unexplored (ElHaffar *et al.*, 2020).

The SCPT framework leads to adopt a perspective that focuses on meaning as the foundation of action. The system of meanings tacitly shared by individuals serves as the premise of sense, guiding individual and social practices (Berger & Luckmann, 1966; Douglas, 1986). As discussed above, worldviews operate as meaning premises that influence individual ways of perceiving, thinking, and acting (Salvatore *et al.*, 2019a, b). Indeed, research in the environmental field has shown that worldviews are a crucial element in guiding sustainable behaviors. For example, studies on wildfires have shown that individuals with egalitarian worldviews adopt preventive behaviors more frequently than those with hierarchical, individualistic, or fatalistic worldviews (Wolters, 2023). Xue *et al.* (2016) observed that those who share egalitarian, non-fatalistic worldviews perceive greater climate risk, favoring greater support for adaptation and mitigation policies than those who share individualistic worldviews; in contrast, the latter tend to support such policies to a lesser extent, regardless of risk perception. Furthermore, adherence to sustainable worldviews has been found to be a significant predictor of pro-environmental behaviors, such as recycling and participation in environmental events (Donmez-Turan & Kiliclar, 2021; Meloni *et al.*, 2019).

However, it is crucial to emphasize a key point for the discussion proposed in this paper. Studies that have employed the construct of worldviews in relation to climate phenomena tend to define their content a priori. This approach limits the possibility of accurately and exhaustively capturing both the content and structure of the cultural milieu (Kerušauskaitė *et al.*, 2023). Thus, such studies offer an exogenous analysis of culture, failing to consider the structure of the cultural milieu. The latter refers to the network of connections that links multiple meanings within a cultural system, such as the relationships of

similarity and opposition between different worldviews present within a given social group (e.g., Salvatore *et al.*, 2019a). The lack of such analysis implies a loss of depth in the exploration of cultural dynamics, as the complex interrelationship of meanings that characterizes the cultural context is not taken into account.

Recently, Reho *et al.* (2024a) adopted the SCPT to explore the role of symbolic universes in moderating the relationship between risk perception and preventive behaviors toward wildfire risk. The authors, through multidimensional data analysis combining multiple correspondence analysis and cluster analysis, identified three distinct symbolic universes in a sample of 108 subjects, recruited online from the Italian population:

Optimists Engaged: characterized by the rejection of fatalism, trust in people, a strong sense of agency and commitment to civic rules. Respondents who fall into this symbolic universe approach the world with an active and positive attitude.

Cautiously Engaged: marked by the rejection of fatalism, moderate commitment to civic rules, and distrust of people. Members of this group perceive the world as a place to be approached with caution while desiring to engage with it following specific principles.

Cynical Fatalists: characterized by a marked distrust of institutions and people, extreme fatalism, and low respect for ethical norms. Members of this symbolic universe view the world as an unreliable and gloomy place.

Through path analysis and multigroup analysis, the authors found that a higher perception of risk predicted an increase in preventive behaviors, with this relationship resulting more pronounced for those who belonged to the "Optimists Engaged" symbolic universe than those belonging to the "Cautiously Engaged" symbolic universe. The results of the study support, on the one hand, the conclusions already expressed in the literature that more intense risk perception is associated with increased preventive behaviors toward fire risk (Brenkert-Smith *et al.*, 2012; Meldrum *et al.*, 2019; Nagle, 2018). On the other hand, the study also confirms, consistently with previous research (Cordella *et al.*, 2023), that symbolic universes characterized by limited semiotic capital (i.e. negative and simplified view of the social

life; Cremaschi *et al.*, 2021) attenuate the effectiveness of risk perception on preventive behaviors. According to the authors, the symbolic universe of the "Cautiously Engaged" is characterized by a simplification of reality, while, in contrast, the universe of the "Optimists Engaged" is characterized by a more complex and articulated interpretation of the world. This mode of interpretation allows individuals belonging to it to integrate prevention as a fundamental part of their identity.

In a further study, Reho *et al.* (2024b) explored the moderating role of the lines of semiotic force in the relationship between environmental attitudes and pro-environmental behaviors, in a sample of 1,724 Italian participants. The authors identified a line of semiotic force that, in line with previous research (Salvatore *et al.*, 2019b), was associated with an affective connotation of the world, expressed in terms of valence (good-bad). Specifically, the results of the general linear model employed by the authors confirmed that, consistently with previous studies (e.g., Tamar *et al.*, 2020), environmental attitudes were positively correlated with pro-environmental behaviors. Furthermore, it was found that the mapped line of semiotic force exerted a moderating effect on the relationship between attitudes and behaviors. More specifically, the positive dimension of affective valence strengthened the effect of attitudes on behavior, while the negative dimension attenuated its influence.

The authors interpreted these results through the SCPT perspective, according to which the coherence between attitudes and the affective connotation of the context increases the likelihood that the attitudes themselves become determinants in driving behavior (Cremaschi *et al.*, 2021). Affective valence, then, does not directly guide the interpretation of a specific object (such as climate change), but it does influence its salience, thereby determining the intensity of attitudes that drive behaviors related to it (Reho *et al.*, 2024b).

The results of these studies have relevant implications on both theoretical and application levels. On the theoretical level, they provide empirical support for the findings of a growing body of research that has highlighted the crucial role of symbolic universes in orienting individuals' ways of feeling, thinking, and acting (Andreassi *et al.*, 2023; Cordella *et al.*, 2023; Mannarini *et al.*, 2020; Salvatore *et al.*, 2019b). They also confirm that the organizational structure of symbolic universes, i.e., the lines of semiotic force, exerts a significant influence on the strength with which attitudes determine behavior.

From a practical perspective, these studies suggest that the adoption of symbolic universes as a criterion for segmenting strategies to promote prevention and sustainable behaviors may prove particularly useful. In particular, because risk perceptions and attitudes toward the environment vary widely depending on the symbolic universe to which they belong, calibrating how people engage according to these differences may improve the overall effectiveness of promotional strategies. In this context, it is crucial to integrate a positive affective dimension into awareness campaigns in order to encourage the adoption of preventive and pro-environmental behaviors.

On a broader application level, it seems crucial to implement policies geared toward cultural development, with the aim of promoting what Salvatore and colleagues (2018) called "semiotic capital". This concept refers to the set of symbolic resources that enable social actors to internalize the systemic dimension of the social life.

The promotion of semiotic capital occurs through what different authors (Cremaschi *et al.*, 2021; Salvatore *et al.*, 2021) have described as "intermediate processes". These take the form of social practices mediated by meaningful interpersonal bonds and represent settings in which innovative interpretations of the interpersonal, social and institutional environment emerge. Such interpretations, in turn, facilitate the perception of the public dimension as an existentially relevant experience, rich in meaning and capable of serving as a regulator of individuals' emotional, cognitive and behavioral dimensions (Cremaschi *et al.*, 2021).

In the past, social entities such as labor unions, political parties and civic associations played a key role in supporting and catalyzing intermediate processes. However, these structures have gradually weakened over the past decades. In the context of contemporary societies, it is therefore unlikely that the production of semiotic capital can be pursued through modes similar to those adopted in past eras. Attempts to reconstruct the parties, trade unions or the religious and civic associational fabric that characterized past societies would be as unrealistic as imagining tackling climate change by replacing cars and airplanes with horse-drawn coaches.

Intermediary processes, in today's context, can be understood as contingent networks of social practices designed to serve as participatory spaces in which the valued and meaningful dimensions of social life meet and dialogue with systemic needs.

An example might be wildfire risk prevention programs that involve the active participation of local communities. Such programs could promote direct community collaboration in the planning and implementation of preventive measures. The approach underlying such interventions shifts the focus from public policies understood as interventions "on objects" to policies conceived as interventions "with subjects". From this perspective, municipal governments could establish institutionalized participatory devices, such as permanent civic committees, to support risk management. These committees would have specific functions, including analyzing and proposing preventive measures for the municipal administration, such as monitoring risk areas, verifying the efficiency of intervention tools, and continuously updating civil protection plans. Such participatory devices would operate as intermediate processes, motivating participants both through self-interest – for example, the protection of their families and property – and through the institutional dimension that links them to the protection of the public good.

Conclusion

This work aimed to highlight the centrality of meaning in mental activity emphasizing the need to broaden the view of meaning as a taken-for-granted entity to include the micro-genetic dynamic that leads meaning to be constituted and open to the possibility of being experienced as a psychological reality.

Some basic issues underlying a micro-genetic model of the constitution of experience have been recalled that provides some insights into the mechanisms underlying the field of possibility of sensemaking processes. In this perspective, meaning was conceived not as a fixed entity, but as a dynamic product that emerges and develops through a continuous process of semiosis.

The theory presented highlighted the importance of the interaction between the individual and the cultural context, as well as the ability of meaning to organize experience into patterns that guide action. This theoretical framework formed the basis for the analysis of environmental phenomena, offering a useful key to understanding how people attribute meaning to climatic events and how this attribution affects their actions.

Two empirical studies were presented that explored the role of meaning in understanding and managing the climate crisis. The first study analyzed the relationship between fire risk perception and preventive behaviors, highlighting how worldviews influence preventive behaviors. The second study explored the influence of affective sensemaking in the relationship between attitudes and pro-environmental behaviors, showing how consistency between affect and attitude can enhance the effectiveness of pro-environmental actions.

Overall, the work aimed to highlight how the study of meaning and sensemaking processes can serve as a bridge between psychology, culture and environmental sustainability by suggesting alternative directions for designing interventions based on the promotion of alternative meanings to those established in the cultural milieu analyzed.

Finally, this contribution aims to renew the discussion on the concept of meaning and its central role in the study of psychological life.

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