

## Training a Model $\neq$ Generating Culture:

### The Meaning of Culture and the Prospect of Artificial Intelligence

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#### Abstract:

Sociological studies of culture provide three basic conceptualizations that help us understand the meaning of participation in culture for artificial intelligence. We argue that human-machine collaboration in culture is limited until a machine has the capacity for *artificial intelligibility*; otherwise, we risk confusing and conflating the use of a tool for cultivation and the use of a tool for rationalization in which art becomes disenchanting from its own purposes.

**Keywords:** models of culture, human-machine collaboration, artificial intelligibility, cognitive sociology

#### Introduction

Bounded rationality is a description of how humans experience the world and engage in problem-solving. One of the challenges of experiencing the world in this manner is that we cannot directly express or capture our experiences as they are lived or imagined in the mind, that is, to communicate the intelligibility of social life beyond what linguistic adaptation allows for. This is quite consequential in the area of art in which the articulated limits on the capacity for particular kinds of expression make the works by artists that manage to overcome these limits so powerful (Raphael, 2019; 2023). It is in this context that such artists contribute to the expressive aspects of culture that speak to the condition of human reality. Yet, with current developments in artificial intelligence, such as the combination of GPT-3 and DALL·E to generate art works and win contests, the question arises whether the collaboration between humans and machines relies on a model of humans or a model of machines. In that respect, we ask: **where is the boundary between a tool for cultivation (crafting for art) versus a tool for rationalization (automation of the artist)?** To provide an outline of the basis for answering this question, we present three *relevant* models of culture from the literature at the intersection of the sociology of culture & cognition, cognitive sociology, and cognitive anthropology to help us evaluate the meaning of participation in culture for artificial intelligence. These three models describe culture as an “entity,” as a set of “practices,” and as “textual.” We will review each model by providing a definition and a brief description of where the model applies. We will conclude with a discussion of the implications for the meaning of participation.

#### Culture as an “Entity”

*Definition.* The model of culture as an “entity” refers to the relationship between learned systems of meaning and material and symbolic content, ultimately, *a thing that is made and learned in some way*. This entity is either a comprehensive totality or enumerates the aspects of “culture” content, in which the formulation is designed to preserve the theoretical status of the idea of the “symbol” where the *medium is the message*. In other words, what is learned is the *heritage* of learned ways of feeling, thinking, and behaving – each of which can be modeled on an individual level as “multifunctional complexes of constructs, organized in interlocking hierarchical structures, which are simultaneously constructive, representative, evocative, and directive” (D’Andrade, 1984; Cf. Parsons, 1949; Radcliffe-Brown, 1948; D’Andrade, 1995; Holland and Quinn, 1987; Shore, 1996). In a less technical sense, this model captures the senses in which culture refers to (a) learning, (b) knowledge, (c) the ideation of social action, (d) the production of relationships among technology, law and regulation, industry structure, organization structure, occupational career, and the market, and (e) a reality constructed by an historically transmitted pattern of meaning embodied in symbols. In practical terms, a *measurable* thing, a quantifiable database.

*Use.* The model of culture as an “entity” is recognizable in the domain of computer vision where the task is simply automatic object recognition. As a technology commonly used by photographers, automatic object recognition contributes to the expression of the artist by freeing up time from the mundane task of organizing their work by tagging their images, thereby enabling them to create even more art. At a first glance, it is clear that this tool increases efficiency and streamlines their workflow for artists and arts curators. In this context, a piece of art work is a measurable object that can be easily classified, organized, and distributed. Yet, upon further reflection, it also becomes

clear that there is a point in which the efficiency of the possibilities pre-determine what the artist can even consider creating.

### **Culture as “Practices”**

*Definition.* The model of culture as “practices” refers to the relationship between operationalization and transmission, ultimately, some *recursive form of action* that seek to explain the relationship between agency and structure. These practices operate either as “strategies of action,” or within a “thick environment,” or embodied as skill “through the bottleneck of practice and experience,” or as an “institutional logic.” “Strategies of action” describe a repertoire of symbols, stories, rituals, and worldviews people use to solve different kinds of problems (Swidler, 1986). The operation of a “thick environment” focuses on how “the social world is constructed for the actor by previous interpretations and collective languages” (Alexander, 1988). “Embodied” practices suggest culture is *reconstructed in real time*, rather than “the spectatorial (re)creation of representational, disembodied (and thus “mental”) copies of public culture which are then endowed with some mysterious capacity to compel the body to act in this or that way” (Lizardo, 2012; Cf. 2004; 2015; Martin, 2010). An “institutional logic” describes the construction of the system of internal and external scaffolding connecting symbols and material practices (Thornton, Ocasio, & Lounsbury, 2012). In a less technical sense, this model captures the senses in which culture refers to (a) a toolkit of practices, (b) an interpretive environment, (c) embodied practices, and (d) the way symbolic action operates at an organizational level of analysis. In practical terms, routinized ritualistic action, a habit of some kind, *a measurable scale* (but not a measurable thing).

*Use.* The model of culture as “practices” is recognizable in the domains that combine computer vision and natural language processing, namely, the task of image generation. Rather than merely tagging images based on an existing quantifiable database, image generators (like DALL-E), produce digital images from text descriptions, which have to be put together in some routinized way: a measurable scale of relationships. By being trained to recognize artistic styles – and by being able to generate images in those styles – image generators present a much clearer predicament regarding the boundary of crafting and automation.

### **Culture as “Textual”**

*Definition.* The model of culture as “textual” refers to the reading and writing of ongoing activity and its relationship to “an inscription of action.” This textual character describes the varied relationships of “meaning in action” in which representing the meanings of experience is somewhere between a *reality-binding product* of the human mind (in which imagination ‘fills in’ the gap between the ‘necessary truths’ of formal logic and the ‘uninterpreted evidence’ of the senses) and *the activity of resisting* non-textual representation. In other words, *to ignore* how meaning is always contextual, structural, and anchored in historical processes is *to ignore* what is represented, how it is represented, who it represents, and the politics, morality, and poetics of what is said, who says it, and other considerations that might contribute to interpretation and the prospect of its intelligibility (Geertz, 1973ab; Ricoeur, 1977; Goffman, 1974; 1983; Clifford, 1986; Denzin, 2001, Alexander, 2003; Rabinow, 2011). In a less technical sense, this model captures the senses in which culture refers to (a) creative imagination, (b) everyday discourse, and (c) true ethnographic fictions. In practical terms, the intelligibility of the discursive aspect of an ongoing course of activity, the situational aspect of an adaptation to abstraction.

*Use.* The model of culture as “textual” is not recognizable in any well-known domain of artificial intelligence. It is in this respect that neither a *measurable thing* (a record in a quantifiable database) nor a *measurable scale* (as a multi-level representation) is sufficient to participate in an ongoing course of activity that the textual model of culture represents as an account of symbolic expressive activity. Accordingly, neither mode of scalable representation will be sufficient to participate in the discursive processes of artistic generation in which style expresses a movement or a resistance to expressive identifiability. The issue then is that participating in culture is not merely a matter of scaling representation because the value of art *as art* – and not merely a commodity – requires the process of negotiating and re-negotiating what art means in context, and it is that speech that makes a piece of artwork valuable.

### **Position: The Model of Culture and the Meaning of Participation for Artificial Intelligence**

Given these three models of culture and the uses of artificial intelligence within them, the question arises what becomes necessary for artificial intelligence to operate on the boundary of crafting and automation? We argue that operating on this boundary requires an artificial intelligence to balance the “substance” and “ceremony” of artistic expression, a balance that we conceptualize as “artificial intelligibility” (Raphael, 2021). “Substance” describes the

aspect of activity that indicates participation in its doing has a primary importance in its own right that is independent of the situation. “Ceremony” describes the aspect of activity that indicates participation in its doing – in its own right – has a secondary importance; its primary importance indicates that participation in its doing meets the participatory demands of the situation (Goffman, 1967). In what follows, we outline the two sides of the boundary, re-state the problem, offer our definition of “artificial intelligibility,” and articulate the conclusion of our position.

*The Side of Crafting.* Cathy Lynne Costin (1998: 4) argues, “To craft is to create with a specific form, objective, or goal in mind. Crafting is a quintessential human activity, involving premeditative thought and deliberate, design-directed action. If we accept the notion that regular tool use made us ‘human’ in a metaphysical if not biobehavioral sense, then we acknowledge that crafting makes us human. Crafting is undoubtedly an ancient human behavior, as it is necessary to make tools used in food procurement, transport, processing, and storage; and to fashion protective clothing and shelter.” In other words, the substance and ceremony of crafting with artificial intelligence means that the artificial intelligence is no different from a sword or a pen; it is an extension of the wielder.

*The Side of Automation.* There are two relevant views on the substance and ceremony of automation: cognitive science and economics. From the view in cognitive science, Abbass (2019) argues “Artificial intelligence (AI) is finding more uses in the human society resulting in a need to scrutinize the relationship between humans and AI. Technology itself has advanced from the mere encoding of human knowledge into a machine to designing machines that ‘know how’ to autonomously acquire the knowledge they need, learn from it and act independently in the environment. [...] The technological landscape has evolved steadily from simple automation to advanced automation that can respond better than a human in a specific situation.” From the view in economics, Acemoglu & Restrepo (2018) argue, “automation involves the substitution of machines for labor and leads to the displacement of workers from the tasks that are being automated. [...] This type of replacement causes a direct displacement effect, reducing labor demand. If this displacement effect is not counterbalanced by other economic forces, it will reduce labor demand, wages, and employment.” In other words, the substance and ceremony of automation means that the artificial intelligence is not an extension of the wielder but substitution of the wielder.

*The Problem.* We have shown that artificial intelligence can produce cultural artifacts following the first two models of culture: culture as an entity, and culture as practices. However, it still has not yet meaningfully participated at the necessary discursive level of cultural production. On the one hand, artificial intelligence as a tool contributes to the cultivation of human experience. This sort of automation increases productivity and is useful for culture. On the other hand, when the tool gradually substitutes the logic of its own rationality for the humanity of artistic expression, it is not contributing to human culture; rather, the tool disenchant culture of all of its meaning and replaces it with an emotionally empty rationality. This leads us to ask: how do we avoid such a dystopian fate? This disenchantment assumes that the control humans have gained over the world is slowly distributed to machines that are apathetic to their cultural production and participation. We challenge this assumption with the concept of “artificial intelligibility.”

*Definition.* We propose the concept “artificial intelligibility,” defined as the ability to achieve the adaptive problem-solving capacity of a machine to meaningfully participate in the constitutive socially situated character of practical ritualistic activity to understand how the machine can collaborate meaningfully with humans in the domain of arts production. By “meaningfully participate” it is meant that the machine can use, respond to, and invite the articulation of language, abstractions, and concepts in which its intelligence has to take into account the oscillation of the conditions of meaningfulness in an ongoing course of activity. By the “constitutive socially situated character of practical ritualistic activity,” it is meant that the machine is able to operate in a manner that maintains the situational rationality of human problem-solving in which its capacity for the optimization of design is mediated by discourse in which meaningfulness is subject to an attitude of waiting (Brown, 2014; Cf. Simon, 1981; Turner, 2018).

*Conclusion.* If the machine had “artificial intelligibility,” it would not substitute by imposition, but balance both the substance and ceremony of artistic expressions. In other words, it would participate in representations that are typically and quite often nonrepresentational, and thus the tool would be no different from choosing one human artist over another human artist. That is to say, human culture would remain intelligible to humans (with their bounded rationality), even if artificial intelligence joins the party of collaboration in cultural artistic production.

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