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Qualitative Dimensions of Collective Intelligence: Subjectivity, Consciousness, and Soul

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Abstract: This essay plays with two definitions of collective intelligence, drawing on two meanings of the word "intelligent" that bring to bear relevant arguments from the philosophy of mind, particularly in reference to artificial intelligence (AI) and its distinction between "strong AI" and "weak AI." One definition associates intelligence with the ability to perform tasks involving logic, reasoning, pattern recognition, etc., an ability that can be quantified and measured. Most theory and research on collective intelligence works with this definition. Another sense of the word associates intelligence with some kind of consciousness or awareness, and would distinguish (per Searle) between real intelligence and the mere mechanical solving of problems. It is qualitative and its presence can only be inferred, not measured. I will explore the question of whether this sort of intelligence, as well as the problem-solving variety, is present in collectives. Do groups have a sentience that transcends the sentience of their parts? Do they have, whether in actuality or in potential, a capacity for morality or wisdom that cannot be reduced to mere problem-solving efficiency? Is it meaningful to speak of the desire, the intention, the purposiveness of a group as distinct from that of its members? And if so, how can these qualities be developed in socially desirable ways? I will adopt a transdisciplinary approach to exploring these questions, drawing upon notions of intersubjectivity, the social construction of self, crowd psychology, emergent phenomena, and concepts of group mind from mysticism, indigenous worldviews, and depth psychology.

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There are two senses in which one might say a person, a machine, a group, an ant colony, or a planet is

intelligent. The first and most dominant sense conceives of intelligence as the ability to solve problems – to produce an appropriate output given complex and varying input. We invoke this meaning of the word “intelligent” when we speak of a smart phone, a smart power grid, or an intelligence quotient. It refers to a measurable function, or a set of measurable functions, that can be evaluated and compared. As such it falls within the province of science, which might be defined (per Galileo and Hume) as the study of the measurable.

Accordingly, most of the academic study of collective intelligence focuses on these measurable aspects, answering questions like, “Under what conditions do groups make wise or poor decisions?” “How does gender composition affect the problem-solving capability of a groupⁱ?” “How do various structures, agreements, and processes generate public opinion and decision-makingⁱⁱ?” A typical study might consider feedback effects in google search and other systems where popular choices, opinions, etc. feed back into the choices and opinions of others in the group can create a kind of stupidity, groupthink, or echo chamber.

There is a danger, though, in focusing on this rather narrow, measurable conception of intelligence. For one thing, it favors the kinds of problems we recognize and that we are able to formulate as discrete problems, for example as on a test. Problems that are amorphous, that don't admit to discrete formulations or to quantifiable solutions, escape our measures of intelligence. Very often, the excluded capacities correspond to other kinds of marginalization: racial, cultural, epistemological. IQ tests are notorious for their elevation to the exalted status of “intelligence” that subset of mental capacities that accord with the values of the dominant culture. They measure, in large part, acculturation and conditioning, the mastery of the dominant or socially exalted mode of cognition. They also measure that part of intelligence that is measurable. But is that the only part? Are there aspects to the mind, whether individual or collective, that not only defy our measurement technologies to date, but that are inherently unmeasurable?

Chastened by the deficiencies, in practice and in principle, of intelligence measures, we might want to adopt a more expansive conception of intelligence in undertaking an inquiry into its collective expression. A second meaning of the word suggests something beyond the measurable, something qualitative, irreducible. We use “intelligence” in much the same way as we use words like sentience or consciousness, to refer to an aware subjectivity that perceives and experiences the world. Thus we speak of a divine, evil, or primordial intelligence, and distinguish between real intelligence and the semblance of intelligence. A smart phone, we might say, is not actually smart.

The distinction between these two senses of the word “intelligence” echoes that between “Strong AI” and “Weak AI,” in the field of artificial intelligence. Weak AI claims that machines can act intelligently; strong AI says they can actually *be* intelligent.

Most work on collective intelligence implicitly assumes what would correspond to the “weak” version of AI. Of course, one might say that each member of the collective (provided we are speaking of a human collective) has thoughts, so in a trivial sense the collective does think, understand, and possess consciousness. But is the collective itself, as an emergent being, have thoughts that are not identical with the thoughts of one or more of its members? Does the collective being understand something that none of its individual members do? Does it itself possess consciousness and subjectivity? We might call an affirmative answer to these questions the “strong version” of collective intelligence, exemplified by Pierre Teilhard de Chardin’s concept of the noosphereⁱⁱⁱ.

In other words, we all agree that groups can solve problems and enact various other cognitive functions. But does a group have a psyche? Does it have, distinct from that of its members, a subjectivity? Desires? Fears? Intentions? Really the question is, is a collective being a being, or is it just a kind of illusion, an expedient concept whose properties are fully reducible to and explainable by the properties of its parts?

Let me offer a few reasons why these are not idle questions. First, the actual effect of intelligence on the world depends on factors far beyond reasoning ability. Smart men and women have done horrible things; they have perpetrated the most arrant idiocy, due to no fault of their reasoning power, factual knowledge, or capacity to think abstractly or recognize patterns. If we grant the premise of collective intelligence, we must then ask what factors – cognitive or non-cognitive – might induce collective insanity as well. Some of these are already known – collective tunnel vision, the echo chamber effect, etc. – but perhaps by granting the collective beingness, and the various other qualities of self besides intelligence (or qualities contributing to an expansive view of what intelligence is), we can understand its behavior better.

Descartes seemed to think that conscious thought was a necessary and sufficient condition for beingness: “I think, therefore I am.” But a full human also feels, wants, loves, suffers, laughs... and we might say the emphasis on thought – which of all these qualities is apparently most exclusive to humans – is a form of the same anthropocentrism that through its disrespect for nature is laying waste this planet. Beings less like us, we relegate to a lower degree of beingness. Moreover, the identification of

intelligence with thought, or with solving problems (of the kind that human beings are better able than other beings to solve), leaves out non-cognitive ways of interacting with the world that are part of an intuitive understanding of intelligence. It is with good reason we call an emotionally insensitive person clueless, whatever his powers of ratiocination. The narrow association of intelligence with (certain kinds of) thinking sanctifies the world view, politics, technology, and social structure that was created through those kinds of thinking. Analysis, abstraction, linear reason, binary thinking, and so forth are quite useful for creating the society we have today. By the same token, the crisis of that society invites us to broaden our conception of intelligence along with the approach to life that conception valorizes. This is the second reason to examine intelligence in the “strong” sense as it applies to collectives.

Thirdly, the very same questions I’ve been asking about collectives might also be asked about the human brain. What, for example, is thought? It is a sequence or pattern of neural activity, not something that can be done by a single neuron (as far as we know). We normally think of intelligence as an emergent quality irreducible to the elements of its physical medium: conventional scientific opinion does not hold that because each neuron has a little intelligence, the brain has a lot. The brain, in the conventional view, exhibits collective intelligence, and it is obviously intelligence in the strong sense.

Because the same questions of subjectivity and interiority apply equally to groups, to computers, and to individual human beings, we might profitably look to the philosophy of mind for insight. In the vast literature on consciousness and subjectivity, most of the debate centers on the question of whether these require an immaterial soul; whether mental experience eludes reduction to physical processes. The camp established in modern times by Thomas Nagel, John Searle, and David Chalmers says yes: however well a machine might replicate thought processes, there will be something missing: the qualitative, the interior, the subjective conscious experience. Nagel says that because any reductive, objective account of consciousness necessarily leaves out subjectivity – what it is like to be something – that therefore, there must be some aspect of consciousness that transcends physicalist, reductive explanation^{iv}. Searle, developing the distinction between strong and weak AI, describes how a computer or other system could perform cognitive processes without actually understanding their content^v. Chalmers, similarly, invokes the idea of the (philosophical) zombie, enacting all the behaviors of a conscious self, saying all the right things, but actually merely running a program empty of interior experience^{vi}. To even conceive such a thing, he says, shows that there must be some non-functional aspect to consciousness (and therefore to intelligence in the strong sense).

Their critics are legion and, while their critical approaches are diverse, generally agree that a reductive

physical explanation of consciousness is possible in principle. No non-material soul is required. Their case appears to be growing stronger, as brain research keeps uncovering neurological explanations for (or at least correlates to) aspects of experience that we consider central to consciousness, such as volition^{vii} and attention^{viii}. The implication is that consciousness is sort of an illusion, a computational process, and not an irreducible aspect of reality.

Lurking within this debate is a hidden but highly significant agreement: both sides agree that we have no direct access to the subjectivity of another person. While some may argue that interiority is necessary in order to offer the full range of responses that a human being does, most agree that there is no way of knowing whether someone has subjective interior experiences except by inference, for example, by asking them. The measurable dimensions of intelligence we can verify empirically; the qualitative aspect (granting that there is such a thing) we can only infer.

This agreement, however, takes for granted certain unstated metaphysical assumptions about knowledge and identity that we, the dominant intellectual culture, would do well to question. For starters, why is it assumed without much debate that no one can have direct access to the subjective experience of another person (or non-person)? This is obvious only if we conceive and experience ourselves as fundamentally separate from each other. There are other stories of self, however. We could see ourselves, as many spiritual traditions do, not as separate beings but as “interbeings,” not just interdependent but interexistent. There are many alternatives to the separate skin-encapsulated soul of Descartes and contemporary religion. We might, for example, adopt the metaphor of the holograph or fractal, in which each part contains the whole. In that case, it would be no surprise if I could, under the right circumstances, experience that part of me that is you. The holographic model of self and world, while outside mainstream philosophic discourse, has been developed by such thinkers as Karl Pribram, David Bohm, and Michael Talbot; it also echoes teachings in Eastern religion such as Indra’s Net.

This is not merely armchair philosophy. There are in fact many methods to induce the experience of subjective identification with other people – and not only people, but animals, plants, nations, planets, forces of nature, rocks, the earth, and other entities to which the Western mind would deny beingness^{ix}. These methods do not lend themselves to scientific or philosophical “proof” of the subjectivity of other beings, even other people, because the very concept of proof depends on objectivity. When I say here that meditation, breathwork, or psychedelics can induce such states, I am making an assertion that rests on no firmer foundation than my own experiences and the subjective reports of people who have had such experiences.

Outside the Western mind, however, the ascription of subjectivity, intentionality, consciousness, and the rest to non-human beings is nearly universal. It extends not only to animals but to plants, mountains, rivers, the earth, the sun, even to rocks, in individual and collective expression. Thus, an encounter with a bear is also an encounter with Bear. In this way of thinking, collective intelligence in the strong sense is a given.

Despite our modern conditioning, we are not so different. It is quite natural for us to speak of “What Russia wants” or “What Microsoft wants,” even though we might, if pressed, admit that nations and corporations aren’t people and cannot have such a thing as a desire. Yet they behave as if they do. Or do they actually behave? Do they actually exist? Aren’t they just human fictions, agreements, stories?

Maybe. But to a neuron, the brain itself is a story. One day, two neurons were having a conversation. “Whoa, dude!” one of them said, “I just had a trippy idea. What if it isn’t just you and I who are conscious, what if all of us together are?”

The other neuron said dismissively, “Fun idea, but in reality all that is ever happening is you and I and billions of others of us having conversations with each other. That’s what’s happening on the base level.”

“But then why are we collectively enacting behavior that not a single one of us wants? Our collective being has been getting drunk every day, yet not a single one of us neurons wants to be doused in alcohol.”

Nor is the desire of a nation or of a corporation merely some additive property of the desires of its constituent members. Anyone who has spent time in an organization can confirm that sometimes, the organization does something that only a tiny minority – or even none – of its members actually agree with. It is as if the organization has a mind of its own. And maybe it does. Each constituent is called into one of various roles, becoming that role in organizational life. While different personalities may be drawn to different roles, the role is prior to the personality, which must fit into it. The fit is of course never perfect; hence the near-universal feeling that the role is not really one’s self, the feeling of being a puppet of the institution. This feeling is quite common even among its putative leaders.

Maybe the reason it seems that the organization has a mind of its own, is that it actually *does* have a mind of its own. Not separate from the minds of its constituents, neither is it reducible to them. Nor are the minds of its constituents separable from the group. We are social animals; we are not separate

individuals having relationships – we *are* relationship. Beyond the separate self, the smallest unit of collective intelligences is a partnership, and most of us have experienced that in a partnership, who we are changes. We might consider that “who we are” in total is the integration of who we are in each of our social, economic, and ecological relationships. Strip those away, and there is nothing left.

In other words, we cannot say that collective intelligence is secondary to individual intelligence, or a mere epiphenomenon arising out of relationships among individuals. Each level, individual and collective, co-creates the other. To identify the locus of subjectivity in the individual is a cultural conceit – one not shared by other cultures that valued the we above the I, and gave it ontological primacy.

That is not to say that any random subset of socially related people constitute a collective being. There must be some kind of container that defines it; a selective social membrane that distinguishes self from other, formed of the agreements and perceptions of its members and the society that contains it.

If it sounds here like I am advocating something like a “group soul,” maybe I am. Most intellectuals would probably be uncomfortable with such concepts, preferring to restrict any discussion of collective intelligence to its measurable dimensions. Intelligence in the strong sense I have invoked eludes the protocols of the Scientific Method, calling instead for a phenomenological approach. For one thing, it defies rigorous definition – how can one define, in more basic concepts, something that is itself elemental? If consciousness, subjectivity, and the “qualia” of experience are not merely the artifacts of complexity, not mere abbreviations for properties of collections of neural states or, in the case of collective intelligence, interpersonal interactions, they will defy reductive explanation. They cannot be measured in physical units; therefore, following Galileo’s distinction of primary and secondary qualities, we accord them a lesser degree of realness, or even deny that they exist at all. To be skeptical of such things as the “desire of the collective” or the “group soul” or “collective unconscious” is to stand securely in the demesne of science.

My purpose here is not to *prove* that there is some dimension of collective intelligence outside the purview of functionalism and reductionism. Even for the “collective” of the human brain, centuries of furious philosophical debate has failed to come to consensus that such a proof exists. The mind composed of human beings rather than neurons offers no less formidable difficulties. My purpose, rather, is to suggest that we step outside the demesne of science into other ways of knowing, relating, and communicating. We cannot use objective means to prove the subjectivity of another being. But we can use subjective means. What does this look like?

For clarity, consider what it means to relate to another human being as a subject rather than an object. Even if no objective proof exists that other people aren't zombies enacting all the behaviors of a subjective experiencer without the interior content, and even though no one actually believes they are, to some extent most of us act as if we do believe it. We objectify other people, treat them as instruments of our own utility, as if they were less than fully a self. When we treat them as full subjects, however, we engage compassion: we consider *what it is like to be* them.

As Thomas Nagel explained in his influential essay, "What is it like to be a bat?" the essence of consciousness is that it is "like something" to be that other (person, animal, etc.)^x. Most philosophers (but not indigenous people) agree that it is not like anything to be a brick or a rock – that these things are devoid of the qualities of self. Our reigning ideology claims that we have outgrown the childish perceptions of the indigenous, to see and manipulate the world as object. This condescending, arrogant, and ethnocentric attitude was much more compelling a generation or two ago, before the environmental crisis became impossible to ignore. Today, though, our arrogance is wavering, and we become more open to worldviews that do not arrogate the qualities of self to human beings alone.

Ultimately, our present ecological crisis has come largely because we see nature and everything in it as mere objects. The paradigm shift into an intersubjective world is inseparable from truly deep ecology. Will our ecological salvation come from merely being more clever in our manipulation of a natural world that we continue to see as a collection of soulless stuff? Perhaps a deeper sort of revolution is necessary.

It is quite natural that, as part of this shift, we begin relating to collectives as beings-in-themselves with a selfhood transcending their constituent parts. As when we relate empathically to another person, the foundational question is, "What is it like to be that being?" What is it like to be that organization? That audience? That corporation? That nation? That is not to say that their experience of being is identical to the human experience; we cannot directly map human emotions and perceptions onto non-humans. What we can do is to relate to that being as a subject.

To the extent that we accept the subjectivity of collectives, that they can be intelligent in more than the problem-solving sense, we are invited to venture beyond analytic methods in studying collective intelligence – just as we must venture beyond neurology in understanding the individual human psyche. We all know that organizations exhibit "behavior"; that they can be efficient or inefficient, healthy or dysfunctional. Can they also go insane? Delusional? Schizophrenic? Paranoid? Can they fall in love?

Can they be afraid? Can they experience trauma? Healing? Do they have desires? Do they go through infancy, youth, senescence? Naïve intuition says yes, and while such questions may often defy quantitative study, we should not dismiss them as exercises in anthropomorphic projection. Who knows what avenues of qualitative research and practice might become apparent in asking such questions? Besides, they become quite natural as we expand our conception of selfhood beyond the human individual.

The field called organizational behavior already accepts, implicitly, the premise of the selfhood of collectives. Interestingly, the concept has also entered politics with the controversial legal concept of the personhood of corporations. The word “corporation” itself already suggests as much, denoting “that which forms a body (a corpus).” Notwithstanding the heretofore toxic consequences of the doctrine of corporate personhood, if we expanded that concept to “corporate selfhood,” we might explore what kind of “self,” what kind of being, a corporation is. (I speak here of corporations composed of actual people, and not those that exist only on paper.) What are its fears, its motivations, its character? These considerations might lead to insight on what kind of status they should be accorded under law.

It may of course be just as impossible to prove, through objective means, the subjectivity of collectives as it is to prove the subjectivity of another person. Nonetheless, the corporate example suggests that it can be a fruitful operating assumption (just as it is in interpersonal relationships). By accepting the validity of a phenomenology and a psychology of collective beings, we free research, activism, and organizational management to evolve. They cannot be left out of the larger paradigm shift toward a worldview of interconnection, ecology, and interbeing.

Biography

Charles Eisenstein is the author of numerous essays and books, most recently *Sacred Economics* and *The More Beautiful World our Hearts Know is Possible*.

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[i](#)Woolley et al, 2010

[ii](#)Atlee, 2012

[iii](#)Teilhard de Chardin, 1959

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[v](#)Searle, 1980

[vi](#)Chalmers, 1995

[vii](#)Walsh, 2005

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[ix](#)See for example Grof, 1996