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Art and the Cognitive (Is art a human phenomenon?)

This is rather a starting point of a conversation than a report of research results; a call to think together and share our thoughts and knowledge. The question in this kick-off text is very simple: Is art a human ability? As a social and cultural anthropologist, I conducted several fieldworks in Asia, Africa, and Europe over the last few decades. Art penetrates our everyday life and rituals; just think of the built environment, music, design, literature, fine arts, vernacular arts, etc. I have recently published a paper that addresses art per se, aiming to develop a new definition from the perspective of cognitive sciences (see: Toward a Multidimensional Definition of Art from the Perspective of Cognitive Sciences | MDPI). My attached kick-off text largely relies on this long paper.

Numerous attempts to define art have been made from antiquity to the present, yet historical overviews often adopt a Eurocentric (and American-centric) perspective focused mainly on culturally dependent aesthetic approaches. As a universal social and cultural phenomenon, art resists center-periphery models. Art is not merely a unique representation of reality, but also an ability to create new realities and thereby shape society. Art has attracted and accompanied people from the dawn of history. Some argue that acquiring the ability to create and appreciate art was one of the few important steps in the process of becoming Homo Sapiens (e.g., Tomasello, 1999, p. 2; Ramachandran & Hirstein, 1999, p. 16; Morris-Kay, 2010, p. 163; Huston et al., 2015, p. vi). Thus, it is a universal phenomenon that spans ages and cultures—arising from something fundamentally human. Nevertheless, is it really fundamentally human? What gives its human factor? Do our experiences on AI development and its social functions support this idea? Ethologists, cognitive scientists, and psychologists often over-emphasize one element (e.g., visual symmetry-asymmetry) that seems suitable for their research methods. This is a pragmatic and reasonable solution, but it easily obscures the “big picture” and the core of the problem. Thus, it remains a question how art can be considered as a human activity.

Consequently, artists and scholars have been preoccupied since ancient times with the question of what art is, or how certain prominent forms of art (visual arts, drama, music, literature, etc.) work. Nevertheless, the abstract concept of art is not expressed by a notion (word) in every culture. There are significant differences in the use of the words linked to art. Moreover, the meaning of art has changed continuously and significantly over time, albeit at different rates. During the Enlightenment and modern globalization, various academic disciplines emerged that, from their own perspectives, were keen to explore the nature and working mechanisms of art. Such new disciplines include aesthetics, linguistics, art history, music history, literary history, anthropology, ethnology, sociology, pedagogy, and psychology, for example. (1. To be fair, we must mention that these new sciences, at least in their modern forms, originated in Europe, hence their reference naturally derived mainly from the continent and the Mediterranean post-Roman territory.) Listing the names of all the important scientists, artists, and philosophers who added milestones to art theory would fill the entire length of this kick-off text. Therefore, instead of attempting completeness, we should highlight in the FIS conversation only they key points to shed light on the need and importance of a complex

concept of art that can be applied in cognitive sciences, before introducing and explaining my model of art in a dynamic vectorial diagram.

Despite art's universal nature, paradoxically, academic discourse on art is dominated by the works of European and, from the 19th century onward, American authors. This bias is reflected in the number of authors, scholarly works, and citation statistics. It also has a fundamental impact on where they take their examples from, which artworks are involved, and—consequently—the concepts (terminology, methods, theoretical frames) used to examine them. Thus, however, most of the world became peripheral or merely a source of exotic examples. Contrary to the fears of some theorists, the recent dominance of English as a lingua franca has significantly broadened the horizons of those working in the humanities since, in theory, this is the only language that currently needs to be known to step onto the global stage and is open to use by everyone. Parallel to this rapid extension of academic society, a growing need arose, whether expressed or unspoken, for a self-reflection on our inherited terminology and concepts of art. I mention only one example: Tomohiro Ishizu and Semir Zeki had to create their own ad hoc definition of art, which was flexible and applicable to the method they used for answering their research question (Ishizu & Zekir, 2011, pp. 8–9).

Theoretical frames that have developed (and ossified) over the past centuries not only catalyzed the discourse but also limited our perception in several aspects. Some of these fundamental issues are: 1. the division of art kinds and genres (based on Aristotle's Poetics), 2. dividing folk, vernacular, and popular art from elite or professional art (rooted in the Enlightenment and Romanticism), and 3. overemphasis of the recognition that folklorism differs from the "real" folk arts (an important theoretical approach spread from the Tübingen School of European Ethnology) (Bausinger, 1990). The latter led to several contemporary phenomena being excluded from the scope of intensive ethnographic and ethnological attention. Although these theories and distinctions were probably based on reasonable recognitions and considerations, I stress that, on the one hand, these categories are difficult or impossible to apply to the arts of other parts of the world (or it is useless to do so) and, on the other hand, these categories are far from being omnipotent: they limited our perception even of the European art scene.

However, due to their flexibility and multidisciplinary nature, cognitive sciences could provide a more universal, less restrictive, yet multidimensional and useful theoretical model for art. Not only to interpret and examine it, but also to conceive it from a new direction. I do not aim to cut through the Gordian knot in this kick-off text but rather provide ground for discussion within a wider horizon. A horizon that the last decades' cognitive approaches extended, adding my cultural anthropological observations to it. As an anthropologist, I start from an inductive perspective (fieldwork), which is an immanent part of both the cognitive sciences and cultural anthropology. Nevertheless, observations are in a dialectical relation with the research questions, methods, and conclusions, shaping and limiting each other. My objective with this text is—as a starting point for seeking answer to the question of the relation between art and humanity—to transcend previous Eurocentric concepts and introduce a more universal model that cognitive science could use to imagine and examine art. This dynamic model offers greater utility for cognitive studies compared to terminology developed by other disciplines (while acknowledging the relevance of those terms within their respective disciplines). I found that binary codes are not flexible enough, and relying on aesthetic elements would result in a confusion of cultural dependence. Thus, I started thinking in terms of a vectorial model rather than static elements and oppositions.

The cognitive turn reshaped art theory by reconsidering art as a cognitive dimension of humanity. Art has no limits on who can create or enjoy it. The ability to use and understand metaphor, for instance, demonstrates everyday human artistic cognition.

The vectorial model aligns closely with the idea of family resemblance in the sense that cognitive semantics conceives it as a kind of categorization (meaning construction). Since art lacks a single, definitive prototype, no strict, universal definition can capture all its forms in a yes or no spectrum. My case studies demonstrated the variability of artistic practices (in craft, value, range of affect, etc.) that can be placed in different ways within a space (and not a category) of art. In this model, three coordinates form a space. These coordinates are equally relevant:

1. Creativity is both an inner and outward-directed cognitive process. It spans a broad spectrum—from craft to artistic excellence, from the skillful use of established patterns to radical innovation, and from individual self-expression to collectively produced artifacts and activities. Although the scholarly literature on artistic creativity is extensive and beyond the scope of discussion here, I can stress that it is one of the elementary intentional, value-producing human practices. Departing from the notion of novelty (Csikszentmihalyi, 1996, p. 6), Marc Runco and Garrett Jaeger argue that both novelty (originality) and effectiveness are questionable elements of the definition of creativity (Runco & Jaeger, 2012, p. 92). For instance, using metaphors is a talent that is a human ability of thinking (Turner, 1974; Lakoff & Johnson, 1980). Ronald A. Finke, Steven M. Smith, and Thomas B. Ward stress that creativity requires an effective use of controlled generative search, memory, conceptual combination, analogical mapping, and mental imagery (Finke et al., 1992). This works well within cultural schemas and frames of a social group's habitus but sometimes blurs the borders thanks to excellent innovative talents. Keith Sawyer states that creativity is a social phenomenon that relies on knowledge of variations and a pragmatic selection (Sawyer, 2006). Arne Dietrich rethought creativity in the light of cognitive sciences and returned to the study of novelty (originality, unexpectedness) to determine how to be appropriate (adaptive, useful) in the actual situation (Dietrich, 2004). Creative thinking can also be interwoven with problem-solving (including filling the gap of deficiency).

2. Communication focuses on interconnection. It ranges from simple messages and self-reflection to multilayered symbolic structures and from being a tool to express something to entering into dialogues or even being an agency, including many others. Art constitutes both the most unique (personal) and the most universal means through which we communicate with others, ourselves, or the transcendent. People not only express themselves but also interact with art. Edwin Hutchins' theory of distributed cognitions (Hutchins, 1991) or Maurice Bloch's theory of cognitive interaction (Bloch, 1992) and the connectionist renewal of schema theory (D'Andrade, 1995, pp. 147–148) can offer essential insights into this issue. Communication exceeds the simple textual or nonverbal meanings to those that can be told or expressed most precisely (or sometimes solely) through art. Discourse analysis and the network domain theory of Harrison White can give a nuanced insight into how people construct their reality, values, and sociocultural relations through discourse and how discourse is channeled by social networks (White, 1995). Tribal art, folklore, religious and naïve art, but even the most extraordinary avant-garde artists join and shape the discourse that frames their way of artistic communication (cf. White & Mische, 1998).

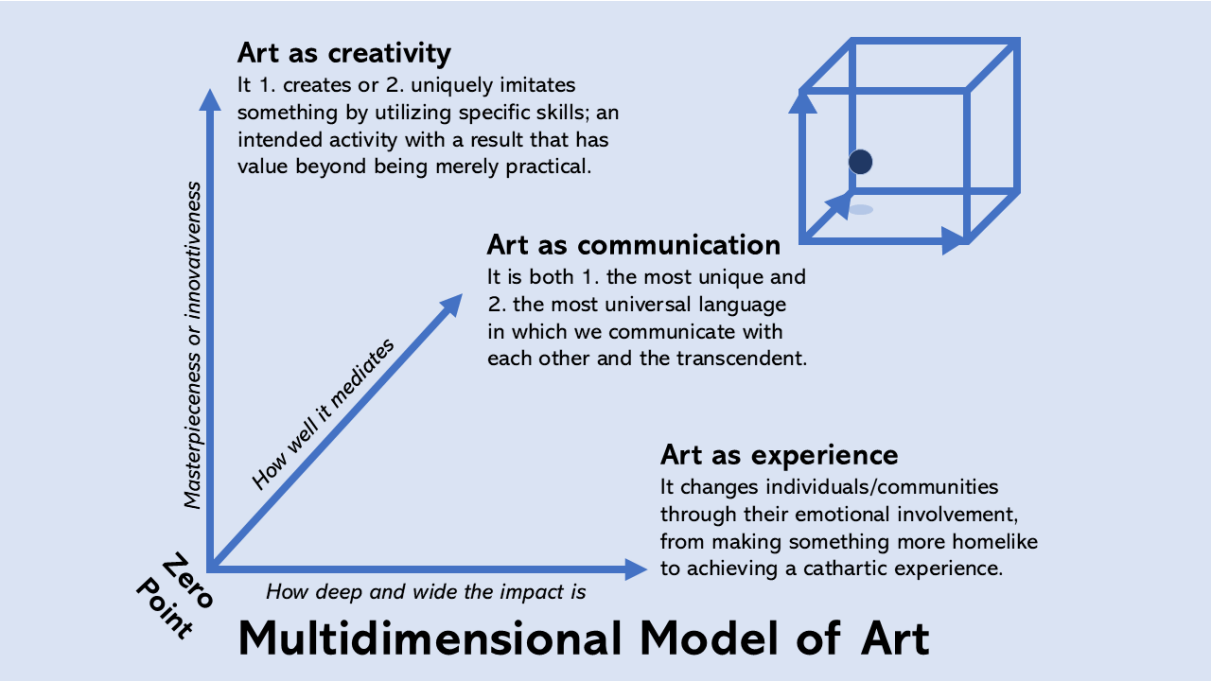
3. Experience is a result-oriented aspect. It relies on the effectiveness of the triggered outcome. Art as experience encompasses cognitive processes ranging from joy, fear, flow, and

playfulness, to feeling at home, love, or even catharsis. It includes experimental intellectual games and experiencing the numinous. Regarding the impact dimension, art is not just any creative act of communication, or attentional engine, or agency, but the one capable of evoking or shaping feelings, perception, and cognition (emotional factor). "Art as experience" theory emerged well before the cognitive turn (Dewey, 1934/2005). The relationship between meaning and feeling is outlined in many academic sources, such as John Leavitt's contribution on their cognitive interdependence (Leavitt, 1996). In this sense, art has the ability to shape individuals—or, in small ways, the world. The transformation may take many forms: soothing, healing, provoking anger, criticism, fostering empathy or love, or motivating action, etc. Lisa Feldman Barrett argues that emotions are not biologically built-in factors but rather results of an emergent construction of cognitive processes (Barrett, 2017). These processes can be very effectively stimulated by art. Based on mathematics and cognitive psychology, Michael Leyton introduced principles of perception and memory based on shape, demonstrating how the amount of asymmetry results in feeling something appetitive or aversive (Leyton, 1992, p. 578). Nonetheless, artistic experience extends to a much broader spectrum than perception of visual art (Kepes, 1944), (Arnheim, 1974), (Leyton, 1992) and the concept of aesthetic experience in cognitive sciences (Ramachandran & Hirstein, 1999), as well as the theoretical frame of aesthetic attention or attentional engines (Seeley, 2020); it can be applied to all kinds of art and any effect a given work of art induces.

Each of the three criteria refers to cognitive processes. Even when people work together and pay attention to one another while performing or enjoying a given artistic work, they all engage in creative cerebrospinal activity. Communication directs attention to the cognitive examination of interactions between individuals and groups (or inside the self). It also includes the hermeneutical context of expression and understanding, as well as the processes of working memory. The third aspect, experience, can examine the cognitive results that have been triggered. There is no doubt that these aspects are interrelated, since, for instance, the creation itself is an experience. One of the several ways to interpret emotions is to consider them as interpersonal narrative structures (Beatty, 2019), and thus, they are related to communication.

Establishing this multidimensional vector model is crucial for cognitive science, as it can help explain divergent findings in neuroscientific studies and highlight various aspects of art. The observed brain activity may differ significantly depending on the people or social groups studied and the type of artistic activity examined. Nonetheless, we have no evidence that making and enjoying art have been based on unchanging brain processes in the cortex and neural system since the dawn of humanity and across different eras and regions, or that artistic experience can be detached from certain brain processes.

Instead of binary codes, it is a vectorial model, a 3D space for expressing family resemblance, since there is no common denominator (prototype) for all kinds of art.



The concept of value is deliberately excluded from the model, as I argue that art, as a cognitive process, does not inevitably depend on such aesthetic criteria (just like beauty, asymmetry-seeking, etc.). It lurks in the use of metaphors in everyday speech, in a simple drawing made during a boring meeting, or in a song hummed in monotonous work. Everything that seeks to elevate the concept of value to a criterion would become culture-dependent (as the colonial perspective was) or, conversely, too subjective. The cognitive concept of art must be universal. Nonetheless, there is a prerequisite for moving away from the origin, since we can call it art when, on some level, all three vectorial dimensions move away from zero. This is a kind of surplus: let us call it metaphorically a "spark." That is why vectors can demonstrate this model more than binary codes. Anyone who has a dog surely recognizes that even animals are capable of creative problem-solving and communication that causes emotions in humans. Cognitive sciences cannot give up looking for the nature of this spark of art that makes artistic expressions uniquely human. Dear FIS members! Do you agree or disagree that art is a human ability? If yes or no: what kind of evidence can we set up for the argumentation?

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